

PLEXCONCIL - The Plastics Export Promotion Council

PLEXCONNECT[®]

Edition 22, April 2021

**uPVC Windows
& Doors Market**

**Special Focus –
Tinsukia Plastic Park, Assam**

**Interview with
Utsav Dixit, ALPLA India**

**Countryside –
Focus on Sri Lanka**



THE PLASTICS EXPORT
PROMOTION COUNCIL



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PROMOTION COUNCIL



1955-2020
Empowering Lives through Plastics

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Editor: Sribash Dasmohapatra,
Executive Director, Plexconcil

Associate Editor: Sangita Iyengar

Send in your feedback, comments,
suggestions to editor@plexconcil.org

Head Office (Head Office)

B-Wing, Dynasty Business Park, Unit No. 2, Ground
Floor, Andheri-Kurla Road, Chakala, Andheri East,
Mumbai – 400059, Maharashtra
Tel: 022 – 40170000

Delhi - Northern Regional (Regional Office)

319, 3rd Floor, Block - E, International Trade Tower
99, Nehru Place
New Delhi - 110019
Tel: 91-11-26478817 / 26478819
Fax: 91-11-26478821
Email: plexnr@plexconcil.org

Chennai - Southern Regional (Regional Office)


Rasheed Mension, 3rd Floor, 408 Anna Salai
Chennai - 600006
Tel: 91-44-28292620
Fax: 91-44-28291518
Email: ruban.hobday@plexconcil.org,
dayanidhi@plexconcil.org

Kolkata - Eastern Regional (Regional Office)

Vanijya Bhavan, 1/1 Wood Street
Kolkata - 700016
Tel: 91-33-22834497 / 22834498
Fax: 91-33-22834289
Email: nilotpal@plexconcil.org

Ahmedabad – Gujarat Region (Regional Office)

A-1001, Titanium Heights,
Nr. Vodafone House,
Corporate Road,
Prahaldnagar, Makarba,
Ahmedabad- 380015 (Gujarat)
Tel: 079-48010103
Email: naman@plexconcil.org

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It has been a year since the pandemic brought our country and the world to a complete grinding halt. Fast forward today, despite the pandemic's socio-economic backlash, the months of January and February brought some positive news as plastics' exports in January 2021 went up 12.2% vis-à-vis January 2020, and February 2021 was up 3.2% vis-à-vis February 2020. During February 2021, India exported plastics worth USD 869 million, up 6.6% from USD 815 million in February 2020. Cumulative value of plastics export during April 2020 – February 2021 was USD 8,856 million as against USD 9,329 million during the same period last year, registering a negative growth of 5.1%.

Raw material price volatility and availability however continue to be of grave concern to the industry. Raw material prices have increased sharply over the past year and the situation further exacerbated by the multiple shutdowns and force majeure declarations that followed the most active hurricane season in the US. USA's reduced production and shipping difficulties impacted its competitiveness in global markets while on the other hand, considering limited supplies, our industry has been unable to procure raw material at either Platts or China prices, thus greatly impacting our cost of exports. Plexconcil has been regularly in touch with the GOI and the Union Ministry of Commerce & Industry (CIM) to address the matter and we have been assured by the CIM of addressing the matter with the Petrochemicals Ministry and PSUs to work on stabilizing raw material supply in the country. Furthermore, we have been pursuing the inclusion of Raw material manufacturers in the Government's proposed PLI scheme as it will give a boost to Make in India for the world and also help in AtmaNirbhar Bharat."

Meanwhile, the recent announcement by Indian Railways to provide complete logistical support to the industry comes as a great news for plastics processors as it will ensure an efficient supply-chain and lower costs, boosting our global competitiveness. PLEXCONCIL has also been seeking a level playing field and requested the review of Inverted Duty Structure under GST, and our FTAs. These are critical to ensuring fair global opportunities and competitiveness of our exports.

In this issue, we bring you various topics of interest including an Interview with ALPLA India on Sustainability and their thoughts on Plastics Waste Management. The Govt has also shared the draft of the new PWM Rules 2021 and invited our industry's views and opinions. While we completely support the need to protect our environment against plastic pollution, we believe that a balanced approach is also necessary to protect the livelihoods of thousands of MSME industries who are engaged in the sector.

In addition, we bring you insights into Decorative Laminates Market, UPVC industry, news, and more. We also bring you our special story on Tinsukia Plastic Park, one of the 6 Plastic Parks that received the Govt final nod for implementation.

As we begin our journey into the FY 2021-22, we are optimistic of better times to come. Despite the hurdles along the way, we have come a long way since March 2020 and though the road is rough, we are sure of emerging stronger, better, bigger.

Stay safe, stay healthy.

Warm regards,

Arvind Goenka
Chairman

R.O. – East

Virtual B2B Meeting organized by PLEXCONCIL(WANA Countries) with the support of Embassy of India, Oman, Saudi Arabia & Algeria (1st – 3rd February 2021)



**(Inaugural session of the virtual B2B Meeting in progress:
Shri S Suresh Kumar, IAS, Joint Secretary to the Government of India, Department of Commerce, MOC&I
delivering the inaugural address)**

The Plastic Export Promotion Council with the support of Embassy of India, Oman, Saudi Arabia, Algeria organized a Virtual B2B Meeting to promote India's plastic trade with WANA countries.

Shri Arvind Goenka, Chairman, PLEXCONCIL deliver the welcome address. Shri S Suresh Kumar, IAS, Joint Secretary to the Government of India, Department of commerce, MOC&I inaugurated the virtual B2B Meeting. In the inaugural address, Shri Suresh Kumar, Joint Secretary mentioned that WANA region is a significant trade partner for India. Potential to increase India's export of plastic goods is huge & it may be tapped as India has the ability to supply quality plastic products. Mr. Praveen Kumar, Second Secretary (Commerce), Embassy of India, Oman and Ms. Ritu Yadav, Second Secretary, Embassy of India addressed the participants. Dr. Ali Lawati, Head of Global Sales, QQ, Oman spoke about the Oman's petrochemical industry. Mr. Hemant Minocha, Vice Chairman made a presentation on the opportunities in the Indian Plastic sector. Mr. Rasheed, Exhibition Manger, Arabplast spoke about their exhibition on Arabplast 2021 and announced the new dates. All the Indian Exhibitors gave their introduction in the inaugural session. Mr. Sribash Dasmohapatra, ED, PLEXCONCIL proposed formal vote of thanks.

The following Indian Companies participated and displayed their product virtually:

M/s Alok Masterbatches Pvt Ltd, M/s Aglo Polymers Pvt Ltd, M/s Baba Tracon Pvt Ltd., M/s Coral petroproducts, M/s Dynasty Plastics Pvt Ltd., M/s Jagdamba Polymers Pvt Ltd., M/s Kolor Impex, M/s Lexi Pen Private Limited, M/s Mangla Handles, M/s Millennium Writing Products Pvt Ltd., M/s Pashupati Laminators Pvt Ltd., M/s S.S.B. Metal Works, M/s Sunshine Products, M/s Tapadia Polymers, M/s VORTEX FLEX PVT LTD, M/s Vortex Polymers.

Stake Holders' Consultation Meeting (India and EU) – 15.2.2021

The above consultation meeting held (through Webex-virtually) on 15.2.2021 under the chairmanship of Ms. Nidhi Mani Tripathi, Joint Secretary, DoC. Mr. Nilotpal Biswas, RD attended the above consultation meeting.

Meeting with Dy Commissioner of Customs (SIB), Kolkata Airport on 19.2.2021

In order to facilitate value added human hair exports through Kolkata Sea Port & Airport, Regional Director (East) along with few human hair exporters had a meeting with DC(SIB), Airport since an alert issued by them for raw human exports to China via Myanmar. Due to this alert, no CHA, C&F Agent are willing to undertake any job of human hair export through Kolkata seaport. Mr Sunil Kumar, Appraiser of Customs (SIB), Mr Sunil Eamani, Representative, Human Hair & Hair Products Manufacturers and Exporters Association of India were also present in the meeting. PLEXCONCIL Eastern Regional Committee Meeting – 26.2.2021

PLEXCONCIL Eastern Region Committee meeting (2nd meeting in the FY 2020-21) held on virtual mode on 26th February 2021. Export performance (Eastern region) for the period April to December 2020 were reviewed. Various issues and concerns with regard to exports from Eastern Region were also discussed during the meeting. Council's (ER) present membership position and further development programme was also discussed during the meeting.

R.O. – South

Webinar organized by Plexconcil – Southern Region along with TAAPMA (Telangana Andhra Pradesh Plastics Manufacturers Association) on 5th February 2021

ARE YOU CAPTIALIZING ON FREE TRADE AGREEMENTS (FTA) FOR YOUR EXPORT BUSINESS? & HOW DOES THE UNION BUDGET 2021 HELP MY BUSINESS?

The Southern Regional office organised the webinar in association with TAAPMA where more than 60 participated from all over India predominately from the Southern Region.

Shri. YV Raman, Regional Chairman, Plexconcil, South welcomed the participants while Shri. Vimallesh Gupta, President, TAAPMA addressed the participants informing about the activities of the association and the partnership with Plexconcil in the recent times.

This was followed by the presentation wherein Shri. Naveen Reddy, Assistant Director, MSME, Govt of Telangana presented about the initiatives taken by their Govt to promote exports especially plastics and polymers.

His presentation was followed by Mr. R. R. Padmanaban, Exim Consultants who made a detailed presentation on the FTAs India has entered and its benefits especially for the Plastics Industry.

हिन्दी मिलाप

प्लास्टिक मैनुफैक्चरर्स असोसिएशन का वेबिनार 'प्लेक्स कनेक्ट-2021' आयोजित



प्लास्टिक मैनुफैक्चरर्स असोसिएशन, हैदराबाद (टीएएपीएमए) एवं प्लेक्स काउंसिल द्वारा आयोजित वेबिनार में भाग लेते लोग।

हैदराबाद, 5 फरवरी - (मिलाप न्यूज़) तेलंगाना पृष्ठ आंध्र प्लास्टिक मैनुफैक्चरर्स असोसिएशन, हैदराबाद (टीएएपीएमए) एवं प्लेक्स काउंसिल द्वारा जुम ऐप के माध्यम से वेबिनार 'प्लेक्स कनेक्ट-2021' का आयोजन किया गया। असोसिएशन के चेयरमैन कमलेश कानोडिया ने वेबिनार में शामिल अतिथियों का परिचय दिया। अध्यक्ष

विमलेश गुप्ता ने स्वागत भाषण दिया। तेलंगाना सरकार के उद्योग विभाग के सहायक निदेशक नवीन रेड्डी ने तेलंगाना राज्य की व्यापार नीति पर प्रकाश डाला। उन्होंने राज्य में उपलब्ध व्यापार अनुकूल सुविधाओं का भी उल्लेख किया। साथ ही निर्यात सुगमताओं के बारे में भी जानकारी दी।

वेनई से जुड़े एक्जिम कंसल्टेंट प्रबन्धान आर. ने वैश्विक व्यापार से जुड़ने के लिए निर्यात में विपणन यंत्र के रूप में फ्री ट्रेड एग्रीमेंट (एफटीए) के बारे में जानकारी दी। सीए सुधीर ने केन्द्रीय बजट में अपलव्य कर में किये गये परिवर्तनों पर प्रकाश डाला। साथ ही बताया कि किस तरह से यह कर भविष्य को बेहतर बनाने में मदद करेंगे। असोसिएशन के पूर्व अध्यक्ष मेम

कान्करिया, जी. अनिल रेड्डी, ए. सुभाकर, कोणार्थ अरुण लाडेरी, कार्यकारी सदस्य एम.ए. अलीम, राधेश्याम लोया, नवीन खन्नेड, सदस्य ओमकारा अप्पवाल आदि ने वेबिनार में हिस्सा लिया। मंत्री रोहित मिश्राल के धन्यवाद ज्ञापन के साथ वेबिनार समाप्त हुआ। प्लेक्स काउंसिल के सक्षिप क्षेत्रीय चेयरमैन वार्ड.जी. रमण ने सेमिनार का संचालन किया।

CA Sudhir made a presentation on the Indirect Taxes and the Budget Analysis for the benefit of the participants which was well appreciated by all. Mr. Rohit Mittal, Hon Sec, TAAPMA proposed the vote of thanks. Mr. Ruban Hobday, Regional Director, Plexconcil, South moderated the proceedings.

Export Awareness Programme Organised by MSME – DI, Chennai on 05th February 2021 at Hosur

MSME DI – Chennai along with District Industries Centre, Govt. of TN, Zonal DGFT – Chennai, FIEO – SR and PLEXCONCIL – SR organised an Export Awareness Program on 05th February 2021 at Adhiyamaan College of Engineering, Hosur.

The primary objective of the program was to promote and increase exports from the electronics city of Tamil Nadu - Hosur (Krishnagiri District) and also to make new MSME entrepreneurs getting into International markets.

The program was inaugurated by Shri S. Prasanna Balamurugan, General Manager, DIC – Hosur and in his keynote address, the following points were broadly outlined:

1. Products which have the potential for Exports from Hosur (Tamil Nadu)
2. Benefits of Exporting from Tamil Nadu
3. Ease of Doing Exports
4. Schemes and Govt Support and Subsidies for Exports
5. Way Forward



The technical sessions were addressed by the following officials:

1. Shri. Varun Singh, Jt. DGFT, Zonal DGFT – Chennai
2. Shri. V. Balakrishnan, Branch Manager, ECGC Ltd, Salem
3. Shri. R. Senthil Kumar, Dy. Director, MSME-DI, Chennai
4. Shri. K. Thirupathi, Asst. Director, MSME-DI, Chennai
5. Shri. R. Dayanidhi, Asst. Director, PLEXCONCIL – SR
6. Shri. Yasar Shariff, Executive Assistant, FIEO, Chennai

Plexconcil Southern Region gave its inputs and necessary information's for the development of Plastics Industry and more importantly in exploring the International Markets, which was well received by more than 120 MSME entrepreneurs participated during the export awareness programme.

Meeting with Dr. Rajeev Ranjan, IAS, Chief Secretary to Government of Tamil Nadu 9th February 2021 at Fort St. George, Secretariat – Chennai

An appointment was fixed with Dr. Rajeev Ranjan IAS, Chief Secretary to Govt of Tamil Nadu who had taken over in this highest office in the Secretariat of the Govt of Tamil Nadu as a courtesy visit and also to highlight about the Plastics Industry and Exports.



Shri. YV Raman, Regional Chairman, Plexconcil appraised the Chief Secretary about Plexconcil highlighting the exports from Tamil Nadu and the employment being generated by this industry for the State. He informed about the challenges being faced by the exporters at the port due to logistical issues.

Mr. Ranjan, CS was surprised to know that Plexconcil is in existence since 1957 and appreciated the efforts of Plexconcil in promoting exports of Plastics products from India.

Mr. Ruban Hobday, Regional Director, South highlighted the potential for exports from the State and the progress and involvement of Plexconcil in the Tamil Nadu Polymer Park. He introduced **Shri. Rakkappan, President, Tamil Nadu Plastics Manufacturers Association (TAPMA)** who in turn requested the Chief Secretary's intervention to the challenge about the SUP Ban in the State.

Chief Secretary was glad to know Plexconcil's role in the promotion and involvement with the Govt on various webinars and other programs.

H.O. Mumbai & Ahmedabad

- Circulated important details of Union Budget 2021-22 to members.
- Informed NAFTA Division about members concern with regard to exports to NAFTA
- Circulated trade leads received from Embassy of India, Jakarta
- Attended stakeholder's consultation meeting on new FTP 2021-26 and provided suggestions
- Attended Unified E- RCMC framework meeting called by O/o DGFT
- Submitted MAI proposals for exhibitions in Bangladesh, USA, Nepal, and Nigeria, and one BSM in Nigeria; six pending proposals are in the process of being submitted
- Completed CoA bye-election and declared results
- Attended PCPIR Rajasthan meeting
- Completed the Security Audit of council website
- Participated in District Export Promotion Committee Meeting of Gandhinagar District, Gujarat and provided suggestions to boost exports from district

WEST

- Representation to High Commission of India, Dar Es Salaam, Tanzania regarding difficulty faced in Exports by M/s. Panorama Packaging Pvt Ltd, Gandhinagar, Gujarat.
- Representation to O/o. District Collector - Western regions (Dhar, Sheopur, Indore – Madhya Pradesh), (Buldhana, Mumbai City, Bandra, Palghar, Thane – Maharashtra), (Panaji – Goa), Daman, (Durg – Chhattisgarh) and (Ahmedabad, Panchmahal, Vadodara, Rajkot, Surat – Gujarat) for Guidance & Support for Promoting Export Hub in Each District for Plastics Industry.
- Representation to O/o. Addl. DGFT, Mumbai regarding the problem being faced by member exporter M/s. Dhvani Polyprints Pvt. Ltd., Mumbai
- Representation to O/o. DGFT, New Delhi regarding request for Removal of pre-import condition from advance authorization with retrospective effect
- Representation to Embassy of India, Santiago, Chile regarding request for getting NOC from the Custom to bring back the goods to India of M/s. RAPID COAT DIVISION (UNIT OF RAPID ENGINEERING CO. PVT. LTD.), Uttar Pradesh
- Representation to GST council of India regarding sanction of pending GST refund claims of M/s. SHISH INDUSTRIES LIMITED, GUJARAT
- Representation to Special Secretary, GST Council regarding non receipt GST refund since long time of M/s. Anjani closures Pvt. Ltd., Ahmedabad
- Participated in District Export Promotion Committee Meeting of Gandhinagar District, Gujarat and provided suggestions to boost exports from district

NORTH

- Represented to the Indian Embassy in Dubai, regarding the issue of our member exporter M/s Sampark Industries resulting due to non-payment by Importer violating the Export/Import terms mutually agreed. After long persistence regarding the pursue with our Indian Mission in Dubai, the member has been provided the remedy to take further action on his issue as per directive by our Indian Mission in Dubai.
- Represented again to DGFT regarding the Compliance issues as per DGFT Public Notice No. 63/2015-2020 dated 22nd February, 2018, which is hampering the export shipments of our member exporters and needs amendment. The issue pertains to deemed exports, where member is subjected to furnish attestation of invoices by GST officials and not self-attest. The matter was discussed with DGFT and they have clarified that the subject matter is lying for the approval of GST Council and amendment for the same will be notified shortly.



Plastic Waste Management (Amendment) Rules, 2021 Proposed Draft

**Notification Issued by the Ministry of Environment,
Forest and Climate Change**
New Delhi, the 11th March, 2021

G.S.R. 169(E) —The following draft notification which the Central Government proposes to issue, in

exercise of the powers conferred by sections 6, 8 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), for making certain amendments in the Plastic Waste Management Rules, 2016, issued vide G.S.R. 320 (E), dated the 18th March, 2016, is hereby published as required under sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, for information of the public likely to be affected thereby and notice is hereby given that the said notification will be taken into consideration by the Central Government on or after the expiry of sixty days from the date on which copies of this notification as published in the Gazette of India are made available to the public;

Any person interested in making any objection or suggestion on the proposals contained in the draft notification may do so in writing within the period so specified through post to the Secretary, Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, Aliganj, New Delhi-110003 or electronically at email address: satyendra.kumar07@nic.in, amit.love@nic.in.

Draft Notification

Whereas, the Plastic Waste Management Rules, 2016 were notified by Ministry of Environment, Forest and Climate Change vide G.S.R. 320 (E), dated the 18th March, 2016 bringing new provisions for effective and improved collection, segregation, processing, treatment and disposal of the plastic waste in an environmentally sound manner thereby, reducing the plastic waste generation and its impact on the environment;

- Whereas, the Rules, inter alia, prohibit the use of plastic bags, sheets or like with thickness less than 50 microns. Also, sachets using plastic material, as per the Rules, shall not be used for storing, packing or selling gutkha, tobacco and pan masala.
- Whereas, many State Governments through their own notifications have imposed partial or complete ban on the use of plastic carry bags/single-use plastic items in their respective States.
- Whereas, a preliminary analysis of the State level action on restriction/prohibition of plastic carry bags and some single-use plastic items suggests that many challenges have been faced in the imple-

mentation of these regulatory provisions. However, some States have reportedly achieved considerable success.

- Whereas, considering the high environmental costs associated with management of single-use plastics, particularly the adverse effect on marine environment, and the need for a definitive action supplementing the initiative undertaken by various States/UTs to combat plastic pollution, it is proposed that a prohibition on the manufacture, use, sale, import and handling of some of the single-use plastic items may be imposed on a pan India basis.

Now, therefore, in the exercise of the powers conferred by sections 6, 8 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), read with clause (d) of sub-rule (3) of rule 5 of the said Environment (Protection) Rules, 1986 the Central Government hereby publishes this draft notification as required under sub-rule 3 of rule 5 of the said Environment (Protection) Rules, 1986, which shall on and from the date of its final publication make the following amendments in the said notification, namely:—

- (1) These rules may be called Plastic Waste Management (Amendment) Rules, 2021.
(2) They shall come into force on the date of their publication in the Official Gazette.
- In the said rules, in Rule 2(1), after the word Importers, the word, —**brand-owner**||, “**plastic waste processor (recycler, co-processor, etc.)**”|| shall be inserted.
- In the said rules, in rule 3,
 - after clause (n), the following clause shall be inserted namely :-
“(na) Non-woven plastic bag-Non-woven plastic bag is made up of sheet or web structured fabric of entangled fibers or filaments (and by perforating films) bonded together by mechanical or thermal or chemical means. The Non-woven fabric is a flat or tufted porous sheet that is made directly from fibres, molten plastic or plastic films”.
 - after clause (q), the following clause shall be inserted namely: -
“(qa) Plastic Waste Processing - means any process by which plastic waste is handled for the purpose of re-use, recycling, co-processing or transformation into new products”.

iii. after clause (v), the following clause shall be inserted namely: -

“(va) Single-use plastic item is a plastic commodity intended to be used once for the same purpose before being dispose of or recycled”.

iv. after clause (v), the following clause shall be inserted namely: -

“(vb) Thermoset plastic- is a plastic which becomes irreversibly rigid when heated, and hence cannot be re-moulded into desired shape”.

v. after clause (vb), the following clause shall be inserted namely: -

“(vc) Thermoplastic – is a plastic which softens on heating and can be moulded into desired shape”.

4. In the said rules, in rule 4, -

i. In sub-rule (1) clause (c), the word ‘fifty’ may be read as one hundred and twenty (120) with effect from 30.9.2021’

ii. In sub-rule (1) clause (h), after the words, ‘carry bags’, the words, ‘and commodities’ is inserted.

iii. In sub-rule (1) clause (h), after the words, ‘compostable plastic carry bag’, the word, ‘and/or commodities’ is inserted.

iv. After sub-rule (1) clause (i), following clause shall be inserted:

Each sheet of non-woven plastic carry bag shall not be less than 60 (GSM per square meter) or 240 microns in thickness with effect from 30.9.2021.

5. In the said rules, in rule 4, following sub-rule shall be inserted:

(2) The manufacture, import, stocking, distribution, sale and use of following single-use plastic commodities shall be prohibited from 1st January, 2022:

Ear buds with plastic sticks, plastic sticks for balloons, plastic flags, candy sticks, ice-cream sticks, polystyrene [Thermocol] for decoration.

(3) the manufacture, import, stocking, distribution, sale and use of following single-use plastic commodities shall be prohibited from 1st July, 2022:

i. single-use plastic (including polystyrene and expanded polystyrene) items:

plates, cups, glasses, cutlery such as forks, spoons, knives, straw, trays,

wrapping/packing films around sweet boxes; invitation cards; and cigarette packets, plastic/PVC banners less than 100 micron, stirrers.

ii. the above provision shall not apply to commodities (including carry bags) made of compostable plastic material.

6. In the said rules, in rule 5, sub-rule (1), clause (d), the word '2000' may be read as '2016'.

7. In rule 6, sub-rule (2), after clause (a), following clause is inserted: -

(a1) Ensuring that provisions pertaining to restrictions/prohibition on single-use plastics are adhered to.

8. In rule 7, sub-rule (1), after clause (a), following clause is inserted: -

(a1) Ensuring that provisions pertaining to restrictions/prohibition on single-use plastics are adhered to.

9. In the said rules, in rule 9, -

i. under sub-rule (1) after the words, 'local body concerned', the words, 'as per guidelines issued from time to time under these Rules' is inserted.

10. In rule 11, sub-rule (1)

- after the words 'plastic carry bag' the words, 'plastic packaging' shall be inserted.
- in clause (a), for the words 'manufacturer' the words 'producer/ brand-owner' shall be inserted and after the word 'carry bag' the words 'plastic packaging used by the brand owner' shall be inserted
- in clause (b), after the words 'multilayered packaging' the words '(excluding multilayered packaging used for imported goods)' shall be inserted.
- in clause (c), after the words 'name and certificate number' the word 'of producer' shall be inserted.

10. In rule 12-

- in sub-rule (2), after the words 'waste generator' the words 'restriction/prohibition on' shall be inserted.
- in sub-rule (3), after the words 'waste generator' the words 'restriction/prohibition on' shall be inserted.

11. In rule 13,

a. in Sub-Rule (1) after the word 'Union Territory concerned' the word 'or the Central Pollution Control Board' is inserted.

**[F. No. 17-2-2001 (Pt)-PartI -HSMD]
NARESH PAL GANGAWAR, Jt. Secy.**

Note:

- The principal rules were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i), vide number GSR 320 (E), dated the 18th March, 2016.
- Plastic Waste Management (Amendment) Rules, 2018, published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i), vide number GSR 285 (E), dated the 27th March, 2018.



Tinsukia Plastic Park

Promoting vibrant industrial growth in Assam

The Department of Chemicals and Petrochemicals formulated the Scheme for Setting up of Plastic Parks in India to increase competitiveness and investments, achieve sustainable growth and adopt the cluster development approach to consolidate the capacities in the plastic sector. Under this scheme, Government provides funding to projects proposed to be implemented by a Special Purpose Vehicle (SPV) for Setting up of Plastic Parks. Plastic parks have great potential for attracting investments and generating more employment opportunities in India. The objective of such parks is to:

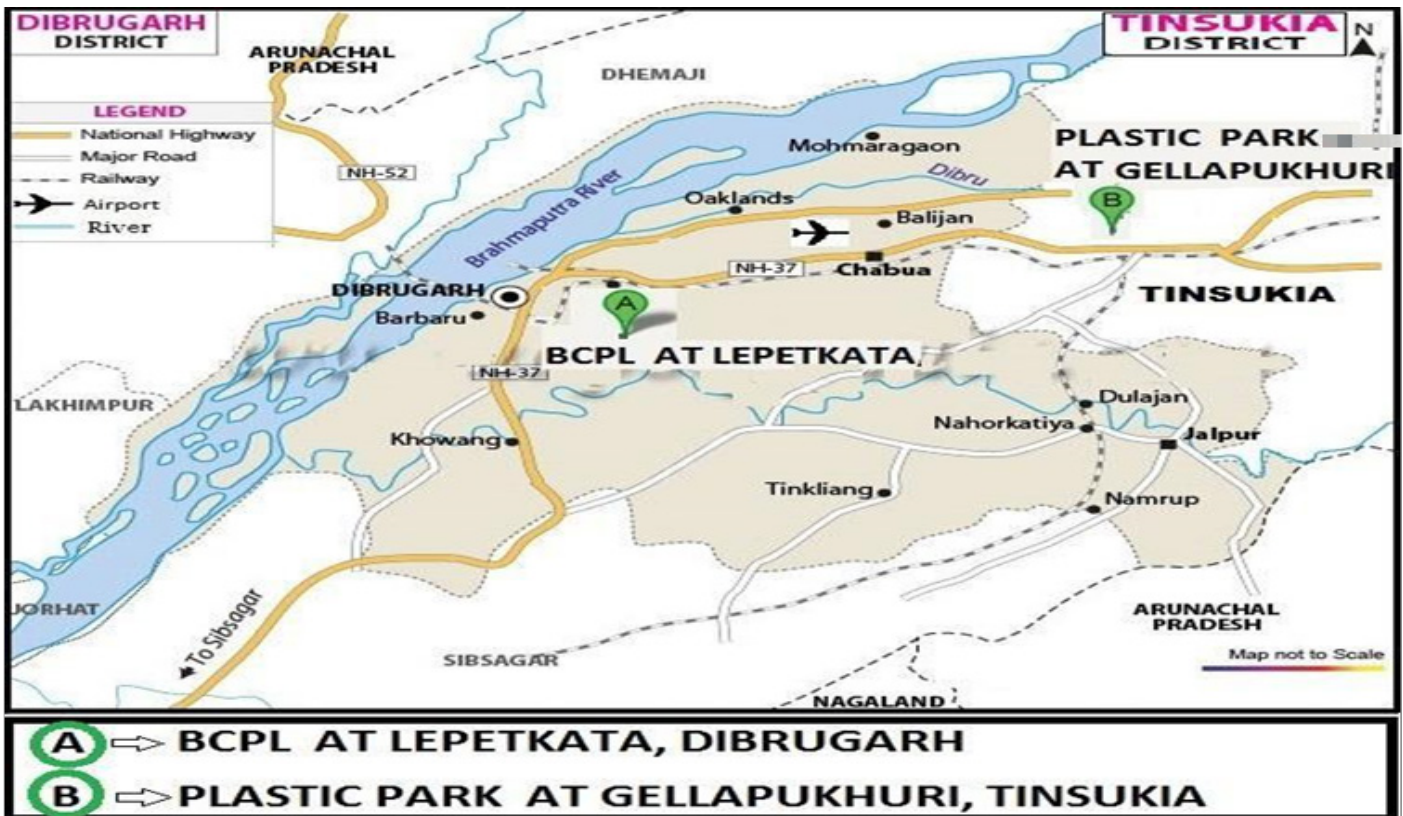
- To increase the competitiveness, polymer absorption capacity and value addition in the downstream plastic processing industry through adaptation of modern, research and development led measures
- To increase investments in the plastic sector through additions incapacity of unit and production, creating quality infrastructure and other facilitation to secure value addition and increase in exports

- To achieve environmentally sustainable growth through innovative methods of waste management and recycling
- To adopt a cluster development approach to achieve the above-mentioned objectives owing to its benefits arising due to the optimization of resources and economies of scale.

In the year 2019, the Union Minister for Chemicals & Fertilizers Shri D. V. Sadananda Gowda announced the Govt's final nod to 6 Plastic Parks of the 10 Plastic Parks in the county that had been earlier given an initial approval. These 6 plastic parks which currently are under various stages of implementation include the Tinsukia Plastic Park located in Gelapukhuri, Assam.

Project Overview

In line with the Government's vision to consolidate and synergize the capacities of the domestic downstream plastic processing industry, the proposed plastic park at Tinsukia is an industrial zone devoted to plastic enterprises and its allied industries and will include a whole range of companies required by the plastics processing community from plastics processing companies, materials and machinery suppliers, plastic recycling companies including waste management system.



At a Glance

- Project Location: Gellapukhuri, Tinsukia, Assam
- Total Area: 173 Acres
- Total Project Cost: Rs.9365.00 Lakhs
- Means of Finance:
- Department of Chemical & Petrochemicals, Govt. of India: Rs.4000.00 Lakhs and
- Industries & Commerce Department, Govt. of Assam: Rs.5365.00 Lakhs
- Available Plot Area:
 - 1.Large Units: 3 Nos. (20,230.00 SqM each)
 - 2.Medium Units: 13 Nos. (12,138.00 SqM each)
 - 3.Small Units Type- I: 32 Nos. (4, 046.00 SqM each)
 - 4.Small Units Type-II: 56 Nos. (2,023.00 SqM each)
- Available Industrial Sheds: Total - 47 Nos. (444.00 SqM each)



Other Facilities

To support production units the plastic park boasts of a well-conceived infrastructure including water supply, drainage, roads, electricity supply including the captive power plant, telecommunication lines, effluent treatment plant, hazardous waste management, etc. The Plastic park also comprises Warehousing facilities, Central facility centre, Guard room, Security Building, Service apartment, Truck parking, OHT and Water treatment plant, rainwater harvesting and firefighting tank, sewage treatment plant, ETP, Internal roads with foot path, drainage, 20 MVA power station etc.



Location and Accessibility

Tinsukia is an important flourishing urban centre in Assam. It is selected among the 100 Smart Cities of India in 2014. As a commercial and trade hub, it has a large Railway junction, the ongoing Tinsukia Plastic Park project and several corporate offices. It has also been dealing in tea, coal, crude oil and petroleum products, plywood, etc., supplied from the hinterlands. It is located near major oil and coal fields of Upper Brahmaputra valley. Moreover, its location near the Indo-Myanmar international boundary and the opening of the historic Stilwell Road are added impetus to financial sustainability and implementation of India's Look East Policy.

The Plastic Park offers ease of convenience in terms of transportation for goods and passengers alike.

- Air: 45 Kms from Dibrugarh Airport.
- Rail: 5 Kms from Tinsukia Railway Station
- Road: Distance from Tinsukia Town - 4.00 KM. Excellent road link with entire North Eastern states and rest of the country.
- BCPL: 40 Kms

Proximity to BCPL

The Brahmaputra Cracker and Polymer Limited (BCPL) Petrochemical Complex located at Lepatkata is within close proximity to the Tinsukia Plastic Park. BCPL is situated approximately 40 Kms from the Tinsukia Plastic Park.



Brahmaputra Cracker and Polymer Limited

The principal end products of the complex are High Density Polyethylene (HDPE) and Linear Low Density Polyethylene (LLDPE) totalling 2, 20,000 Tonnes per Annum (TPA) and 60,000 TPA of Poly-Propylene (PP). The other products include Hydrogenated Pyrolysis Gasoline and Pyrolysis Fuel Oil.

GAIL (India) Limited is the main promoter having 70% of equity participation and the rest 30% is equally shared by Oil India Ltd (OIL), Numaligarh Refinery Limited (NRL) and Government of Assam.

Assam Industrial Development Corporation (AIDC Ltd.) AIDC Ltd. was incorporated in the year 1965 to promote, establish and execute industrial projects, operate schemes for industrial development of Assam and to aid, assist and finance any industrial undertaking whether owned or run by Government, statutory body, private company or individuals.



Assam Industrial Development Corporation Limited

AIDC Ltd. has been striving towards creating high standard industrial infrastructure in Assam for the growth and development of industries in the State. AIDC has implemented various infrastructure projects like Export Promotional Industrial Park, Industrial Growth Centres and Industrial Infrastructure Development Centres to promote large, medium and small industries in the / state. The Corporation has been successful in attracting entrepreneurs to these centres and thereby contribute to the economic growth as well as employment generation in the state.

The Tinsukia Plastic Park is the corporation's initiative to set up sector specific industrial parks in PPP mode. The corporation is also in the process of developing various other industrial areas across the state.

Why Invest in Tinsukia Plastic Park



• Incentives Offered under NEIDS, 2017, DIPP, GoI

1. 30% of the investment in plant and machinery with an upper limit of Rs.5.00 crore
2. 30% of the investment in plant and machinery with an upper limit of Rs.5.00 crore
3. Interest Subsidy @ 3% on credit availed from scheduled Bank or Government Financial Institutions
4. 100% of net CGST and IGST paid on finished goods for 5 years
5. Up to 20% transport cost, including incentives provided by Railways for transport of finished goods by Rail
6. Up to 20% of transport by inland water transport
7. Up to 33% of air freight cost
8. Income Tax Reimbursement
9. Employment Incentive

• Incentive Packages under Industrial and Investment Policy of Assam, 2019-20

1. State Goods and Services Tax (SGST) reimbursement for 15 years ranging from 150% to 250% of fixed capital investment.
2. Power Subsidy @ Rs.2 per unit for a period 5 years
3. 50% Generating set subsidy
4. 100 % stamp duty exemption
5. 5.75% subsidy on Technology transfer
6. 2% Interest subsidy on working Capital for 5 years
7. Financial Assistance to MSME @ 30% subsidy, subject to a ceiling of Rs.5 lakh for listing in Stock exchange.
8. Financial assistance for environmental compliances @50% subject to a ceiling of Rs.25 lakh.
9. Incentive for private sector Infrastructure developer @30% subject to a ceiling of Rs. 3 Cr.
10. Incentives for local employment generation @ Rs.10000 for each employment.

• Other special incentives

1. Brahmaputra Chemicals & Petrochemicals Ltd. (BCPL) has come forward to incentivize units coming up in the Tinsukia Plastic Park by giving special discount to the extent ₹ 1250.00 per MT on purchase of BCPL's polymers for.
2. The land allotment rates in the Plastic Park are discounted to ₹ 300.00 per sqm. and shed rents to ₹ 5.00 per sq

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Plas

401, Laxmi Road, P. Chavan Road, Off. Laxmi Road, Andheri West, Mumbai - 400 075 India
Tel: +91 22 2606 1711 www.plastindia.org

GOVERNMENT OF INDIA
MINISTRY OF PETROLEUM & NATURAL RESOURCES
PLASTIC INDUSTRY DEVELOPMENT CELL
GOVERNMENT OF INDIA

Plastic Industry Development Cell
GOVERNMENT OF INDIA

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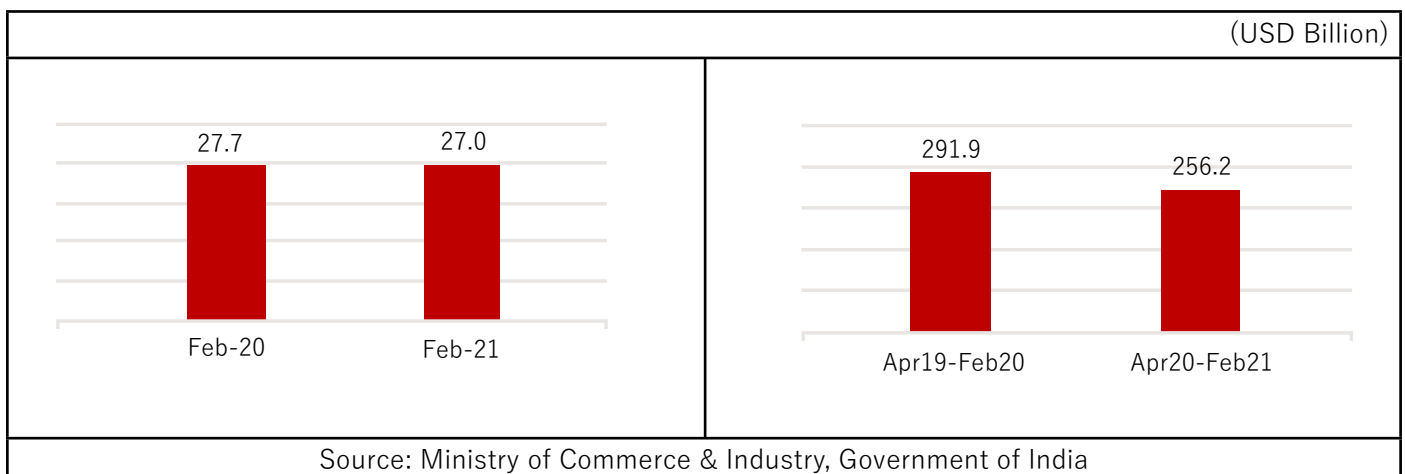


Export Performance – February 2021

TREND IN OVERALL EXPORTS

India reported merchandise exports of USD 27.9 billion in February 2021, up 0.7% from USD 27.7 billion in February 2020. Cumulative value of merchandise exports during April 2020 – February 2021 was USD 256.2 billion as against USD 291.9 billion during the same period last year, reflecting a decline of 12.2%.

Exhibit 1: Trend in overall merchandise exports from India

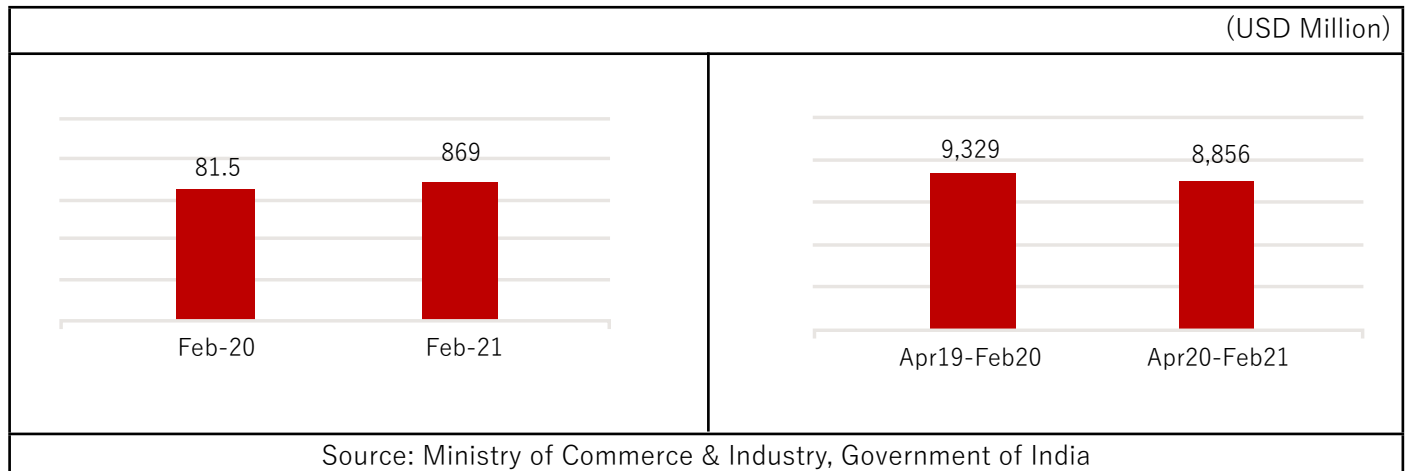


Source: Ministry of Commerce & Industry, Government of India

TREND IN PLASTICS EXPORT

During February 2021, India exported plastics worth USD 869 million, up 6.6% from USD 815 million in February 2020. Cumulative value of plastics export during April 2020 – February 2021 was USD 8,856 million as against USD 9,329 million during the same period last year, registering a negative growth of 5.1%.

Exhibit 2: Trend in plastics export by India



While the Indian exporters continue to grapple with issue of container availability and high freight rates, the unprecedented increase in polymer prices, especially that of PVC and PP, is causing great inconvenience to the plastics processors – most of which are Micro, Small & Medium Enterprises.

PLASTICS EXPORT, BY PANEL

In February 2021, nine of the product panels, namely, Consumer & houseware; Cordage & fishnets; Composites / FRP products; Floor Coverings, leathercloth & laminates; Human hair; Pipes & fittings; Polyester films; Woven sacks / FIBCs and Miscellaneous products witnessed a positive growth in exports. The remaining panels, Plastics raw materials; Rigid packaging & PET preforms; and Writing instruments, reported lower exports.

Exhibit 3: Panel-wise % growth in plastics export by India

Panel	Feb-20 (USD Mn)	Feb-21 (USD Mn)	Growth (%)	Apr 19- Feb 20 (USD Mn)	Apr 20- Feb 21 (USD Mn)	Growth (%)
Consumer & House ware	50.4	51.7	+2.4%	550.9	463.3	-15.9%
Cordage & Fishnets	15.4	17.1	+10.6%	159.0	155.9	-2.0%
Composites / FRP products	27.4	30.0	+9.6%	305.1	273.1	-10.5%
Floor Coverings, Leather cloth & Laminates	38.9	52.8	+35.7%	403.2	436.6	+8.3%
Human Hair & Related Products	9.4	29.1	+209.2%	238.2	331.6	+39.2%
Miscellaneous Products	129.7	153.3	+18.2%	1,451.7	1,374.4	-5.3%
Pipes & Fittings	15.6	20.1	+29.1%	168.7	165.7	-1.7%
Polyester Films	110.0	122.8	+11.7%	1,335.7	1,382.0	+3.5%
Plastics Raw Materials	276.9	254.3	-8.2%	3,235.9	3,061.8	-5.4%
Rigid Packaging & PET Preforms	28.5	27.6	-3.1%	308.2	293.0	-4.9%
Woven Sacks / FIBCs	94.5	96.3	+1.9%	981.6	785.3	-20.0%
Writing Instruments	18.2	13.7	-24.9%	190.7	132.7	-30.4%
	814.9	868.8	+6.6%	9,328.8	8,855.5	-5.1%

Source: Ministry of Commerce & Industry, Government of India

Export of **Consumer & house ware** products increased by 2.4% in February 2021 due to higher shipment of Electrical switches, of plastics (HS code 85365020); Bangles of plastics other than PU foam (HS code 39264019); and Toys of plastics (HS code 95030030).

Cordage & fishnets export were up 10.6% in February 2021 on account of improved sales of Twine, cordage, ropes and cables of polyethylene or polypropylene excluding binder or baler twine (HS code 56074900); and Other made-up fishing nets (HS code 56081190).

Export of **Composites** was up by 9.6% due to increased sales of Articles of plastics and articles of other materials of heading 3901 to 3914, n.e.s (HS code 39269099).

In case of **Floor coverings, leather cloth & laminates**, exports in February 2021 were up 35.7% as Indian exporters managed higher sales of Textile fabrics impregnated, coated, covered or laminated with plastics other than PVC or PU: Other (HS code 59039090); Decorative laminates (HS code 48239019); and Other coverings of PVC (HS code 39181090).

Export of **Human hair & related products** clocked an impressive 209.2% growth due to strong sales of Human hair, dressed, thinned, bleached or otherwise worked (HS code 67030010) to China. India's human hair exports have witnessed a significant increase in the current year.

Miscellaneous products export increased by 18.2% in February 2021 due to higher sales of Optical fibres, optical fibres bundles and cables (HS code 90011000); Polypropylene articles, n.e.s (HS code 39269080); Other sacks and bags of plastics (HS code 39232990).

Export of **Pipes & fittings** witnessed a growth of 29.1% due to improved sales of Flexible tubes, pipes and hoses, and fittings, of plastics, reinforced or otherwise combined with other materials (HS code 39173990); Other rigid tubes, pipes and hoses, and fittings therefor, of plastics excluding tubes of PE, PP, PVC (HS code 39172990); and Other rigid tubes, pipes and hoses, and fittings thereof of PVC (HS code 39172390).

Polyester films witnessed an increase of 11.7% in exports in February 2021 due to higher shipments of a variety of products including Flexible plates and sheets of polypropylene (HS code 39202020); Other self-adhesive plates and sheets of plastics (HS code 39199090); Other plates, sheets, film, foil and strip, of non-cellular polyesters, not reinforced, laminated, supported or similarly combined with other materials, not worked or only surface-worked, or only cut to rectangular, including square, shapes (HS code 39206919); and Self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, of plastics (HS code 39191000).

Plastics raw materials export fell by 8.2% in February 2021 due to a decline in sales of Polyethylene (HS code 39012000); Polypropylene (HS code 39021000); and Polyethylene Terephthalate in both flakes and chips form (HS code 39076100 and 39076190).

Rigid packaging & PET performs export witnessed a decline of 3.1% due to lower sales of Other stoppers and lids of plastics (HS code 39235090) and Other items of plastics for the conveyance or packing of goods (HS code 39239090).

Export of **Woven sacks and FIBCs** gained 1.9% during February 2021 on account of higher sales of Flexible Intermediate Bulk Containers or FIBCs (HS code 63053200). India is a significant exporter of FIBC to Europe and North America.

Export of **Writing instruments** slipped 24.9% in February 2021, mainly on account of a decline in sales of Ball-point pens with liquid ink (HS code 96081019) across the major export destinations.

Exhibit 4: Details of % change seen in top 50 items of export

HS Code	Description	Apr 19-Feb 20 (USD Mn)	Apr 20-Feb 21 (USD Mn)	Growth (%)
39076100	Polyethylene terephthalate: having a viscosity number of 78 ml/g or higher	670.7	-	NM
63053200	Flexible intermediate bulk containers	628.7	630.8	0.3%
39021000	Polypropylene, in primary forms	478.2	621.2	29.9%
39012000	Polyethylene with a specific gravity of ≥ 0.94	390.8	285.2	-27.0%
39232990	Sacks and bags, incl. cones, of plastics (excl. those of polymers of ethylene): Other	347.5	341.4	-1.8%
39011010	Linear low-density polyethylene (LLDPE)	325.5	109.3	-66.4%
39269099	Articles of plastics and articles of other materials of heading 3901 to 3914, n.e.s: Other	300.5	269.2	-10.4%
67030010	Human hair, dressed, thinned, bleached or otherwise worked	229.0	315.7	37.9%
90011000	Optical fibres, optical fibre bundles and cables (excl. made-up of individually sheathed fibres of heading 8544)	218.4	205.4	-5.9%
48239019	Decorative laminates	191.5	189.2	-1.2%
39206220	Plates, sheets, film, foil and strip, of non-cellular polyethylene terephthalate, not reinforced, laminated, supported or similarly combined with other materials, without backing, unworked or merely surface-worked or merely cut into squares or rectangles (excl. those of polymethyl methacrylate, self-adhesive products, and floor, wall and ceiling coverings of heading 3918): Flexible, plain	191.8	185.4	-3.4%
54072090	Woven fabrics of strip or the like, of synthetic filament, incl. monofilament of ≥ 67 decitex and with a cross sectional dimension of ≤ 1 mm: Other	160.1	90.7	-43.4%
39269080	Polypropylene articles, not elsewhere	160.1	174.9	9.3%
39232100	Sacks and bags, incl. cones, of polymers of ethylene	146.4	144.3	-1.4%
39076990	Other, polyethylene terephthalate	142.3	137.3	-3.5%
39239090	Articles for the conveyance or packaging of goods, of plastics (excl. boxes, cases, crates and similar articles; sacks and bags, incl. cones; carboys, bottles, flasks and similar articles; spools, spindles, bobbins and similar supports; stoppers, lids, caps and other closures): Other	143.4	128.5	-10.4%
39219099	Plates, sheets, film, foil and strip, of plastics, reinforced, laminated, supported or similarly combined with other materials, unworked or merely surface-worked or merely cut into squares or rectangles (excl. of cellular plastic; self-adhesive products, floor, wall and ceiling coverings of heading 3918): Other	144.9	89.6	-38.2%
39202020	Plates, sheets, film, foil and strip, of non-cellular polymers of ethylene, not reinforced, laminated, supported or similarly combined with other materials, without backing, unworked or merely surface-worked or merely cut into squares or rectangles (excl. self-adhesive products, and floor, wall and ceiling coverings of heading 3918): Flexible, plain	136.0	170.0	25.0%
39011090	Polyethylene with a specific gravity of < 0.94 : Other	134.4	43.5	-67.7%
54072030	Woven fabrics of strip or the like, of synthetic filament, incl. monofilament of ≥ 67 decitex and with a cross sectional dimension of ≤ 1 mm: Dyed	127.5	43.7	-65.8%
90015000	Spectacle lenses of materials other than glass	125.8	105.1	-16.5%
96081019	Ball-point pens	113.5	77.4	-31.9%
39202090	Plates, sheets, film, foil and strip, of non-cellular polymers of ethylene, not reinforced, laminated, supported or similarly combined with other materials, without backing, unworked or merely surface-worked or merely cut into squares or rectangles (excl. self-adhesive products, and floor, wall and ceiling coverings of heading 3918): Other	112.0	107.1	-4.4%

39046100	Polytetrafluoroethylene, in primary forms	97.1	89.8	-7.5%
90183930	Cannulae	87.9	89.9	2.3%
39241090	Tableware and kitchenware, of plastics: Other	84.6	74.6	-11.8%
96032100	Tooth brushes, incl. dental-plate brushes	80.0	62.5	-21.8%
39069090	Acrylic polymers, in primary forms (excl. polymethyl methacrylate): Other	78.5	107.4	36.8%
39206290	Plates, sheets, film, foil and strip, of non-cellular polyethylene terephthalate, not reinforced, laminated, supported or similarly combined with other materials, without backing, unworked or merely surface-worked or merely cut into squares or rectangles (excl. those of polymethyl methacrylate, self-adhesive products, and floor, wall and ceiling coverings of heading 3918): Other	74.7	92.8	24.2%
95030030	Tricycles, scooters, pedal cars and similar wheeled toys; dolls' carriages; dolls; other toys; reduced-size ("scale") models and similar recreational models, working or not; puzzles of all kinds: tricycles, scooters, pedal cars and similar wheeled toys; dolls' carriages; dolls; other toys; reduced-size ("scale") models and similar recreational models, working or not; puzzles of all kinds: of plastics	74.7	71.0	-4.8%
56074900	Twine, cordage, ropes and cables of polyethylene or polypropylene, whether or not plaited or braided and whether or not impregnated, coated, covered or sheathed with rubber or plastics	71.9	70.6	-1.7%
59031090	Textile fabrics impregnated, coated, covered or laminated with polyvinyl chloride (excl. wall coverings of textile materials impregnated or covered with polyvinyl chloride; floor coverings consisting of a textile backing and a top layer or covering of polyvinyl chloride): Other	70.3	61.6	-12.4%
39206919	Plates, sheets, film, foil and strip, of non-cellular polyesters, not reinforced, laminated, supported or similarly combined with other materials, not worked or only surface-worked, or only cut to rectangular, incl. square, shapes (excl. polycarbonates, polyethylene terephthalate and other unsaturated polyesters, self-adhesive products, and floor, wall and ceiling coverings in heading 3918): Other	70.3	66.5	-5.4%
59039090	Textile fabrics impregnated, coated, covered or laminated with plastics other than polyvinyl chloride or polyurethane (excl. tyre cord fabric of high tenacity yarn of nylon or other polyamides, polyesters or viscose rayon; wall coverings of textile materials impregnated or covered with plastic; floor coverings consisting of a textile backing and a top layer or covering of plastics): Other	64.5	134.1	108.0%
39204900	Plates, sheets, film, foil and strip, of non-cellular polymers of vinyl chloride, containing by weight < 6% of plasticisers, not reinforced, laminated, supported or similarly combined with other materials, without backing, unworked or merely surface-worked or merely cut into squares or rectangles (excl. self-adhesive products, and floor, wall and ceiling coverings of heading 3918)	63.4	53.0	-16.4%
39140020	Ion-exchangers based on polymers of heading 3901 to 3913, in primary forms: Ion exchangers of polymerisation	63.2	59.2	-6.4%
39219094	Plates, sheets, film, foil and strip, of plastics, reinforced, laminated, supported or similarly combined with other materials, unworked or merely surface-worked or merely cut into squares or rectangles (excl. of cellular plastic; self-adhesive products, floor, wall and ceiling coverings of heading 3918): Flexible, metallised	61.0	69.5	14.0%
39219096	Plates, sheets, film, foil and strip, of plastics, reinforced, laminated, supported or similarly combined with other materials, unworked or merely surface-worked or merely cut into squares or rectangles (excl. of cellular plastic; self-adhesive products, floor, wall and ceiling coverings of heading 3918): Flexible, laminated	59.2	81.3	37.3%
39199090	Self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, of plastics, whether or not in rolls > 20 cm wide (excl. floor, wall and ceiling coverings of heading 3918): Other	59.8	70.7	18.3%
39072090	Polyethers, in primary forms (excl. polyacetals): Other	58.4	78.3	34.0%
39241010	Insulated ware of plastics	55.1	50.8	-7.7%

39073010	Epoxy resins	56.4	41.3	-26.7%
39259090	Building elements for the manufacture of floors, walls, partition walls, ceilings, roofs, etc., of plastic; gutters and accessories of plastic; railings, fences and similar barriers, of plastic; large shelves, for assembly and permanent installation in shops, work-shops, etc., of plastic; architectural ornaments, e.g. friezes, of plastic; fittings and similar products for permanent mounting on buildings, of plastic: Other	54.8	22.9	-58.3%
39095000	Polyurethanes, in primary forms	50.7	52.2	3.0%
39100090	Silicones in primary forms: Other	50.0	35.2	-29.6%
39235010	Stoppers, lids, caps and other closures, of plastics: Caps and closures for bottles	46.3	50.0	8.1%
39129090	Cellulose and chemical derivatives thereof, n.e.s., in primary forms (excl. cellulose acetates, cellulose nitrates and cellulose ethers): Other	47.6	53.2	11.8%
39119090	Polysulphides, polysulphones and other polymers and prepolymers produced by chemical synthesis, n.e.s., in primary forms: Other	45.7	54.1	18.5%
39031990	Polystyrene, in primary forms (excl. expansible): Other	46.8	25.7	-45.2%
39269069	Articles of plastics and articles of other materials of heading 3901 to 3914, n.e.s: Other	44.5	32.4	-27.4%



SRI LANKA

Economic overview

Sri Lanka is an island country located in South Asia off the southern coast of India. It has an area of 65,610 square kilometres and a population of 21.8 million. Over the years, Sri Lanka has transitioned from being an agrarian economy to a more urbanized economy with increased manufacturing and services activities. Although, Sri Lanka's challenging external debt position is a cause for concern, with domestic economic activity returning to near full in September 2020 and Travel and tourism activities rebounding, the country is expected to report a positive GDP growth in 2021.

As of March 16, 2021, the S&P's rating for Sri Lanka is CCC+ (stable); Moody's rating stands at Caa1 (stable); and Fitch has a reported rating of CCC (n/a).



Economic indicators		2017	2018	2019
Nominal GDP	USD Billion	87.4	88.4	84.0
Nominal GDP per capita	USD	4,077	4,079	3,852
Real GDP growth	%	3.6	3.3	2.3
Total population	Million	21.4	21.7	21.8
Average inflation	%	6.6	4.3	4.3
Total merchandise exports	USD Billion	11.4	12.4	12.1
Total merchandise imports	USD Billion	19.2	20.2	18.0

Source: IMF, TradeMap

Sri Lanka has trade agreements with Afghanistan, Bangladesh, Bhutan, China, South Korea, Laos, Maldives, Nepal, Pakistan, and India. The India - Sri Lanka Free Trade Agreement (ISFTA) came into force from March 1, 2000. India and Sri Lanka are also signatories to Asia Pacific Trade Agreement (APTA), South Asian Preferential Trade Arrangement (SAPTA) and South Asian Free Trade Agreement (SAFTA).



Trade overview

Sri Lanka is India's third largest trading partner in SAARC. In 2019, India and Sri Lanka engaged in bilateral trade worth USD 5.21 billion. During the year, India's exports to Sri Lanka were valued at USD 4.22 billion in comparison to India's imports worth USD 0.99 billion resulting in a trade surplus of USD 3.23 billion to India.



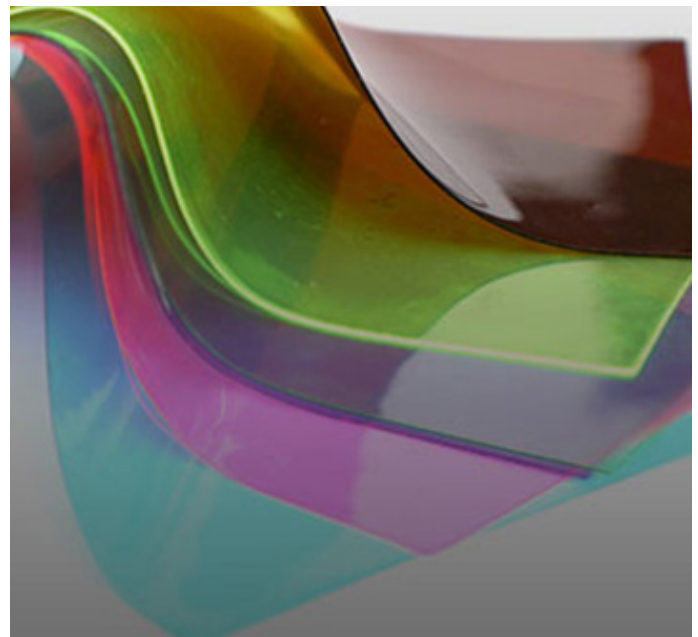
The major items of export from India to Sri Lanka are sugar, diesel fuel, pharmaceuticals, cement, and products of iron & steel. Likewise, major items of export from Sri Lanka to India are areca nuts, animal feed, paper or paperboard, black pepper, and ignition wiring sets.

Within plastics, the trade is in favour of India with exports worth USD 119.9 million to Sri Lanka and a trade surplus of USD 112.1 million. India's plastics exports to Sri Lanka primarily comprise of the following:

- Plastic raw materials (39.5%)
- Plastic sheets, films, plates etc (18.2%)
- Packaging items (6.1%)
- Masterbatches (5.0%)
- Other moulded and extruded items (4.7%)

Sri Lanka's annual plastics imports are valued at USD 1.0 billion. Its plastic imports are largely catered to, by China (31.7%) and India (13.2%). India also has a good standing in some of the plastic product imports by Sri Lanka:

- Plastic sheets, films, plates etc – Market share of 23.2% share (Rank 2)
- Masterbatches – Market share of 23.2% share (Rank 2)
- Pipes, tubes, hoses etc – Market share of 15.2% share (Rank 2)
- Plastic raw materials – Market share of 14.1% share (Rank 2)
- Medical Disposables – Market share of 13.4% share (Rank 3)



Mr. P Mohan, MD, Sakkthi Polymers & Panel Chairman – Pipes & Fittings, Plexconcil

Recently, Indian products came under SL's Negative List under ISFTA and this has become a huge cause for apprehension as far as exports to SL is concerned. Prior to the same, we enjoyed excellent relations with SL and hoses and pipes exports especially were doing extremely well as SL does not manufacture hoses. SL is a small country and although the local Govt there does encourage domestic manufacturing, since the demand is much smaller, most local industries prefer imports to setting up expensive manufacturing units. This was a major advantage for us. However, the negative list now opens up the market and the biggest gainer will be China. SL has historically levied huge imports duties and while both Indian and Chinese imports paid the same duties, Chinese products are inherently cheaper than Indian products and hence have always had a competitive advantage. Raw material cost itself in India is at least 40% higher than in China and just by noting this fact, the math plays out for itself. SL is one of our focus countries and a neighbouring country. And despite the existing trade agreements with SL the current negative list does nothing more than disrupt the excellent trade that we have had with them for the past several years. This issue must be considered by the Govt and the CIM and timely action taken or we will continue to lose hard earned opportunities. India exports numerous products to SL. It is a significant market for many exporters and if not addressed in a timely manner, much of the exports to SL will be impacted.

Trade potential

Our internal research indicates that India's export of value-added plastics to Sri Lanka has the potential to grow by nearly USD 559 million. Product categories, within value-added plastics, that have immense export potential for export to Sri Lanka include:

Product Category	Sri Lanka's import from India	Sri Lanka's import from world	India's export to world	Trade potential for India
	USD Million	USD Million	USD Million	USD Million
Plastic sheets, films, plates etc	21.8	93.9	1,371.0	71.1
Medical disposables	8.7	64.7	660.9	56.1
Electrical items	1.6	51.5	172.8	49.9
Leathercloth	3.5	50.2	145.0	32.8
Packaging items	7.3	39.9	790.7	32.6
Pipes, tubes, hoses etc	5.5	36.6	191.5	31.0
Masterbatches	9.2	39.5	1,270.7	30.4
Houseware	0.8	25.3	206.7	24.5
Self-adhesive sheets and films	1.7	20.5	125.1	18.8
All types of optical items	2.3	15.6	445.1	13.0

Source: TradeMap, Plexconcil Research

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For Booking -

Mr. Krunal Goda

+91 90040 05520

k.goda@plexconcoil.org



International News

Innovia expands ISCC PLUS certification

Following significant interest from Multinationals across all Innovia Films chosen market sectors; Tobacco, Packaging and Labels, and their increasing commitment to reducing their carbon footprint and play their part in a circular economy, Innovia has expanded its ISCC PLUS certification to their plants based in Australia, Belgium, and the UK. This allows Innovia to produce their range of Encore sustainable films globally, supplying both certified renewable materials, (ISCC PLUS Bio-Circular material) and certified circular material, (ISCC PLUS Circular Material).

Paul Watters, Product Development Manager, Packaging, said: “The sustainable team based in Wigton supported the work that the local cross functional plant teams undertook in very tight timescales. To achieve ambitious schedules meant they had to adopt a well-coordinated and collaborative team approach.”

ISCC (International Sustainability & Carbon Certification) is an independent multi-stakeholder organisation providing a globally applicable certification system for the sustainability of raw materials and products.

Innovia has also developed its own internal Life Cycle Analysis (LCA) programme which gives them the ability to measure key sustainability metrics including carbon footprint (global warming potential) and fossil scarcity on a cradle to gate basis.

Watters continued “These additional certifications show our commitment to increasing our manufacturing footprint of certified renewable and recycled content films in line with customer demand for these types of products.”

Source: British Plastics & Rubber

Mars Wrigley Partners with Danimer Scientific to Roll Out Compostable Packaging

Snack giant Mars Wrigley has announced a two-year partnership with Danimer Scientific to advance home-compostable packaging. Mars Wrigley said it will soon introduce Skittles candy packaged in Danimer’s Nodax polyhydroxyalkanoate (PHA) material in US stores.





Sourced from the seeds of plants such as canola and soy, Nodax PHA is produced through natural fermentation processes. Danimer Scientific (Bainbridge, GA) and Mars Wrigley (Chicago) plan to introduce Nodax PHA into flexible and rigid packaging that reliably breaks down in both industrial composting facilities and backyard compost units.

The ability to “home compost” Nodax provides consumers with the option of setting up a compost unit where the material will naturally break down alongside other organic substances, such as food scraps or yard waste, Danimer explained to *PlasticsToday*. “The material will reliably degrade in any circumstances where bacteria are present to break it down.”

Nodax can serve as an alternative to traditional petrochemical plastic and has been certified as biodegradable in soil and marine environments. In addition to better end-of-life options, Nodax PHA is renewably sourced, making it a truly circular material that helps eliminate waste, said the announcement. “If a region does not have industrial composting facilities, Nodax PHA can also biodegrade in municipal solid-waste landfills that have landfill gas/energy (LFGE) projects,” Danimer told *PlasticsToday*. “These are essentially ‘wet’ landfills that capture the methane that is emitted from decomposing food waste and use it to produce various forms of energy.”

Mars Wrigley’s collaboration with Danimer represents a “step change” for its packaging sustainability strategy and brings the business closer to its vision for a circular economy where no packaging becomes waste. As part of Mars Inc.’s \$1-billion Sustainable in a Generation plan to help create a healthier planet, Mars Wrigley is testing a range of material solutions in markets around the world, such as mono-material and paper-based alternatives to make incremental progress toward its goals. The aim of this collaboration is new, biodegradable packaging for various Mars Wrigley brands starting with smaller and single packs that are more likely to end up as litter and are less likely to be recycled. Initial development work in North America will begin with the underdeveloped recycling infrastructure where littering and leakage into nature are especially problematic.

Mars Wrigley’s first on-the-shelf offerings are tentatively targeted for late 2021 or early 2022, featuring its Skittles brand in the United States.

Danimer currently has a manufacturing facility in Winchester, KY, to produce Nodax. “The first phase of Danimer Scientific’s plan to commercially produce PHA is currently online, and we are scaling up to reach a manufacturing capacity of 20 million pounds per year,” said Danimer in response to questions posed by *PlasticsToday*. “Phase 2 will come online by Q2 2022 to triple this capacity. We are also planning to break ground on a greenfield facility in 2022.”

“The impact of plastic on nature is one of the major sustainability challenges of our generation. There are no simple solutions, and transformational innovation is necessary,” said Alastair Child, Mars Wrigley VP of Global Sustainability. “Collaborating with Danimer to advance this breakthrough technology represents a major step to creating positive societal impact and better environmental outcomes across the full lifecycle of small, flexible packaging.”

Mars said it will continue to evaluate opportunities to scale this sustainable packaging technology across its portfolio of brands and categories.

Source: *Plastics Today*

Cox Enterprises Invests in Nexus Fuels

Nexus Fuels LLC, a circular waste plastics operation, has secured a major investment from Cox Enterprises to accelerate its market expansion. Nexus has developed a commercial-scale process for converting waste plastics formerly bound for landfills and oceans into virgin plastic precursors and resins that partners like Shell and Chevron Phillips can use to develop new products, according to a release from Cox Enterprises.

“We appreciate Cox’s dedication to improving the environment and their support of Nexus to convert waste plastics into new, environmentally friendly products,” said Nexus CEO Jeff Gold.



“More importantly, Cox understands that recycling solutions like Nexus must be economically viable to be sustainable over the long term.”

Nexus has partnered from the outset with Cox Enterprises, a company that says it is committed to healing and protecting our planet. “With Cox’s full support, Nexus has created an end-to-end business, poised to grow globally,” commented Nexus President and co-founder Eric Hartz. “This circular solution means all plastics currently above ground are all that’s ever needed.”

Since 2007, Cox Enterprises has invested nearly \$1 billion in innovative cleantech companies and solutions. The investments range from sustainable agriculture and energy services to waste conversion technologies, and include companies like Rivian, BrightFarms, Anuvia Plant Nutrients, and Growers Edge.

“Cox Enterprises is committed to protecting our planet and tackling sustainability challenges while growing our business,” said Steve Bradley, Vice President of Cox Cleantech for Cox Enterprises. “By investing in cutting-edge companies like Nexus that bring viable solutions to real-world problems, we are building scalable businesses that create a positive impact on the planet.” Nexus has already sold more than 250,000 gallons of fuel and raw material, diverting more than 1,000 tons of waste plastics from landfills. Nexus accepts clean plastics #2 (HDPE), #4 (LDPE), #5 (PP), and #6 (PS).

Source: Plastics Today

Asda Moves to Reusable Plastic Produce Bags from Single-Use Packaging

British supermarket Asda anticipates removing 101 million pieces of single-use plastic bags from its stores yearly by switching to reusable fruit and vegetable bags made from 100% recycled plastic water bottles.

Following a 9-store trial that drew positive customer and colleague feedback, Asda is expanding the program to all stores across the UK instead offering customers a reusable alternative. Priced at just 30p each, Asda’s reusable bags offers customers an affordable, reusable alternative to single-use packaging.



During the trial period, Asda sold an average of 30,000 reusable bags each week as customers continue to support efforts to tackle plastic pollution. “We know that our customers and colleagues are really passionate about doing the right thing for the environment and this move is just another way we are helping them make sustainable choices, without compromising on the quality of our produce,” says Dominic Edwards, director of produce. “Following some really positive feedback on our trial, we’re excited to roll out the removal of the plastic bags across all our stores, as we continue to work towards our plastic reduction targets as a business.”

Asda has continued to look at ways to remove plastic from across its fresh produce and later this year, the retailer is going to remove the plastic punnets from Conference Pears saving an additional 170 tonnes of plastic each year.

These initiatives are part of Asda’s long-term commitment to remove single use plastic from its business. Since 2018, the supermarket has removed 9,000 tonnes of plastic and committed to removing 3 billion pieces of plastic from own-brand products by 2025.

Source: Plastics Today

Muller Helps Customers Thrive Amid Plastic Resin Shortage

Raw material shortages as well as plastic-reduction initiatives launched by brand owners has given Muller Technology Colorado an opportunity to help its customers — brand owners and processors — employ a range of strategies to enhance plastic packaging sustainability.

“We take our responsibility as stewards of the environment very seriously and we’re committed to helping our customers meet growing demand for more sustainable packaging while also helping them navigate the current material shortage caused by the February ice storm that hit the Gulf Coast,” said Taras Konowal, Director of Sales and Marketing for Muller North America, a global developer and manufacturer of automation technology for thin-wall packaging.

Muller has worked closely with its customers throughout the design development stage to reduce the amount of plastic in containers by up to 30% through lightweighting and by up to 80% through substitution with paperboard. The company’s latest automation equipment designs have reduced energy consumption by up to 40%. These efforts have distinguished the company in the automation industry as manufacturers explore new packaging alternatives that deliver sustainability benefits and cut costs, according to Konowal.

Recently, Muller began working with leading US brand owners to develop polymer-coated paperboard solutions that deliver strong barrier properties in a sustainable packaging option. Muller worked closely with Swedish packaging manufacturer Arta Plast to develop a renewable paperboard cup called Fiber Cup.

To ensure strong barrier protection and freshness for products such as crème fraiche, butter, and chilled food, the paperboard is coated with a thin polypropylene (PP) layer on both sides. The cup is recyclable, while its attractive shape and printing and design capabilities showcase the brand.

During a two-year developmental process, the project team refined the injection molding process and developed a specialized mold and in-mold labeling (IML) technology. The fiber-based cup significantly reduces plastic use and keeps the product fresh. The container is sealed with a foil cover and incorporates a standard PP lid. "This new package takes a fresh approach to improved sustainability while also optimizing the use of plastics materials," said Konowal.

Source: Plastics Today

Molding the Tiniest Parts on Earth

Whether it's for medical or electronics, extremely small parts are in demand. The miniaturization trend has been growing (so to speak) for decades. Micro molding technology has been following this trend on down. Some molded parts are smaller than the thickness of a human hair. By small, think amazingly tiny. "Our smallest molded form is over one thousand parts per plastic pellet. That's extreme," Brent Hahn, Isometric's director of global sales, told Design News. "We handle up to six-inch parts, but they still have micro-features that may be single microns in size."



As for the markets for extremely small parts, there are many-, from fiberoptic connectors, strain reliefs, ferrules, and LEDs that go in ever-shrinking electronics- to parts that go inside the human body, such as ear tubes, heart valves, intraocular surgical instruments, and disposables. "Our main customer base has been medical

and drug delivery device OEMs. Our value is in solving miniaturized device problems for fitting into tiny spaces such as surgical endoscopes, insulin pumps, wearable devices, transdermal needle arrays to name a few," Donna Bibber, VP of business development at Isometric, told Design News. "We also produce implantables, where the parts hold a slow-release drug in the body that dissolves. Or the parts hold a hernia mesh together with material that is designed to dissolve."

The business of making incredibly small parts comes with a few obstacles. "Trying to find material that will fill thin walls with high aspect ratios is a challenge that we are very good at solving," said Bibber. "When you get down to the small level, you still need strength in the part. The material selection matters. An additional obstacle is validating these parts. We're validating to single micron tolerances that takes a very detailed process map and corresponding PFMEA."

In addition to micro-molding, some small parts can be produced using additive manufacturing. "3D micro printing is used to flush out geometrical designs early on in the product development stages," said Bibber. Isometric Micro Molding uses micro 3D printing for prototyping. "We've been successful in assisting customers with DFM/DFA early in the development phase so scalability can be reviewed even at the prototype stage very quickly, in just a few days", said Bibber. "It's important for us to 3D print something that is scalable, so the customer has something in hand that fits the needs all the way through the product development cycle. This saves much time and money on the back end of the development cycle."

One of the reasons for using micro 3D printing for prototyping, but not for production has to do with available materials at this time. "Most 3D printing materials are thermosets, however, and not typical of the materials used later on in the development cycle," said Bibber. "With miniaturized medical and drug delivery applications, customers need thermoplastic and FDA-predicate materials that have been through regulatory certification."

The features and part sizes have to also represent micro molding and automated assemblies. "Our smallest part we printed was a one-thousandth of an inch (0.001" (25 microns) thick part. Also possible with micro 3D printing are high aspect ratio components such as 0.002" thick tubes over 1.5" long, transdermal needles with extremely sharp needle points, and microfluidic channels and holes < 0.004" (100 microns)," said Brent Hahn.

"In the midst of a significant demand for miniaturized device innovations, Isometric Micro Molding, Inc. is well-positioned with capabilities to partner with our

customers to create not only new products but platforms of products resulting in significant intellectual property and value”, says Bibber.

Source: Plastics Today

Invista completes technology upgrade at Victoria ADN plant

INVISTA has completed its project to bring the company’s most advanced adiponitrile (ADN) technology to its site in Victoria, Texas, on schedule, as part of the site’s regularly planned maintenance turnaround. The site will manage a controlled start-up and ramp-up of ADN production.

“We’re pleased this ADN retrofit will bring additional production capacity online in Victoria and are looking forward to how this will support growth in downstream nylon 6,6 applications,” said Bill Greenfield, president, INVISTA Intermediates.



ADN is a key ingredient for nylon 6,6 fibers and plastics used in industries like automotive production, electronics and electrical connectors. Applications also include automotive airbag fiber, specialty apparel fibers and high-performance coatings.

INVISTA’s latest ADN technology has also been deployed at its site in Orange, Texas; at Butachimie in France (owned 50 percent by INVISTA and 50 percent by BASF), and will be deployed at its ADN plant at the Shanghai Chemical Industry Park in China, which is targeted to begin production in 2022. This technology brings improved product yields, reduced energy consumption, lower greenhouse gas emissions, enhanced process stability and reduced capital intensity, compared to existing technologies.

Source: India Chemical News

Axalta expands Industrial coatings portfolio

Axalta has introduced Imron Industrial 2100 HG-C high-gloss clearcoat into its existing high-performance Imron Industrial portfolio in North America. The new clearcoat is formulated to melt quickly and flow smoothly making damaged areas easy to repair.

Imron 2100 HG-C is a 2.1 Volatile Organic Compound (VOC), two-component, low Hazardous Air Pollutants (HAPs) polyurethane clearcoat based on proprietary Axalta resin technology and produces both polyester and acrylic urethane properties, which are designed for high-quality appearance applications.



“Customer standards for appearance have been increasing throughout the last decade and we are excited to announce a product that addresses the needs of the industry,” said Dave Heflin, Vice President of Global Industrial Liquid Coatings at Axalta. “Imron 2100 HG-C is designed to provide the cleanest, mirror-like appearance with exceptional color and gloss retention that can be applied to any product requiring a crystal clear clearcoat.”

For almost 50 years, Imron Industrial is known as an industry-leading polyurethane product line offering a complete coating system for the most demanding industry specifications. Imron industrial polyurethanes are available in solventborne and waterborne primer, topcoat, direct-to-metal (DTM), and clearcoat formulas with many products offered in multiple gloss levels, ranging from high-gloss to flat. Axalta’s Imron industrial products are available in thousands of industrial solid color, RAL colors and safety colors, which may be applied by brush, roller, or a variety of spray application methods.

Source: India Chemical News

Aramco plans \$35 bn Capex in 2021

The Saudi Arabian Oil Company (Aramco) announced its full year 2020 results and is planning a Capex of US \$35 billion in 2021.

Capital expenditure in 2020 was US \$27 billion due to the implementation of optimization and efficiency programs, representing a significant saving on capital expenditure of US \$33 billion in 2019. The company continues to assess its capital expenditure and efficiency programs, and expects capital expenditure for 2021 to be around US \$35 billion, significantly lower than the previous guidance of US \$40-\$45 billion.



Commenting on 2020 results, Aramco President & CEO Amin H. Nasser said, “As the enormous impact of COVID-19 was felt throughout the global economy, we intensified our strong emphasis on capital and operational efficiencies. As a result, our financial position remained robust and we declared a dividend of US \$75 billion for 2020.”

“At the same time, the accelerated deployment of digital technologies across the company significantly enhanced our performance and we continued to make progress on breakthrough low-carbon solutions,” commented Naseer.

“Looking ahead, our long-term strategy to optimize our oil and gas portfolio is on track and, as the macro environment improves, we are seeing a pick-up in demand in Asia and also positive signs elsewhere. We remain confident that we will emerge on the other side of this pandemic in a position of strength,” added Naseer.

Aramco declared a dividend of US \$75 billion for the year, which reflects the outcome of the company’s strong performance. The company continues to preserve a strong balance sheet and its gearing ratio at December 31, 2020, was among the lowest in its industry. Meanwhile, its ROACE of 13.2% was the highest in the industry.

In 2020, Aramco’s average hydrocarbon production was 12.4 million barrels per day of oil equivalent, including 9.2 million barrels per day (mmbpd) of crude oil. The company achieved another milestone in August, producing a single-day record of 10.7 billion standard cubic feet per day (bscfd) of natural gas from its conventional and unconventional fields.

Aramco’s ambition to further expand its downstream business took a significant step forward with the acquisition of a majority stake in SABIC in June, transforming the company into a major global petrochemical player with operations in more than 50 countries. In 2020, Aramco also announced a downstream reorganization intended to maximize value from its global network of assets.

Source: India Chemical News



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Naman Marjadi

M: 9429115629

T: 079-48010103

E: naman@plexconcil.org



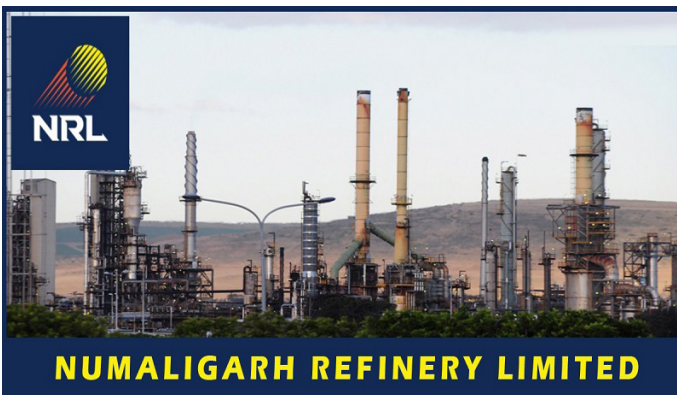
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India News

Numaligarh Refinery implements Hexagon's OMS

Numaligarh Refinery Limited (NRL) has implemented Hexagon's j5 Operations Management Solution (j5 OMS) to ensure safe, efficient and compliant operations of its industrial sites.

The j5 OMS adoption helps the company create a digital shift logbook and digitalize shift operations. The new j5 OMS combines the data collected by the employees with the information from historians, providing NRL's Operations team with a single source of truth for Operations.



NRL will follow a phased approach for the j5 OMS deployment and has started the implementation with five refinery units: hydrocracker, solvent de-oiling, power and utilities, diesel hydrotreater and the Numaligarh Refinery Marketing Terminal (NRMT). A refinery-wide implementation of the solution is planned in the first half of this year.

Hexagon's j5 OMS combined with the j5 Connector for AspenTech will empower the NRL team with advanced business operations and technology transfer capabilities. This will improve shift-to-shift communication and help NRL reduce the risk of hazardous incidents, equaling industry-wide shift handover recommendations by experts. NRL's personnel also will be able to collect measurements or observations in the field with industry-standard mobile devices.

S. K. Barua, MD, NRL said, "Hexagon solutions will accelerate and support our digital transformation journey by enabling us to optimize our business operations. Hexagon solutions provide us with efficient, intelligent, and data-centric work processes with auditable traceability, supporting the entire facility lifecycle."

"This partnership between NRL and Hexagon marks the first public service company j5 OMS adoption in India. Digitalizing the operations workforce at the NRL refinery will enable NRL to not only see major advancements in the management of their daily operations but also ensure the best in market safety and sustainability standards. We look forward to successful adaptation of the technology," said Chanpreet Sahni, Vice President for Hexagon's PPM Division in India.

Source: India Chemical News

Centre readies draft plan for district-wise export promotion

The government has readied a draft district-wise export promotion plan for 451 districts in the country after identifying products and services with export potential in 725 districts, Commerce Secretary Anoop Wadhawan said on Monday.

Aiming for double-digit export growth from 500 districts over 3-5 years, the Commerce Ministry has asked States to prepare an annual 'export ranking index' of districts on export competitiveness with the assistance of the Directorate General of Foreign Trade (DGFT). While foreign trade constitutes 45% of India's GDP, most export promotion efforts are driven by the Centre.

The district-specific approach that perforce involves the States in identifying potential export sectors and the logistics bottlenecks to be fixed, was taken up after Prime Minister Narendra Modi pushed for each district to aim to be an export hub during his Independence Day address in 2019.

In the initial phase, products and services with export potential in each district have been identified and an institutional mechanism of State and District Export Promotion Committees (SEPC) are being created, with an action plan to grow exports from each district. Draft District Export Action Plans have been prepared by regional DGFT authorities in 451 districts.

"Products/services with export potential have been identified in 725 districts across the country (including Agricultural & Toy clusters and GI products in these Districts)," the Ministry said. "District Export Promotion Committees have been notified in the districts of all the States except West Bengal," it added.

Source: The Hindu

Marine box demand boost for Indian makers

An acute shortage of marine containers since October 2020 due to a global equipment imbalance has severely affected Indian trade. However, it has also come as a blessing in disguise for it has led to an awakening — both in the government and in the trade — on the need for India to aggressively restart container manufacturing locally and be less dependent on China, which has a monopoly with over 90 per cent market share globally.

Local container manufacturing is also critical for the success of Centre's AatmaNirbhar Bharat (self-reliant India) programme.

Container manufacturing is not new to India. As containerisation started to flourish two decades ago, Indian companies manufactured them locally. However, the momentum fizzled out as Chinese companies gained dominance due to cheap labour, availability of abundant raw material and the ability to scale quickly — all of which were largely missing in India.

But action is now being taken — albeit a bit late — to revive local container manufacturing. Earlier this month, Container Corporation of India (Concor) placed orders for 1,000 containers each from Braithwaite & Company Ltd and Public Sector undertaking BHEL. Concor, which earlier always sourced containers from China, discovered that locally made containers were cheaper by about 25 per cent. Each container costs about ₹2.5 lakh. It is looking to source more from within India.

There are reports that Gujarat government is exploring a plan to make Bhavnagar a hub for container manufacturing. Bijoy Paulose, Managing Director of the Chennai-based VS&B Containers, said the company annually procures around 4,000 boxes, and all from China. India once had container manufacturers such as Balmer Lawrie (Chennai and Kochi); DCM Hyundai (Chennai); Nathaniel and Transfreight (Mumbai) and HIM Containers (Kolkata). However, these companies all shut down 10-20 years ago. Only DCM is doing local containers in Delhi, he added.



China has a monopoly and can quickly undercut the prices and squeeze the Indian initiative unless the government looks at serious intervention to prevent dumping. There is an annual demand for nearly 4,000 boxes in India. India now has raw materials such as Corten steel needed for the manufacture of these containers. However, 25 years ago even screws were imported, he added.

In the backdrop of the Covid-19 pandemic, local production will benefit the domestic trade during any future disruption, said Sai Krishna, Assistant Vice President, ICRA Ltd, an investment information and credit rating agency. However, matching China on the costs will be a challenge for Indian container manufacturers, he added. The government can help by providing exemptions for manufacturers on key inputs such as steel or steel scrap. The key to success will be to build scale, else on the cost front the initiative might not take off, he said.

According to Sunil Vaswani, Executive Director, Container Shipping Lines Association (India), the limited access to available containers is driving up the buying price of new containers since manufacturers charge a premium due to the high demand.

A relaxation of 40.8 per cent import duty after 18 per cent GST on Corten steel and/or suspension of iron ore exports will help Indian container manufacturers. Favourable policy framework, cost/price competitiveness and quality will boost the business. This would not only help India become self-reliant in the sector but also give the world another option — which would help during the peak demand months of the year — for sourcing of containers, so far largely restricted to China.

Source: The Hindu Businessline

Longer wait time awaits exporters seeking RoDTEP benefits

Exporters will have to wait longer to get incentives under the new Remission of Duties and Taxes on Export Products (RoDTEP) scheme.

Sources privy to the development said differences between the Commerce and Finance Ministries over the quantum of benefits to be released under the scheme is expected to delay finalisation of refund rates for various product categories, affecting finalisation of contracts by exporters.

The new scheme, which replaced the MEIS (Merchandise Exports from India Scheme), is applicable with effect from January 1, 2021. But in absence of rate of benefits finalised by the Commerce Ministry, exporters continue to remain in dark, resulting in delays in also a few export bound shipments, said some exporters who did not want to be named.

Sources said that the G.K. Pillai panel set to finalise rates under the scheme for thousands of products has suggested a design that may raise annual RoDTEP benefits to the tune of Rs 30,000 crore. The Finance Ministry, sources said, wants the annual benefits to be capped at around Rs 13,000-15,000 crore. This has prevented the Commerce Ministry from finalising the scheme as comments from the Revenue Department had not yet been received.

The government has budgeted only Rs 13,000 crore for the RoDTEP scheme for FY22, which is way below the scheme's initial estimated annual cost of Rs 50,000 crore. Also, it is only a third of the Rs 39,097 crore the government approved for exporters in FY20 under the MEIS for many sectors.

Industry experts and former ministry officials said that with the government's focus on productivity linked incentives (PLIs) and other stimulus measures announced as part of Atmanirbhar Bharat package, RoDTEP may have to be operationalised with a smaller budget.

Source: sometimes.in

India's foreign trade policy must address rising commodity, logistics cost: Rupa Naik

Rising commodity prices and escalating logistics cost could hamper the export potential of India's micro, small and medium enterprises (MSME) and, therefore needs to be addressed in the forthcoming foreign trade policy. Rising prices of metals, plastics, fuel, and other raw materials along with shortage of shipping containers have been adding to the woes of the MSME sector, said Rupa Naik, senior director, MVIWDC World Trade Center, Mumbai – a trade facilitating organisation.

The commerce ministry is likely to announce its new foreign trade policy for a five-year period, effective 1 April, to boost India exports. MSMEs, which contribute over 48% to India's exports, operate on too thin a margin to absorb this cost pressure, Naik added.

Source: Live Mint

COVID-19 pandemic opens up investment opportunities in logistics sector

Over the past few years, the Indian market has attracted capital for income-generating real assets such as office or industrial space or infrastructure assets. India's competitiveness and growth in infrastructure and increased government focus have created an ecosystem to build and grow businesses in India. This is also expected to drive the growth of the logistics sector in the country.

The government is also expected to release the national logistics policy soon that aims to promote seamless movement of goods across the country. The policy is in its final stages and will need approval from the Union Cabinet. The aim is to reduce the logistics cost from 13 percent of the country's GDP at present to 8 percent in five years.

A comprehensive institutional framework is also on the cards to ensure that the goals of the policy are achieved. A National Logistics Council (NLC), Central Advisory Committee on Logistics (CACL) and an Empowered Group of Secretaries (eGoS) are planned for effective coordination and implementation.

Indian market is likely to witness Industrial REITs in the next 3-5 years, with large players consolidating and creating a sizeable portfolio. With office REITs successfully launched in India, industrial REITs will soon be a reality and will provide significant confidence to the global and India investors.

The logistics sector is proving to be more resilient than other real estate asset classes during the pandemic with a major shift in consumption, resulting in an increasing need for warehouses across the country that are more technology-friendly with increased automation usage, Internet of Things, etc.



With a shorter cycle for investment compared to other real estate asset classes and visible exit mechanisms (with three successful office REITs in India), investors' investment opportunities remain available across various development and capital stages at risk in the business.

The possibilities for investors to partner at the land acquisition stage (assuming all risks clearances, development, leasing) could see a cycle of investment of 3-5 years and expected returns of 18-20 percent; this is likely with a strong local partner. Investors also look at entering after the land acquisition/clearances stage with limited risks, and hence returns could be in the range of 11-13 percent.

Further, there is an opportunity to invest in operating logistics parks/ warehouses, evolving with several operating assets now in the business. Operating assets will provide investors with a sustainable income in higher single digits.

With changing global supply chain dynamics, India is now standing at the brink of a new industrial growth wave. Firms are looking to adopt various technologies, including automation, machine learning, and artificial intelligence, to enhance productivity in their manufacturing and engineering set-ups. The changes in geopolitical dynamics have accelerated the global supply chain rebalancing with firms looking for an alternative to existing manufacturing.

India, among other Asian countries, is very well positioned to gain the share of manufacturing. The Indian manufacturing sector accounts for less than 20 percent of the GDP, and with the existing situation, the share likely to increase to 25 percent in the next three years with a strong focus on the Make in India program with the Central government and various state government signing MOUs with large global firms (such as Tesla, Apple, etc.).

There have been several initiatives such as Atmanirbhar Bharat, Sagarmala, Bharatmala, and the creation of multiple industrial corridors, creating infrastructure to attract Industrial development.

The logistics sector in India has largely been associated with fragmented sheds and godowns till the past few years. Over the past few years, certain players (like Indospace, ESR) have created a pool of Grade A warehouse assets across locations. Large institutional partnerships have supported this with investors such as CPPIB, Warburg Pincus, GIC, and large Players.

Since 2017, the sector has attracted interest from multiple large institutional investors, with investment inflows of Rs 278 billion. Between 2017 and H1 2020, the sector garnered a considerable 17 percent share of total private equity real estate investment, according to research by Colliers.

The segment's share of total private equity real estate investment in India has been increasing year-on-year since 2017. With an influx of e-commerce activities, third-party logistics (3PL), increased use of cold storage facilities, the industry is becoming more and more organised. The creation of last-mile fulfilment centres for timely deliveries and disruption in the supply chain and production is also leading investments in this sector.

Source: Moneycontrol

Adani Ports to acquire controlling stake in Gangavaram Port for Rs 3,604 crore

Adani Ports and Special Economic Zone has said it will acquire controlling interest in Gangavaram Port Ltd (GPL) from DVS Raju and family for Rs 3,604 crore taking its stake in GPL to 89.6 per cent. GPL is located in the northern part of Andhra Pradesh next to Vizag Port. "Adani Ports and Special Economic Zone (APSEZ), India's largest private ports and logistics company and the flagship transportation arm of the diversified Adani Group, is acquiring the 58.1 per cent stake held by DVS Raju and family in Gangavaram Port Limited (GPL)," the company said in a statement. The acquisition is valued at Rs 3,604 crore.

APSEZ had announced acquisition of Warburg Pincus' 31.5 per cent stake in GPL on March 3, 2021, and together with this acquisition, APSEZ would have 89.6 per cent stake in GPL.

"Ports play a major role in shaping the future. Through APSEZ's 89.6 per cent stake in Gangavaram port, the Adani Group will greatly expand its pan-India cargo presence. As India's largest private sector port developer and operator, we will accelerate India's and AP's industrialisation," Adani Group Chairman Gautam Adani said in a tweet.

It is the second largest non-major port in Andhra Pradesh with a 64 MT capacity established under concession from Government of Andhra Pradesh (GoAP) that extends till 2059. It is an all-weather, deep water, multipurpose port capable of handling fully laden super cape size vessels of up to 2,00,000 DWT, the statement said.

Currently, GPL operates 9 berths and has free hold land of 1,800 acres. With a master plan capacity for 250 MTPA with 31 berths, GPL has sufficient headroom to support future growth.

GPL handles a diverse mix of dry and bulk commodities including coal, iron ore, fertilizer, limestone, bauxite, sugar, alumina and steel.

GPL is the gateway port for a hinterland spread over 8 states across eastern, southern and central India, the statement said adding it will benefit from APSEZ's pan-India footprint.

Karan Adani, CEO and Whole Time Director of APSEZ said, "The acquisition of GPL is a further augmentation of our vision of capitalizing on an expanded logistics network effect that generates greater value as it expands." He added that "the associated hinterland we will now be able to tap into is one of the fastest growing in the eastern region and with the logistic synergies APSEZ brings to the table, GPL has a potential to become a 250 MT port. This will undoubtedly help accelerate the industrialisation of AP.

Source: MoneyControl

Progress on BPCL privatisation but little info on potential restrictions for new owner: Fitch



Fitch Ratings on Friday said there is more visibility on BPCL privatisation, but there is still little information on potential restrictions for the new owner in relation to employee protection, asset stripping, and investment lock-in. Also, there is a need for further clarity on the future of subsidies paid to BPCL's customers on the sale of LPG and kerosene as well as the freedom on the pricing of petrol and diesel before the divestment can conclude, it said.

The government is selling its entire 53.98 per cent stake in India's second-largest fuel retailer Bharat Petroleum Corporation Ltd (BPCL). Three firms, including Vedanta Ltd, have evinced interest in buying the stake.

"There is more visibility on the progress of the state of India's divestment of BPCL, following developments on key queries raised by potential buyers, but multiple steps of the process remain outstanding and there are still questions that require further clarity," Fitch Ratings said in a statement.

Stating that it will continue to monitor the situation and consider suitable rating action as and when there is progress, it said watched closely is the progress on interested parties receiving security clearances from the government, access to the data room, the start of due diligence process and submission of financial bids.

BPCL has made headway on a key pre-condition to its divestment and other key milestones over the last six weeks, including the finalisation of terms to purchase Oman Oil Company's 36.6 per cent stake in its Bina refinery for Rs 2,400 crore in February 2021.

It also sold 5.8 per cent of its 7.3 per cent treasury shares for Rs 5,500 crore and approved the sale of its 61.7 per cent stake in Numaligarh Refinery Limited for Rs 9,900 crore in March.

“This results in net proceeds of Rs 13,000 crore for BPCL, less the long-term capital gains tax, although the timing of each transaction may vary,” Fitch said, adding the impact on BPCL’s Standalone Credit Profile (SCP) will depend on the extent to which the proceeds are used to reduce debt or make dividend payments in the coming year.

BPCL declared an interim dividend of Rs 1,100 crore on March 16. “However, there is still little information about bidders, valuations or potential restrictions for the new owner in relation to employee protection, asset stripping and investment lock-in,” it said.

“Fitch is also monitoring the progress on interested parties receiving security clearances from the government, access to the data room, the start of the due diligence process, reserve-price disclosure by the government, the submission of financial bids by bidders and the solicitation of lenders’ consent should a winning bid be selected.”

BPCL’s bonds, which had USD 2 billion outstanding as of end-2020, will need to be refinanced or the holders’ consent solicited, should the government accept a winning bid triggering the change of control clause. “We believe the extent of refinancing or consent will depend on BPCL’s rating at the time. We do not expect the govern-

ment to halt the sale should it be dissatisfied with the financial bids, given its budgeted disinvestment target and strongly articulated intent, but this could prolong the process,” it said.

Fitch said there is a need for further clarity on the future of subsidies paid to BPCL’s customers on the sale of liquefied petroleum gas and kerosene as well as the freedom on the pricing of petrol and diesel before the divestment. The government has traditionally used oil marketing companies, including BPCL, to carry out its socio-political agenda, but private companies may be less inclined to bear such regulatory risk.

“The sale of the government’s entire shareholding in BPCL would lead to a reassessment of BPCL’s ratings, based on a reassessment of its SCP and the nature of the potential buyers, including the credit quality of any majority parent and Fitch’s assessment of the strength of linkages between the new parent and BPCL,” it added.

Source: Business Today



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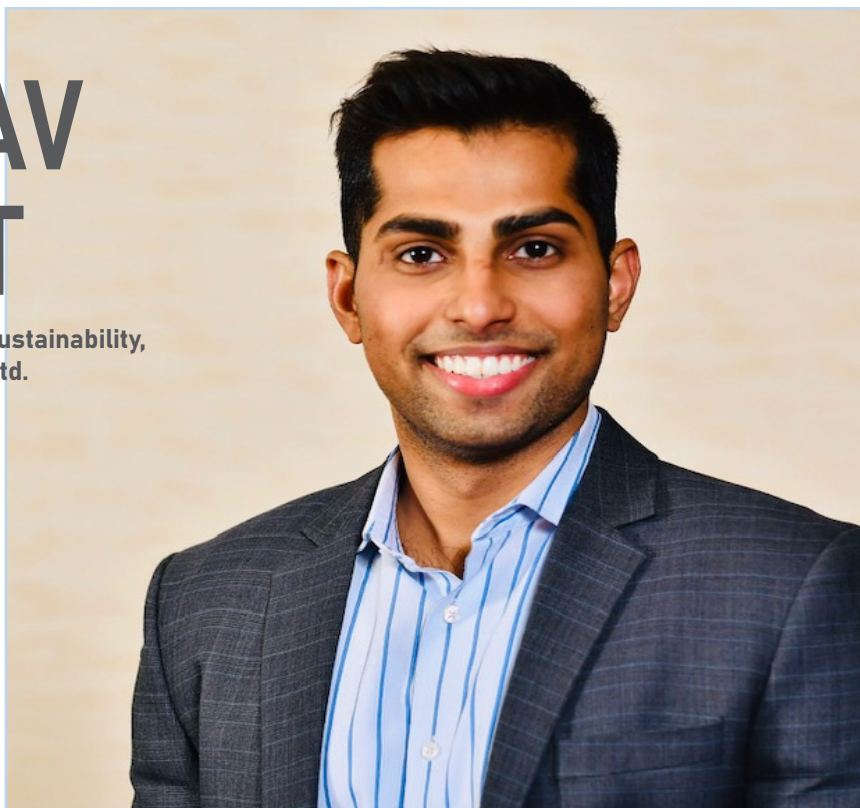
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UTSAV DIXIT

Senior Manager, Sustainability,
ALPLA India Pvt. Ltd.



ALPLA India part of the ALPLA Global – a global leader in rigid plastic packaging, and headquartered in Hyderabad, began its journey in 2006. Today, the company operates a total of 9 manufacturing plants (2 in-house plants), located in Himachal Pradesh, Uttarakhand, Telangana, Tamil Nadu, Dadra and Nagar Haveli, Assam, and Pune

ALPLA India offers high-quality plastic packaging solutions for a wide range of markets, such as personal care, food, home care, oil & lubricants, OTC, milk & dairy, and pesticides. The core technologies in this region include Injection Moulding, Extrusion Blow Moulding, Injection Moulding-Preforms and Injection Stretch Blow Moulding.

The technical centre carries out end-to-end supplier-led initiatives, many of which are global firsts such as, Bi-injection moulded components in cube technology, extrusion blow moulding tubes and shuttle bi-injection technology. The technical centre supports the company in working with clients on ideation, design, prototype, test tool development, trials & proof of principle, production tooling & validation. The learning & development centre focuses on the training and development of employees to help them grow their potential within ALPLA.

Today, ALPLA India is a family of 2000 employees (including indirect staff) and now has almost 15 years' experience in the Indian market.

Utsav Dixit leads the company's Recycling & Sustainability efforts of Alpla India.

Tell us about the Sustainability efforts at Alpla. What are the initiatives being undertaken and what are the ultimate goals?

ALPLA India has three specific Sustainability targets based on our regional strategy 2024. These include annual improvements in energy efficiency, target Ecovadis scores which comprise various underlying sustainability targets, and the use of recycled plastic in our manufacturing processes.

On Energy Efficiency

As of 2020 end, our company reached 6.4 % vs target of 1.1% in energy efficiency increase and we have projects in place to achieve next year's target. This was enabled by the stellar work of the plant engineering and operational excellence teams across numerous projects in water pumps, chillers, lighting, compressors, and engineering equipment to name a few.

Water Consumption

Through constant effort, we have reduced specific water consumption. We have established an ETP and are using treated water in our cooling towers and have opted for the use dry coolers instead of cooling towers moving forward.

On CO2 emission

Establishing 'in-house' manufacturing plants for clients within their premises in scenarios where viable helps reduce CO2 emissions by reducing transportation and packing related emissions. We have two such units operating currently and have plans to expand this concept further. We also have plans to establish an Integrated Manufacturing facility that will be inaugurated in August 2021 that will enable us to blow, make+fill and pack for our clients in one unit rather than multiple locations.

Using recycled plastic as part of our recycling processing program further reduces CO2 emissions through the lifecycle of plastic packaging.

To further promote awareness among our own team, we enrolled some of our team members CII's training programme on CO2 emissions as well. This way we in turn applied the training across our plants to understand and obtain insights into how we could reduce emissions at our plants.

On product design & innovation

We have undertaken numerous studies and based on our Life Cycle Analysis, we have found that plastics actually leave a lower carbon footprint over glass in virtually all FMCG applications and hence we encourage our customers to choose plastics over glass-based packaging in FMCG.

We are deeply invested in packaging and design innovation to help clients achieve new ways of enabling lightweight refill, reuse and bio-based material options, all of which are 100% recyclable. The top of the list are the Simple One and the Bouchet made that are 100% recyclable and can be made from recycled plastic as well.

On Human Capital

Sustainability includes not just the efficient use of natural resources, but also includes the integration of social, environmental and ethical aspects as well as those relating to human rights into its business operations and core strategy. The following programs are dedicated towards investing in our strategy of "People, People and People":

- Earn while you Learn Academic Adoption Program
- Dual Apprenticeship program
- Gender diversity program (in manufacturing operations with a focus on safety)
- eAcademy platform for online training
- Gurukul - Strengthening technical capabilities of new hires and reducing their learning curve to make

them successful and independent technicians

- Saksham - Assess and develop the technical skills of the shop floor employees
- Frontline and Second line leadership development
- Executive coaching and mentorship for senior leaders
- Management Development program
- Career and Succession Planning

Future Goals

At ALPLA, we believe in the process of continuous improvement. Plastics is a dynamic industry, and our targets and goals need to evolve and grow with changing times.

ALPLA Global has signed the New Plastics Economy with the Ellen MacArthur Foundation and targets using 25% post-consumer recycled plastic in all packaging by 2025, ensuring 100% of our packaging is recyclable, and annually publishing weight reduction solutions for our clients.

On the Environment

Each year at ALPLA, we celebrate the World Environment Day with activities such companywide induction, art competition, oath taking, tree plantations, to spread awareness about the environment and ways to protect and sustain our biodiversity.

Plastics play an important role in improving efficiencies in a wide range of applications with packaging seeing one of the highest usages. What can companies do to counter environmental impact of plastics, especially in SUPs and MLPs?

First, we have got to make sure that our plastic packaging is recyclable. As a rigid plastics company, we will ensure that 100% of our packaging is recyclable by 2025. In India, multi-layer flexible packaging which is non-recyclable is still being used by a lot of brand owners and consumers. There are opportunities to replace these with innovative lightweight recyclable packaging solutions highlighted by ALPLA including the "Simple One", which is a lightweight refill pack or the "Bouchet" which is a step up from the non-recyclable sachet. We continue to be in conversation with our clients about their features and benefits. Recently, we launched the Simple One for a personal care brand in Europe.

Second, you have to promote recycling and use recycled plastic in primary packaging where possible. When you promote recycling, it has a great impact on the environment - less virgin plastic and reduced CO2 emissions - and on the waste management system in any eco system. Waste and refuse from recycling lines have alter-

native applications (fuel generation, construction etc.) as well.

Recycling has been around in India for 3-4 decades and is not a new social concept to us. We recognized the economic value of recycling plastic waste long ago before the world took cognizance and started impacting global policies. In India, we have been collecting our plastic waste through our unorganized sector. Today, as high as 90% PET is collected for the textile industry and 66% of polyolefins are recycled as compared to global averages. However, on social media platforms, we have adopted an American problem. India's problem is different.

India has about 7500+ recyclers – 4500 of which are unorganized with 1 million + manpower (based on data from the PLastIndia Foundation). The real issue in India is more about ethics in our process of collection such as employing child labour, minimum wage for the pickers, etc. We need to improve on such matters and ensure that we empower the unorganized (collectors) sector by providing them with socio-economic security including employment, bank accounts, healthcare etc to make them compliant and traceable back to the back to the collectors. This is on collection side.

The Recycling side involves a lot of manual activity. Poor quality resin results from down cycling of plastics which is used for low grade applications such as mops buckets etc and once that happens, the quality of the recycled plastic is lost and becomes irredeemable. Downcycling and ethical collection is India's biggest problem.

To change this, we need to upcycle, and this can be achieved if recyclers become organized including using technology, high quality automation for sorting, washing, segregation, separation, etc, as well as ensuring extrusion lines deliver quality resin. We do see a lot of this happening currently among the numerous companies engaged in recycling lines and their process is on par with global standards.

To sum it, Collection should be ethical, supply of recycled material should be standardized, and brand owners should take up more responsibility of buying recycled material keeping in mind financial impact and educate end consumers of their own packaging and use of sustainable choices. Brand owners must educate their consumers as to why and how they support sustainable packaging and encourage consumers to also support such choices.

Communication has to come from brand owners, the recycling industry, and converters alike. As a converter in India, our role is to lead this change from the front by improving our innovations in packaging, engineering, and processing of recycling material. We continue to be an active part of the recycling community.

Which type of plastics will fade out and which ones will evolve and remain in the future?

Packaging made from recycled material and those that are 100% recyclable will stay. In the future, packaging that promotes sustainability – reuse, refill packs will stay. There is a lot of innovation that we are also engaged in towards this end. Reuse will increase. We will also see lot of light weighting innovation. Currently there is a lot of talk of all plastic pumps which will replace metal components with plastic ones. A lot of innovation that supports sustainability will be seen. The Simple One, Clear One, Bouchet, Unit Dose, PET Aerosol, MicroShower, Eco Bottles (for dairy), Ultralight ISBM, Deep Base, "NOW" are some examples of innovation in this space at ALPLA currently. There is a lot of scope for design-based innovation in packaging for sustainability.

Will banning the use of single-use plastics solve the plastic waste problem? If so, how?

To start with we need to foremost understand and standardize the definition of Single Use plastics. To me, SUP is one that is non-recyclable. We need to eventually ban non-recyclable plastic in a phased approach. It needs to be ramped down while identifying suitable alternatives in parallel. Additionally, encouraging all stakeholders to develop plastic packaging with recycled plastics will move the needle. Our government has been working on understanding and supporting the issue in the long haul. Meanwhile, converters, brand owners, the Govt need to also continue to collectively educate consumers.

I am optimistic, about India being one of the top global recycling hubs in the next 5 years and we will get cleaner. Our per capita plastic consumption is very low compared to global average and will rise with increasing disposable incomes in the country. However, it is happening at a time when our recycling and collection is also simultaneously increasing. It also helps to stay optimistic, in general.

What, in your opinion, would be the effectiveness of the currently discussed options such as PLA, compostable, bio-degradable plastics, paper-based alternatives, etc in countering plastic pollution?

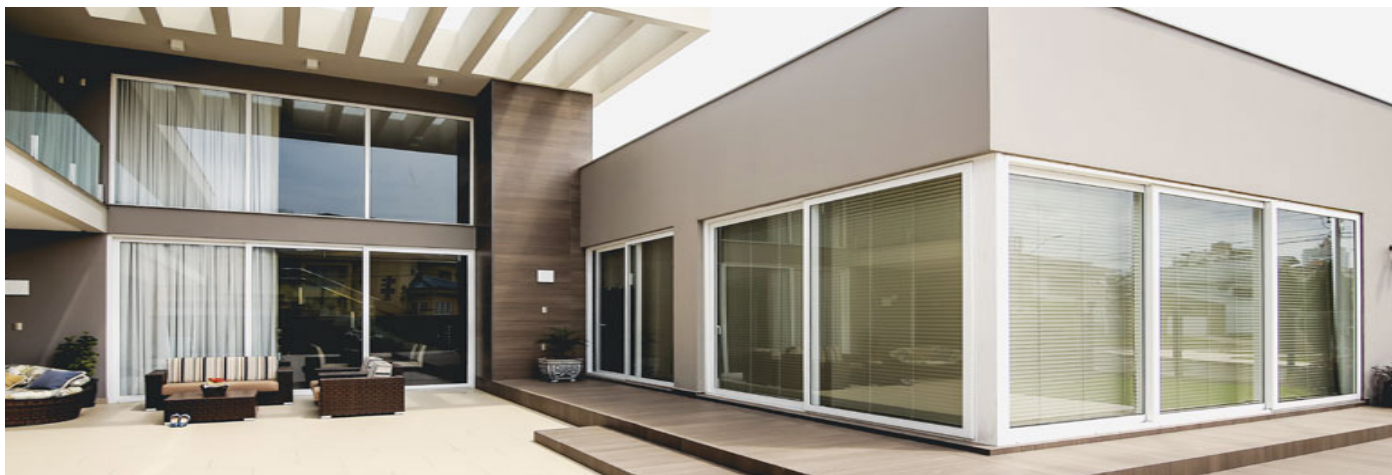
Biodegradable plastic alternatives are possible, but they have very specific applications today. For example, our company is making coffee capsules in Austria using resin from sunflower seeds husk in the Injection Molding process.. Over time, other specific applications may emerge. Personally, I have not come across a supplier of high volume of compostable rigid plastics yet in India.

Generally speaking, the emotional reaction is to move all plastic to paper. However, if we do that, we'll be out of trees. And if we move to glass, it has a huge impact on global warming. It is not uncommon for consumers to seek quick fixes and it is warranted considering the ever-growing climate change and natural disasters we see, hear and experience. However, we need to weigh arrive at long term sustainable solutions.

The recent Waste Management rules proposes a ban on the manufacture, import, stocking, distribution, sale and use of specific single-use plastic from January 1, 2022.

The move is most likely to impact multitude MSME industries in the country. How can a balance be achieved to ensure that such businesses sustain, while achieving the environmental goals?

Manufacturers of items that are banned will be forced to innovate quickly, as long as they have sufficient time to react.



UPVC Windows and Doors – Current and Evolving Market Scenario

With more urbanisation, construction of smart cities, real estate boom, changing lifestyle due to emerging middle class are a few factors that have given a push to new building technologies and materials. uPVC (unplasticised polyvinyl chloride) is one of such building material that has gained attention, as replacement to other traditional materials, uPVC is a low maintenance yet effective material in making windows and doors.

Product Benefits

In the last couple of years, we have seen increasing demand of uPVC windows and doors due to the host of benefits uPVC offers, especially for windows and doors as it performs exceptionally in diverse weather conditions. uPVC windows and doors provide efficient thermal insulation and help in energy conservation. Not only this, uPVC windows provide high sound insulation with properly fabricated windows and installations. uPVC windows and doors are available in various designs that can match any modern architecture and can be installed in any kind of building, be it villas, high-rise apartments, offices, hotels, hospitals, etc. uPVC windows and doors come in a variety of styles like casement (outward and inward open), tilt and turn, sliding, slide and fold, lift and slide, top hung, etc. which complement the modern architecture in a unique way.



They are also available in various colour options that can add value to your home interiors/exteriors. Surprisingly, you don't need to be bothered about the durability, thanks to its uPVC compound properties – window and door profiles are termite resistant and practically last forever.



uPVC is considered to be an intelligent investment and excellent buying decision as they do not require any repainting and maintenance. They do not rot, warp or corrode, profile colour remains same in any weather/ climate conditions, be it summer, winter or monsoon. These window and door systems have proven their effectiveness even in tropical and salty coastal climates. Windows and doors made of uPVC are environmentally friendly products as there is no wood in it and can be recycled. There are companies which manufacture the profiles with their unique compound material which is 100 percent lead free and supports sustainability.

Windows and doors made of uPVC are environmentally friendly products as it can be recycled

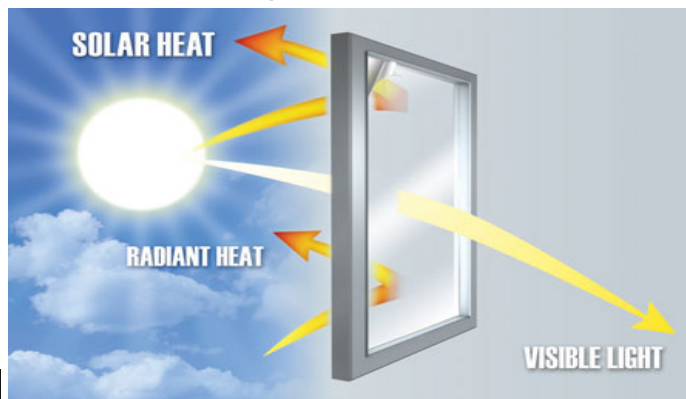
Market Overview

The global uPVC market is anticipated to be valued at USD 74.9 billion by 2027, growing at a steady 6.30% CAGR. The market had a valuation of USD 46.04 billion in 2019 according to reportsanddata.com

According to wfmmedia.com, the current Indian window and door (all material) market is around INR 14,000-15,000 crore and the market share of uPVC window and door profiles is about 8-10 per cent. As per report by Ken Research, over the next 10-15 years uPVC window and door market is expected to grow by 30 percent with new and replacement sales, major drivers of this growth would be large high-rise apartments in expanding metro cities.

Global Trends

- Improvement and repair application segment is expected to fuel the demand for windows and doors in North America and Europe by 2026 owing to significant amount of aging infrastructure. Furthermore, consumer awareness of the critical link between the quality of life and infrastructure may cause a major shift in the public policy, favoring accelerated infrastructure construction activities and improvised maintenance, adding to the pre-existing demand levels in these regions.



- The Europe energy renovation market size is likely to increase by almost half the current levels impelled by energy-saving targets adopted for 2030. Renovation of a building is majorly focused on implementing energy-efficient technologies and products in a cost-effective manner. This may include installation of new energy-efficient windows & doors that reduce energy consumption in the building and also provide better comfort when existing windows & doors need to be replaced. Reducing air infiltration is the key component in improving the energy performance of buildings and reducing draughts & cold spots. Replacing existing poor-quality windows & doors with highly energy-efficient ones improves comfort and health considerations. Countries including Italy provide a tax credit equivalent to 65% of the total expenditure for energy efficiency improvement measures in residential buildings. It includes window or door replacement, insulation, condensing gas boilers, and heat pumps. These trends will provide stable growth prospects to the market over the forecast period.



- Several countries across the globe are constantly focusing on building renovation to reduce CO2 emission and energy consumption in buildings. For instance, Romania targets to reduce CO2 emissions from buildings by approximately 80% by 2050. According to Buildings Performance Institute Europe (BPIE), this target can be achieved with a combination of energy-efficiency measures and widespread deployment of renewable resources on & in buildings. These movements by various countries are likely to influence the market for windows & doors.
- APAC windows and doors industry will hold more than 40% of the global revenue share by 2026 with commercialization and rising expenditure in construction activities in the emerging economies including China, India, Indonesia, Thailand, Malaysia, and the Philippines are primarily driving the need for a better infrastructure.

Fenestration Feature

The major drivers for the increase in demand for uPVC windows and doors would be large high-rise apartments in expanding metro cities.



Overall, the Indian window and door industry is not organised and there is no specific standardisation and guidelines, uPVC is not different from this. Growing popularity and demand of uPVC windows and doors have given opportunities to many local and Chinese companies to venture into this industry. As India is a price sensitive market, these companies often compromise on quality to earn more profits, which in result creates a bad image of the product. To avoid this situation, more efforts are required from responsible and reputed manufacturers to make this market organised by standardisation of quality and product specifications. It will help the market as a whole to protect the interest of the consumer and manufacturers.

It may also be noted that the import duty on uPVC channels for windows and frames stands at 29.8% under various HS Codes.

India Growth Outlook



The announcement of 100 smart cities, growth in infrastructure, increase in FDI and growing middle class give a clear indication that uPVC window and door market will get more opportunities and grow at a good rate. With metro and big cities becoming noisy and polluted, uPVC windows and doors are expected to become a priority for people thinking about constructing new homes or renovating their existing ones. The major drivers of the Indian uPVC window and door market are increasing new housing construction and replacement activities, which have contributed to the growth of this market. With the growing number of façade and window consultants in the country, the industry will mature and stress on the quality rather than going for cheap quality material. At the same time, this segment needs more informative campaigns to create further awareness.

Industry Speak

Interview with Mohan Sagayaraj, Manager-Business Development, Alpine uPVC

Established in the year 2006 in one of the major economic hubs of India, Tiruppur, Alpine uPVC is a leading manufacturer and supplier of European standard uPVC profiles, doors and windows. Alpine uPVC is a 100% wholly-owned subsidiary company of Sarveswara Mills India Pvt Ltd (ESTD. 2006) based in Coimbatore, Tamil Nadu.

While demand for uPVC profiles for doors and windows is increasing growing with rapid urbanisation in India, and despite our manufacturing capacities and capabilities, India's imports of the same, especially from China has touched nearly 70% in value terms and 84% in quantity terms. What is the reason for the same? What are the industry's current constraints?

This is mainly due to the fact that Chinese products are approximately 15-20% cheaper than Indian uPVC products, even though they are not on par with Indian quality. Indian builders often resort to the practice of going for cheaper prices despite the inferior quality. The number of Indian uPVC profile manufacturers also have significantly increased in recent years and hence we are capable of meeting the domestic demand. However, measures must be taken to curb or discourage cheaper imports. It may be mentioned here that import of uPVC is also cheaper due to the high production cost in India. PVC resin cost have almost doubled in recent months and for the first time in the Indian history of PVC pricing and our industry continues to face an unprecedented crisis of such abnormal prices within a period of 9 months resulting uPVC profile production cost escalation by almost 20 to 24%. Also, the record increase in the price of steel, glass, hardware, etc. is also contributing to a significant increase in the final product cost of windows, etc.

What are the measures needed to boost India's production capacities/ capabilities as well as enhance our exports of the product segment?

Foremost, India should consider curbing or discouraging the import of uPVC end products like uPVC profiles, windows, doors etc from dumping countries like China by levying ADD, etc. so that the domestic manufacturing units can thrive. Currently, there is a huge opportunity for the product segment considering the widespread real estate development, both commercial and residential. Hence, the time is ripe, especially with our central government's emphasis on "Make In India" and "Atmanirbhar Bharat" to encourage start-up companies to come forward to manufacture window / door hardware

indigenously. Presently, we are dependent on imports with almost 90% our requirement in this segment (Window Hardware/Accessories), despite our capabilities to meet these requirements domestically. If we are able to procure our requirements domestically, not only can we meet the demand in the country, but also enhance our exports, at a competitive price. Unfortunately, instead of restricting the imports of the uPVC finished products like profiles, windows & doors, the Govt has restricted the import of the core raw material PVC Resin which is required to manufacture uPVC profile, windows, doors etc. This has eventually resulted in a huge demand for the raw materials, rendering high domestic production cost against the imported products. Therefore, the government needs to shift its policy immediately as per their slogan "MAKE IN INDIA" and focus on protecting the interest & investment of the domestic manufacturer.

What are the opportunities for FDIs for technology, production, materials, etc in India?

FDI may be required for the industries like manufacturing PVC Resin. Currently there are only few companies like Reliance, DCW, Kemplast etc manufacturing PVC Resin and unfortunately some monopolistic practices in fixing of the resin prices continue to prevail. If more companies of PVC Resin manufacturers come into this industry, I am sure the price of core raw material for Plastics such as PVC resin can be stabilised. This would be the biggest hurdle that we will overcome in the production of the end uPVC product. Not only does this empower doors/ window manufacturers, but the ancillary/ allied products segments as well.

India is an energy starving nation and uPVC plays a vital part in energy conservation given its inherent properties. The product is maintenance free and aesthetically pleasing and hence has been accelerating a large number of consumers towards its usage. As of now, the sector is largely unorganized and if due recognition and support in terms of policies, incentives, etc are given to the industry, it has tremendous scope for growth. This is also considering the booming construction industry in India and globally as well as growing awareness towards energy conservation.

Globally, what are the emerging opportunities for the product export from India? What are the key drivers for growth in the future?

As many countries have now been witnessing China's hypocritical trade practice will most likely finally end the prospects of their domestic producers. Today, many countries from across the globe are increasingly turning their eyes on India for their requirements, especially from Middle East & Africa. But our governments should open up discussion with representatives like Plexconcil leading the way & identify areas where this industry require greater support in issues such as reduction in GST, increasing subsidies, increment in export draw back, free trade agreements with more countries etc which will definitely enhance the growth of this industry.

Who are our competitors globally? Which countries/ regions have the highest demand for our ex-port of the product?

Our main and only competitor is China like in any other industry. In terms of demand, we have seen quite good demand from the Middle East & African regions for our products.

What are the challenges faced by exporters in the segment, globally?

Same answer as already replied. Should reduce the production cost by inviting FDI for PVC Resin production, reduce GST structure, enhance export draw back & should manufacture all the raw materials indigenously in India. Also, India must sign free trade agreements with more countries around the world.

What are the latest developments/ advancements in the sector?

We seriously lack in developments or advancements in this sector, and we need and can do a lot more in the segment. We also need more international standard testing bodies and research centres for periodically testing and upgrading the uPVC material qualities.



Decorative Laminate

Decorative laminate is a durable flat sheet material that is used in home and office furnishings for furniture, wall panels, flooring etc. The product has found increased usage in interiors as it is scratch-resistant, waterproof and usually retains its look for years without any significant requirement for maintenance. Decorative laminate is made from resins (melamine formaldehyde and phenol formaldehyde) and impregnated cellulose layers. Decorative laminate is classified as 48239019 under the Indian Trade Clarification based on Harmonized System of Coding.

World-wide import of Decorative laminate (as under HS 482390) is above USD 4.0 billion.

- In 2019, top-5 exporting countries of Decorative laminates were: China (29.0%), United States (12.9%), Germany (8.7%), India (7.4%), and Taiwan (3.8%).
- Likewise, top-5 importing countries of Decorative laminates were: United States (13.8%), Mexico (6.7%), Japan (5.2%), Canada (5.0%), and Germany (4.9%).

India is among the top-5 exporters of Decorative laminates in the world. In 2019, India exported 94,019 tonnes of Decorative laminates valued at USD 214.46 million to the world. Major destination countries for export from India during the year were: Thailand, UAE and USA.

Destination Country	Value (USD Mn)	Destination Country	Quantity (Tonne)
Thailand	16.81	Thailand	6,989
United Arab Emirates	16.69	United Arab Emirates	6,941
United States	14.03	Nepal	6,912
Singapore	13.72	Saudi Arabia	6,826
Saudi Arabia	12.97	United States	5,640
Nepal	12.81	Singapore	4,911
United Kingdom	12.17	United Kingdom	4,816
Israel	9.30	Indonesia	4,586
Indonesia	8.88	Israel	4,269
Mexico	7.41	Egypt	3,080

Source: Ministry of Commerce & Industry, Plexconcil Research

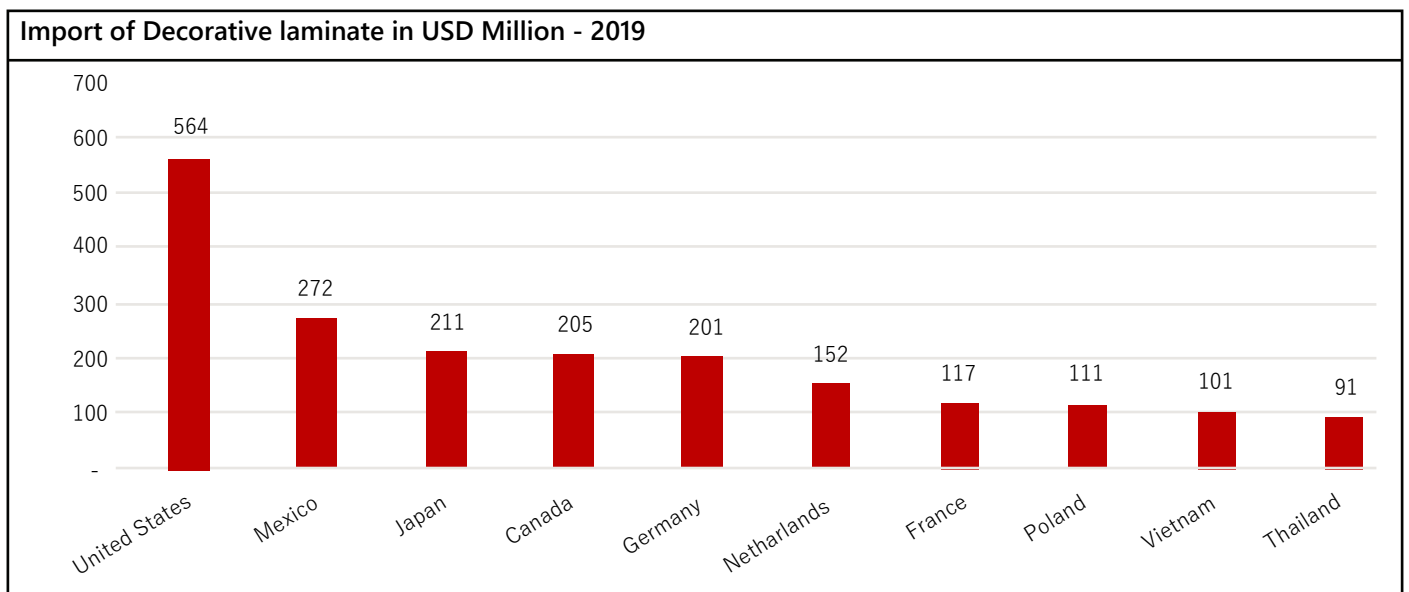


India's import of Decorative laminates is quite insignificant. In 2019, India imported just 417 tonnes of Decorative laminates valued at USD 0.71 million from the world. China and Italy were the major source for Decorative laminate imports by India.

Source Country	Value (USD Mn)	Source Country	Quantity (Tonne)
China	0.30	China	211
Italy	0.13	Italy	102
United States	0.05	Germany	27
Canada	0.04	Australia	19
Germany	0.03	Singapore	2.9
United Kingdom	0.03	United Kingdom	2.7
Singapore	0.01	United Arab Emirates	2.4
Thailand	0.01	Thailand	2.4
United Arab Emirates	0.01	Canada	1.0
-	-	Malaysia	0.9

Source: Ministry of Commerce & Industry, Plexconcil Research

Our internal research indicates that India's Decorative laminate producers have immense export potential to destinations like United States, Mexico, Japan, Canada, Germany, Netherlands, France, Poland, Vietnam, and Thailand.



Source: Trade Map, Plexconcil Research

Industry Speak



**Ms. Parul Mittal,
Director,
Greenlam
Industries Limited**

India is among the Top 5 exporters of Decorative Laminates globally. What are the factors that drive this growth?

Recent reports suggest that the global decorative laminates industry is anticipated to rise at a considerable rate during the forecast period between 2021 and 2025. Speaking about India's laminate production capacity, the market has a presence of 200 approx. lam-

inate manufacturers spread across the country. India undoubtedly holds a competitive advantage in terms of lower manufacturing cost and high-quality compliance as compared to other Asian laminate manufacturing countries.

The decorative laminate industry will continue to witness growth due to the growing disposable incomes, expanding residential and commercial real estate demand.

What have been the most recent innovations/developments in the product segment? What are the likely trends in the future?

Today, decorative laminates have become a mix of glamour and functionality. Super Matt and Matt texture are currently topping the vogue chart which has led to the innovation of Anti-Fingerprint (AFX) Laminates. Greenlam's AFX laminates make the surface impression free, non-porous and hydro-repellent making it easy to clean impurities and grease marks. We also foresee, increased usage of Exterior Grade Laminates or Compact due to its durability, ease of maintenance, and meets energy conservation standards.

Considering the focus on safety aspects, we believe that the consumption of fire retardant surfacing products will increase in future. Greenlam Fire Retardant Laminates and Compacts are safe and sturdy. Treated with imported fire retardant chemicals that minimise smoke emission and delay the temperature rise, making it resistant to fire and ill effects. The fire retardant chemical used is halogen free that eliminates the risk of toxic smoke. It's a recommended product for kitchens, cinema halls, malls etc.

Apart from these, the laminates and compacts come with multiple features like anti-fungal, antibacterial, high durability, resistant to moisture and stains etc. thereby improve the lifespan of the surface.

At Greenlam, it is our constant effort to reduce carbon footprints through clean technologies and bring innovation in products to reduce consumption of natural resources. Our products meet a range of standards in-

cluding GreenGuard, GreenGuard Gold, Anti- Bacterial, NSF and GreenLabel. With respect to environment, we also have an FSC and PEFC certification which means that the wood or wood based raw material used to manufacture our products comes from responsibly managed forests. At Greenlam, you can trace and evaluate the impact of our products, strengthening our position as one of the most environmentally conscious laminate manufacturers operating today.

What are the emerging export opportunities? Which regions will have the highest demands?

Over the years, India as a developing country has been able to attract a vast chain of laminate export opportunities globally which has been growing with every passing year. Right from the quality, quantity, supply chain and labor expense, everything brings more export business to the country.

We anticipate that Europe will continue to have the highest demand due to the following benefits from Indian manufacturers –

- Production efficiencies
- An array of range and size offerings
- Quick adaptability to design trends

Who are India's major competitors?

In my opinion and after years of working in the industry, India's major competitors today comprise of these three markets –

- Turkey
- Malaysia
- Europe

What are the typical challenges faced by exporters of the product?

There are two major challenges faced by most of the exporters –

- Large Stock Keeping Unit (SKU) offering – Maintaining large inventories limits capital investment on inventory leading to larger operational issues. Due to the high working capital, cost of inventory becomes a point of crucial consideration for companies, requiring them to strike the right balance to maintain demand/ supply ratios.
- Logistics – Not only is the cost of logistics much higher in India, but also, we face higher transit times compared to European or Turkish manufacturers. This is especially critical when catering to Europe, Americas, etc that are much further away from us. The recent shortage in the availability of containers has only accentuated the problem and industry members are facing delayed shipments. Such issues can often lead to loss of opportunity for exporters from India.

What are the measures needed to further enhance our exports and garner a greater global market share?

Here are few measures required to garner a larger global market share –

1. An urgent need to extend larger export incentives as the benefits have reduced from 20% to 3.5% in the last one decade
2. Need for latest R&D infrastructure looking at how manufacturers are following European innovations
3. Owing to a large mix of small and big manufacturers in the country, there is a huge variation in quality standards. Hence, manufactures should have a strict quality adherence policy and must follow the global norms for producing a product. Any bad quality product being exported from the country, even if it is by one of the manufacturers, goes against the laminate export business and creates a negative impression of the country in the global market.



Mr. Rakesh Agarwal, MD, Purbanchal Laminates Pvt. Ltd. Gandhidham

India is among the Top 5 exporters of Decorative Laminates globally. What are the factors that drive this growth?

The major factor driving the growth of the global market is increasing applications of decorative laminates in the construction industry. Furthermore, low installation and maintenance costs of decorative laminates are also driving growth factor. In addition, technological

advancements in texture and printing techniques are also some of the factors that drives the growth for the players operating in the global decorative laminates market.

Indian Decorative Laminates Industries are manufacturing different varieties of laminates as per new trends & fashion. Now-a-days interior & exterior decoration style is rapidly changing and Indian laminate manufacturer have been keeping up with the demands and trends. That makes India a stronger player in the Global landscape as well.

Globally however, especially in USA and in Europe, there are many restrictions on the use of phenol due to environmental issue. Furthermore, labour cost and availability is also a major concern as our industry is labour intensive industry.

What have been the most recent innovations/developments in the product segment? What are the likely trends in the future?

People are more and more conscious about the environment and being close to nature. They also want their interior to exude a natural look and feel while ensuring environmental compatibility. Hence, gradually the trend has been shifting towards eco-friendly laminate.

Due to COVID-19, people today are increasingly becoming more health conscious. So anti-bacterial laminate will be trend in near future. Not only in laminates but also in almost all segments. In comparison to veneer, which is comparable product of laminate, laminates cost about 25% of veneer cost and with the latest developments in adhesives industry, makeover / change of laminate has become extremely easy. We can even paste Laminate on Laminate without removing existing design.

What are the emerging export opportunities? Which regions will have the highest demands?

The Global Decorative laminate market is expected to register 5.30% CAGR to reach around USD 91,015.03 Million by the end of 2025. Moreover, advanced design & anti-bacterial property in decorative laminate for furniture & cabinets is expected huge opportunities. Developing and underdeveloped countries are likely to have high demand. Some countries in Africa, like Kenya and Ethiopia, Tanzania are good emerging market.

Who are India's major competitors?

China is our biggest competitor. Indian laminates are on par with global standards and we have good standing. China, as in most case often enjoys the lead due to production capabilities and competitive pricing.

What are the typical challenges faced by exporters of the product?

Fluctuation in prices of raw materials especially phenol melamine which is at present import dependent. Over 50% of present demand is dependent on imports.

Lack of promotion of make in India brand by our industries and Government of India associations.

What are the measures needed to further enhance our exports and garner a greater global market share?

Government should provide some more incentive for export and like earlier central government, it should encourage industry to upgrade their plants to become more competitive and upgrade for exporting.



Jitendrabhai Patel,
Managing Director,
Crown Decor Pvt
Ltd

India is among the Top 5 exporters of Decorative Laminates globally. What are the factors that drive this growth?

India has always been focused on manufacturing, having been blessed with resources, infrastructure and in the last 10-15 years, our policies have been promoting and supporting industrialization. India has huge manufacturing capabilities, manufacturers are always

open to innovations and ready to maintain the required scale of quality. To sum it up, the key driving factors were infrastructure, right resources along with zeal to have global presence of their products.

What have been the most recent innovations/developments in the product segment? What are the likely trends in the future?

Laminate these days have seen limitless applications. Today Laminates are not limited to traditional application such as furniture only. Now-a-days there are many innovative product applications like with Compacts you can make Toilet cubicles, shower panels, Cladding, Wall panelling, Laboratory tops, kitchen tops. So, innovation / development has been constant in this industry along with new designs/decors and textures for the surfaces. And these trends will continue as the industry will continue to find more novel ways to use laminates.

What are the emerging export opportunities? Which regions will have the highest demands?

With globalisation every market has opportunity of business provided you have required capacities, range and product to offer.

Who are India's major competitors?

In terms of volume, it was always China and in terms of quality Europe and America

What are the typical challenges faced by exporters of the product?

We as manufacturer exporter are always requested to promote the exports but the prevailing systems are not at all export friendly. Be it logistics, custom clearance procedure, export benefits, etc., everywhere exporters struggle. There is no proactive approach from any of these interdependent agencies which can encourage the exporter. It is very difficult for small manufacturer to even think of exports. There are so many good products having good international potential but because of poor approach from customs and logistics, manufacturers refrain from doing exports.

What are the measures needed to further enhance our exports and garner a greater global market share?

China is the biggest example to learn from. Their export policies and procedures including customs and logistics are so export friendly that a manufacturer books the container, and the clearance takes place on the same day. It makes them time efficient and faster in executing export orders. This is one of the main reason that Europeans always preferred China because their customs and logistics procedures and duration is not like India.

Transparency and faceless custom clearance procedure should be implemented.

Standardisation and regulations should be imposed with logistics facilities right from Freight cost to availability of containers and carriers.

Foreign trade policies / benefits like MEIS which were meant to promote exports were never made available to actual exporters in time. Such policies should be available to promote and encourage exports.

Interview with Indian Laminate Manufacturers' Association (ILMA)



Mr. Vikas Agarwal, President, ILMA & Director of Salasar Laminates (Ahmedabad)

What are the goals and objectives of the ILMA?

As the representative body for the Laminate manufacturers in India, one of our primary objectives is to study various government policies, safeguard duties, anti-dumping duties etc to protect the general, commercial, industrial interest of our members and to secure the wellbeing of persons engaged in trade and commerce of manufacturing the laminate either directly or indirectly. Recently made a huge headway when government undertook considering imposing antidumping duty on Phenol imports from South Africa. However, while our concerns did get noticed, despite the efforts made by ILMA, the dumping unfortunately continued. Having said that, we plan to continue raising our challenges and are confident of resolution. We also affiliate with different associations to come together and hold a strong position to grow together, and we have always played a significant role in shaping the trade, commerce and industrial environment of the industry.

What are the kinds of activities/ initiatives that the Association undertakes to build better awareness of new technologies/ designs/ global trends/ export opportunities, etc for the industry?

We are promote the industry domestically as well as internationally by taking part at leading exhibitions like INDIWOOD, DELHIWOOD, INTERZUM, LIGNA, etc. Besides the same, we also conduct our own international conferences, events, Member meetings, seminars and webinars periodically to assist the members in procuring the technical, non-technical, professional, managerial, administrative and financial expertise and

know-how and to raise awareness about the laminate industry. We share circulars at regular intervals to create market awareness among our members.

90% of the industry segment falls in the unorganized sector. What are the measures being taken by the Association or what are the measures needed to help organize this segment?

We make constant efforts on our part by highlighting to our members the importance of maintaining quality standards. We have also shared standard MoAs (Memorandum of Association) to deal with their distributors. ILMA is planning to come up with apprenticeship training programs that will empower the industry in creating a much more efficient manpower. Other than that, tax schemes like GST have decreased the unorganised market and now manufacturers have also become more aware that today, customers prefer and demand working with organised players.

Recently, Raw Material price volatility has greatly impacted the segment as in the case of most related products. What are the measures needed to safeguard, especially the smaller players against such phenomenon? Raw material prices are rising at double or triple the speed. It has become unimaginably high and we have had to revise the prices couple of times. However, ILMA is continuously in talks with the suppliers regarding the same and we look forward these stabilizing sooner than later.

What are the factors that drive the growth of the segment in India and globally?

The decorative laminates market is driven by its low maintenance and installation cost coupled with the increasing growth of the construction industry. Furthermore, the technological advancements in printing techniques and manufacturing environmentally-friendly laminates are likely to offer immense growth opportuni-

ties for the market players. We need to educate customers regarding the developments in the laminate industry. We also need to observe global trends & bring them to India and start promoting these digitally rather than following the traditional methods. There is immense scope for growth in India and globally.

What are the opportunities for export growth in the segment?

India is already a strong player in global market. Indian laminate industry was valued at \$ 4.79 billion in 2018 and is slated to reach \$ 7.32 billion in 2017, growing at a CAGR of 4.83% over the forecast period of 2019-2027. Looking at such growth, we will be able to beat China soon.

What are the latest trends/ developments in laminates?

What are the challenges faced by the Laminate industry – domestic, global, etc?

What are the measures/ policies needed to support domestic and export growth?

India's manufacturing volume is already high but I also believe that we should focus on providing a broader range of laminates. Creating awareness of new technology and adapting the same can also help match the international standards. And to grow exports we all should support Aatmanirbhar Bharat campaign and we request the government to liberalise policies, lessen the paper work and increase tax exemptions in exports.

How can Plexconcil help the ILMA in furthering its objectives and goals?

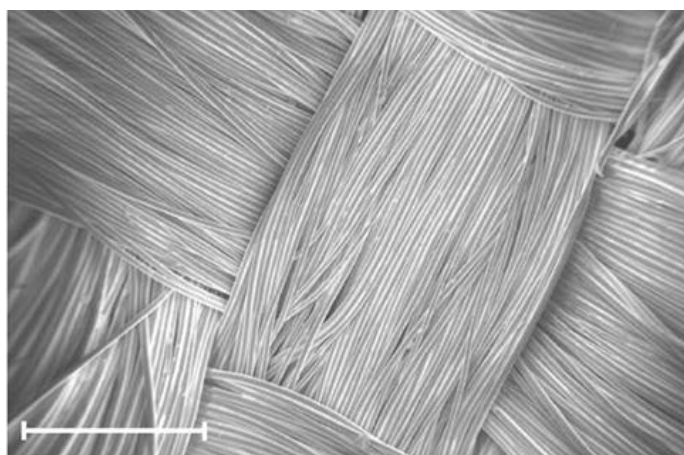
ILMA and Plexconcil have shared good synergy so far. We have closely collaborated when RoDTEP was initiated by the government, etc and we look forward to work hand in hand in future for the growth and welfare of our industry.



R&D

High performance fabric that can be made from plastic bags could slash fashion's huge emissions

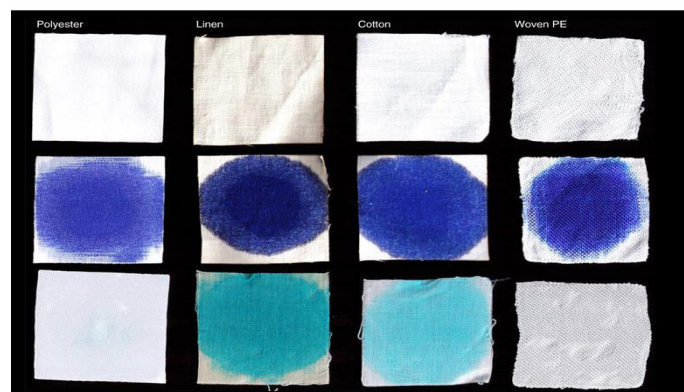
A new textile produced by US researchers from polyethylene – the simplest and cheapest of all polymers – shows superior cooling properties to cotton or linen, is more stain resistant than polyester, is easily recyclable and can potentially be made from recycled materials. The researchers believe it could, therefore, contribute significantly both to cut the ecological footprint of the fashion industry and reduce the world's plastic waste mountain.



The textile industry has a huge carbon footprint with the 56 million tonnes of fabrics it produces every year responsible for 5–10% of the world's greenhouse gas emissions. The industry once depended entirely on natural fibres such as cotton, linen and wool, but in the past century synthetic polymers such as polyester and nylon have become increasingly widespread. Polyeth-

ylene, however, has been largely overlooked. 'There are a couple of serious impediments,' explains materials engineer Svetlana Boriskina at the Massachusetts Institute of Technology. 'One is that it's hydrophobic – it's used as protection against rain and in applications where you want to stop moisture from coming through, but it's hugely uncomfortable if sweat gets trapped under clothes.' Partly because of this, it is impossible to dye polyethylene using traditional techniques.

In the new research, however, Boriskina and colleagues discovered that the hydrophobicity can be mitigated simply by melt-spinning the polymer into micrometre-diameter fibres. This partially oxidises the surface, making it barely hydrophilic. 'It's just enough to make it wick water through by capillary force, but the interior of the fibre is still deeply hydrophobic,' explains Boriskina. 'Water cannot go in, so it has nowhere to go but to evaporate.' Textiles woven from the fibres can therefore behave like advanced, multi-layer sports synthetic fabrics. Crucially, however, as they contain only one polymer, they can be recycled much more easily.



The photographs show woven fabric samples stained using a commercial food colourant (middle) and then rinsed under running cold tap water without the use of soap or any other cleaner (bottom)

Moreover, the structural simplicity of polyethylene gives the textiles much higher infrared transparency than fabrics woven from more complex polymers, allowing for better radiative cooling. 'Polymers that are more complex have additional oxygen atoms and nitrogen atoms, for example, and different combinations of how these atoms are bonded,' explains Boriskina. 'The more combinations you have, the more vibrational modes. These cover the whole spectrum, and everything is absorbed. With polyethylene, it's pretty much carbon-carbon bonds and carbon-hydrogen bonds ... there's this big vibrational window where there are no modes, and that happens to be around 10 microns where the human body emits.'

The dyeing issue may no longer pose a problem either. Boroskina says that, where possible, the textile industry is increasingly moving away from the traditional wet-dyeing process, which is 'to put the textile or yarn in usually-toxic dye, wash it multiple times to remove excess dye and wash all that out into the wastewater, which creates a real risk to the environment'. Instead, colourants are incorporated into molten materials before they are spun into fibres. The dye-resistance of the fibres even had the advantage of making their textile more stain-resistant than cotton, linen or polyester, allowing it to be washed more economically at lower temperatures.

The team is now working with the polymer – which could be produced from recycled polyethylene – with a view towards commercialisation. 'Honestly, I think it should become the material of choice for the textile industry, but of course I'm very biased, so we'll see what happens,' she says.

Po-Chun Hsu of Duke University, US, who was not involved in the research, says he particularly admires its 'different and more objective view of polyethylene as a fabric material'. 'People have a very rigid view of polyethylene, mainly because of plastic bags and microplastics in the ocean, and we should definitely do something to mitigate those,' he says. 'But if we compare which one is more sustainable it's always a good idea to look at the entire process from cradle-to-cradle if you recycle those and, from their research, it appears that polyethylene is not as bad as people thought.'

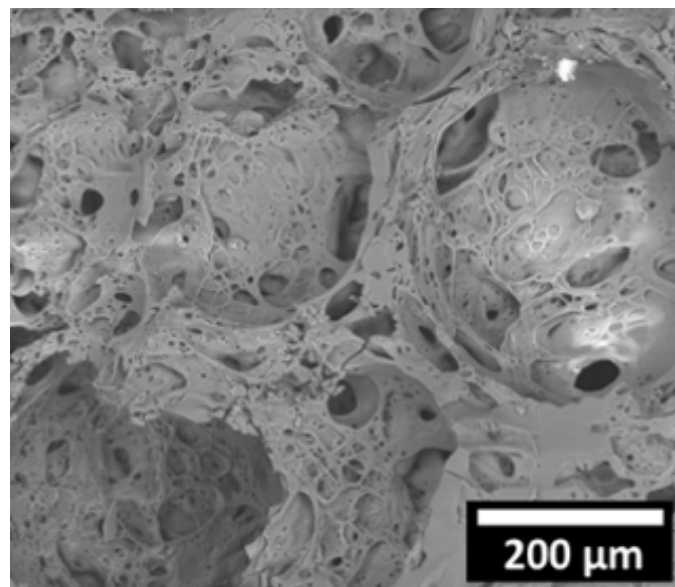
Source: chemistryworld.com

Mineral plastic made into fireproof foam

Scientists in Germany have developed a readily recyclable solid plastic foam with a remarkable property – it does not burn.¹

Plastic foams are widely used as insulating materials on buildings and equipment. The presence of air cavities is key to impeding the transfer of heat and sound, as well as making the materials light enough to be practical. But a serious drawback is that most plastics are flammable. Combustible cladding contributed to the uncontrollable fire at Grenfell Tower in London, UK, which claimed 72 lives in 2017, and authorities are scrambling to replace similar unsafe cladding on other buildings.

Research led by Cosima Stubenrauch at the University of Stuttgart and Helmut Cölfen at the University of Konstanz offers a potential solution. The scientists have succeeded in foaming mineral plastic – a material previously developed by Cölfen and colleagues,² which com-



bines polyacrylic acid with calcium carbonate to achieve fireproof properties.

'If you burn it, or try to burn it, then it just gets black, because the polyacrylic acid just decomposes, but also the calcium carbonate releases carbon dioxide. So the carbon dioxide acts as an additional fire extinguisher,' says Cölfen.

To make mineral plastic into foam form, the researchers' strategy was to produce a foamed hydrogel, which they could then dry into a rigid structure. But the hydrogel's

high viscosity, akin to chewing gum, posed a problem.

'You can imagine blowing air into chewing gum is difficult,' says Stubenrauch. 'So, we had to find a way to decrease the viscosity of this mineral plastic, and have a state in which we can easily pump air into the system, and then we need to go back to the mineral plastic state. So this was the tricky part.'

To form this low-viscosity precursor, the scientists mixed polyacrylic acid, calcium chloride and a non-ionic surfactant. Air is then stirred in prior to addition of ammonia to raise the pH, after which calcium carbonate forms through diffusion of carbon dioxide from the air. The dried foam is non-combustible, and as an added benefit, can be easily recycled by dissolving in acid.

Sebastijan Kovačič, a polymer scientist at the National Institute of Chemistry, Slovenia, is enthusiastic about the development. 'They are not the first to have thought about it, but they were the first to actually implement it and I like it very much. Although the road to practical application of these foams in building insulation is still long, we can now at least imagine what the material of the future is in this field.'

Source: chemistryworld.com



Celebrate Sterile Packaging Day and All that Sterile Packaging Affords

March 10 marked the day to celebrate the role sterile packaging plays in healthcare and beyond. The date kicked off what organizers intended to be an annual tradition—Sterile Packaging Day. Conceived by the Sterilization Packaging Manufacturers Council (SPMC), Sterile Packaging Day highlights the efforts of packaging designers, sterilizers, and users who all work to ensure life-saving devices are sterile at point of use, SPMC explained here.

Sterile Packaging Day also provides the chance to recognize the SPMC and its ongoing efforts to develop sterile packaging standards and test methods as well as provide guidance and education.

“Patient safety is the key message behind Sterile Packaging Day,” Marie Tkacik, director of product development and optimization for Beacon Converters and a member of the SPMC’s technical committee, told MD+DI. “Patient safety is the paramount reason for all our efforts, in creating improved standards and driving best business and quality practices. Everything is geared toward the role that packaging plays in patient safety.”

Formed in 1994 through the Flexible Packaging Association, the SPMC “was a group of companies that came together because they had a commitment and they still do,” she continued. “One of the first orders of business

was to identify a technical member from each company to meet and to focus on the subject of patient safety. We were tasked to do that through developing different test methods and taking a look at the gaps that were out there.” (The current member companies of the SPMC are Amcor, Beacon Converters, PAXXUS, PPC Flexibles, Printpack, and Technipaq.)

The SPMC has long played a role in developing such test methods for flexible packaging and “getting consensus,” Tkacik said, adding that its work has provided the foundation for many test methods through ASTM and other consensus standards organizations. Given their role in manufacturing flexible packaging, the SPMC member companies are focused on material science and on addressing some of the challenges in measurement, testing, and other potential issues in material converting, so they bring a unique perspective to ASTM’s broader membership.



“Initially when the SPMC started developing their own test methods, it actually published its own little booklet, and there’s still a few of those around,” said Henk Blom, VP of research and technology for PAXXUS and also the chair of the SPMC Technical Committee. “But at some point, there was a level of recognition that if we really wanted these to be more widely adopted, they needed to be part of a much bigger, much broader consensus-based organization. And that’s when the member

companies of SPMC started sending representatives more regularly to ASTM meetings and then really transitioning those SPMC test methods into ASTM methods by going through a much broader and more rigorous approval process, with interlaboratory studies.”

Those included the dye penetration leak tests, ASTM F1929 (Standard Test Method For Detecting Seal Leaks In Porous Medical Packaging By Dye Penetration) and F3039 (Standard Test Method For Detecting Leaks In Nonporous Packaging Or Flexible Barrier Materials By Dye Penetration). “The dye penetration standards are important documents for integrity testing,” said Tkacik. “There is a wide variety of sensitivity levels in the many package integrity tests, and dye penetration is one of the better, easy-to-use, and least-expensive tests.”

And while ASTM F88 (Standard Test Method For Seal Strength Of Flexible Barrier Materials) dates back to 1965, the SPMC did play a role in enhancing the standard. “F88 didn’t have a precision and bias statement, and there were references to different techniques that could affect the outcome of testing but hadn’t been tested out,” Tkacik said. “So the SPMC coordinated testing at 18 different labs, developed all the samples to go out to those labs, did the full analysis of all that data as it came back, and created the F88 precision and bias statements. These results showed the effects when you use different techniques like supported 180 degrees or 90 degrees or just the unsupported free tail. [The work] opened up greater understanding of what could affect lab-to-lab agreement. This was actually the first document the SPMC worked on because it was the issue we found coming up most often in disagreement and confusion among customers.”

Another accomplishment was development of ASTM F2097 (Standard Guide For Design And Evaluation Of Primary Flexible Packaging For Medical Products). “The SPMC met with Earl Hackett of DuPont at the time and completely developed the standard,” said Tkacik. “That standard today has been expanded and redesigned, and it has evolved into a tremendous reference document that explains each test method, how it would be applied, and when it would be used for evaluation or for control of a process.”

Blom added that the SPMC also worked closely with ASTM on F99 (Standard Guide for Writing a Specification for Flexible Barrier Rollstock Materials), and ASTM F2559 (Standard Guide for Writing a Specification for Sterilizable Peel Pouches), with which Hal Miller was pretty closely associated. The SPMC technical committee is currently working on covering these two guides in two whitepapers, to be published on Sterile Packaging Day. Next up is supporting interlaboratory studies on F904 (Standard Test Method for Comparison of Bond Strength or Ply Adhesion of Similar Laminates Made

from Flexible Materials) on bond strength measurement (measuring the interlayer adhesion between material layers), which Blom says the SPMC is “perfect for taking on that role,” since it is a standard that packaging converters would use.



The SPMC also helped develop guidance for ISO 11607, before it was more than an expectation. The SPMC took input from MDMs and different volunteer groups that came to the table and organized the entire document that would be called TIR 22. [TIR 22 would evolve to become ISO 16775, when the international organization decided that they wanted to adopt it and expand it for healthcare facilities.”

SPMC has also worked to educate packaging engineers. “Over the past years, the SPMC worked on a series of webinars on ISO 11607, package integrity, sterilization, and materials,” said Blom. “We believe we have helped packaging engineers become smarter and stronger and more impactful in their roles as packaging engineers.”

The SPMC also maintains more than a hundred FAQs on its website, and the questions have been answered through consensus among SPMC members. “We are trying to utilize all the work we’ve built up over the years and make sure new engineers are exposed to it,” she said. In addition, “we want engineers to ask questions—it could help us determine whether there is a gap in what standards are out there or what people need to know,” she added.

One new challenge that Blom thinks the SPMC can help engineers tackle is addressing new expectations for sterile packaging in the EU MDR. In particular, the new regulation requires medical device manufacturers to design packaging that enables users to determine that the sterile barrier is still intact prior to aseptic presentation. In the meantime, “Sterile Packaging Day will help packaging engineers—often the last ones to be called in on medical device development projects,” said Blom. “If the day more broadly communicates the message that packaging is critical and elevates packaging engineers in the product development cycle, that would be huge.”

Source: mddionline.com



What to do about plastics: An interview with Rachel Meidl

Rachel Meidl is the fellow in energy and environment in the Center for Energy Studies at the Baker Institute for Public Policy at Rice University in Houston. Since the early 1990s, she has specialized in issues related to hazardous waste and the environment. Meidl served in the US government in the Pipeline and Hazardous Materials Safety Administration. She has also worked with the US military and the private sector, as the director of regulatory and technical affairs at the American Chemistry Council. She has a doctorate in law and public policy and an extensive academic background in zoology, applied environmental science, and management.

Scott Nyquist is a Director Emeritus at McKinsey, Scott led McKinsey's Oil & Gas Practice in North America and Europe, and co-led the Global Energy and Materials sector and the Sustainability Practice.

Nyquist: As you delve deeper into the topic of plastics and the environment, what are you learning?

What I'm learning can be categorized broadly under the categories of knowledge deficiencies and data gaps. For example, we have a limited understanding of the health impacts of plastics in waterways, and of the eco-toxicology of macro- micro- and nano-plastics. There is a lack of standardized sampling, testing, measuring, and analytical methodologies. There is a need to develop exposure modeling to properly assess the hazards and

validated risk assessments to evaluate and understand the interaction of plastics with other stresses in the environment. Currently, it is difficult to conduct studies and draw valid, reproducible comparisons because there is no globally standardized approach. If we want to improve marine and human health, we need to create harmonized international methods. Otherwise, we cannot fully comprehend the effects of plastics on the entire ecosystem, including below the ocean's surface, or in fresh water systems.

I'm also seeing a lack of understanding of the unintended consequences and tradeoffs of plastic alternatives. This is important if we want to replace or supplement plastics with options that are better for the environment, people, and the economy and that do not further contribute to global waste and climate issues.

Nyquist: Can you give me an example of why these data and knowledge gaps matter?

Meidl: Our decisions should consider impacts across the entire lifecycle. Look at the polymer polylactic acid (PLA), a common bioplastic derived from renewable biomass, such as corn or sugar cane. PLA is celebrated for its recyclability and composability. As such, many people consider it an improvement over conventional plastics, which are derived from fossil fuels. However, from a lifecycle perspective, the PLA story is much different. PLA products are typically neither recycled nor composted and often end up contaminating high-value plastic streams, affecting the overall batch recyclability that is then diverted to landfills or incinerators. Industrial composting facilities are needed to control the environmental conditions necessary for PLA degradation, but low marketability and production rates and low nutrient value do not justify the high investment costs.

Also, because of PLA's heavy reliance on agriculture, it scores poorly on environmental and social justice metrics: growing corn and sugar uses a lot of land and water. And it competes with primary food crops, contributing to food scarcity and inequality issues. At the moment, then, PLA does not solve the social, political, and environmental problems associated with plastics. To find a solution requires considering all impacts, including end-of-life management. That can mean fundamentally redesigning plastics so they can be broken down into their molecular constituents and then re-manufactured into new plastics of equal quality.

Nyquist: Let's talk specifically about plastics in oceans and other waterways. Please define the problem.

Meidl: We know that five Asian countries account for about half the plastics that make it into the oceans. Eighty percent of this comes from the land, and 10 river systems (eight in Asia, two in Africa) transport over 90 percent to oceans. Understanding this geographic clustering is an important revelation and is the first step to begin transforming the plastics economy. It indicates that if we want to turn the corner, the focus should be on the areas of highest risk where we can institute and improve the regulatory systems and waste infrastructure.

However, we should be cognizant of the fact that the capabilities, capacity, and resources in developed countries usually outpace those in developing economies. Just because a particular action is feasible in, say, Europe, does not mean it can work elsewhere.

From a policy perspective, in regions or countries that lack recycling infrastructure or advanced technologies, the most economical choice, at least in the short term, may be to manage plastics in a regulated landfill. While this may not be ideal, it could at least prevent migration of plastics into the waterways.

I say this because there is a noticeable deficiency in infrastructure investment in recycling and solid waste management. I think investors have recoiled from this sector because there isn't strong evidence of financial and environmental returns. I understand there may be new investment to support improvements in Southeast Asia. Perhaps these can demonstrate success and help put this high-risk region on a more sustainable path.

Nyquist: What can and is being done?

Meidl: I would advise against managing plastics as "waste" as a proposed amendment to the global Basel Convention suggests. This kind of linear thinking is short-sighted and contradictory to a circular economy approach where the goal is to redesign, recover, and re-

manufacture. When plastics is categorized as a waste, as the Basel Convention amendment proposes, it immediately loses its value. From a CE perspective, the point is to have plastics enter and remain in the economy as a valuable commodity or energy source. Also, as the largest exporter of hazardous waste and plastic waste, the United States, is not party to the convention. Lastly, most international agreements are not legally binding and don't have enforcement mechanisms. It's also important to keep in mind that compared to other countries with a nationally-driven policy structure, the United States has a decentralized policy configuration where most solid-waste decisions are managed at the state and local levels.

Nyquist: Please discuss what companies can do to consider environmental impacts.

Meidl: Overall, the corporate and government perspective of lifecycle assessments (LCA) is limited. Many entities invest in LCA, but how meaningful is it? What is the scope? It's relatively feasible to conduct a LCA at the process, program, or facility level. It becomes more challenging—but also more insightful—at the corporate level or throughout the global supply chain. LCAs should capture not only environmental impacts, but also social and economic impacts.

Nyquist: China is implementing restrictions on imports of plastic waste. What are the implications of that?

Meidl: I've always been interested in how trade patterns affect domestic markets, and this is a great example. China's policy has disrupted the global economy and left exporting countries scrambling for new end markets for their wastes and recyclables. Many governments have narrowed or rescinded their recycling programs, resulting in plastics being stockpiled, landfilled, incinerated, or illegally exported due to lack of domestic infrastructure and end buyers. Until China's restriction, the United States relied almost exclusively on foreign markets to accept most of its recyclable materials and certain categories of hazardous wastes. Thus, there has been minimal incentive to innovate and invest in advanced and sustainable solutions. No wonder domestic markets for the management of these materials have not emerged. After the announcement of China's restriction, trade patterns shifted to Southeast Asian countries. As they enacted their own stipulations, plastics then flowed to India. And that points to the heart of the issue. About 85 percent of India's plastic waste is mismanaged.

As a global economy, we should be objectively assessing whether international trade in hazardous waste and recyclables is truly considered fair trade and a part of the circular economy approach the international community is striving for. Exporting to countries that cannot responsibly manage wastes is not systems-thinking. It simply fulfills the pollution haven hypothesis and perpetuates the “not in my backyard” phenomenon.

Nyquist: Many countries and local governments are banning plastic straws and single-use bags. Is this a good idea?

Meidl: For perspective, it’s important to know that it is not necessarily the countries with the highest plastic waste generation that have the most mismanaged waste. High-income countries generate a lot of waste, but typically have capable waste-management systems and regulatory frameworks where the loss to the environment is relatively low. What that means is that if we were to eliminate single-use plastics in high-income countries, global mismanagement of plastics would decline less than 5 percent. That will do little to move the needle on plastics pollution. A targeted and integrated approach in the areas of highest risk would be more effective. It’s not that I don’t necessarily agree with bans; they demonstrate public engagement and awareness of environmental issues.

But I do believe bans should be informed, methodical, and practical. Before instituting a ban, it’s critical to identify the problem being addressed. Is it marine health? Climate change? Phasing out fossil fuels as feedstocks in plastics production? Each has a distinct policy path. If it’s climate change, then we should lead with data and science to inform our decisions and look to LCAs. Several LCA assessments indicate that replacing conventional plastics with currently available alternatives can actually create greater environmental impacts. For those considering a ban, alternatives should only be endorsed if they are deemed recyclable or recoverable. In addition, a study on the policy’s effectiveness should be commissioned because you cannot improve what you don’t measure.

Nyquist: McKinsey has estimated that there could be a business opportunity—on the order of \$55 billion to \$60 billion in revenues—associated with new approaches to plastics recycling. Do you think this is likely to happen? Meidl: It will only happen if we bring value back to plastics; these need to flow back into the economy as a valuable resource. That is not happening right now, but perhaps China’s restrictions will move us in that direction. Plastic waste is an untapped resource and loses value when designed for single-use and subsequently collected and sent to a landfill or recycled into a lower-grade product.

It’s absolutely possible to create this kind of business opportunity, but it will require a significant paradigm shift—toward deeming plastic as a resource and not a waste. This will require novel approaches to chemical recycling, such as pyrolysis, and associated regulatory reform. It will require new infrastructure, supply chains, and partnerships. And if we want to grow the market, there need to be better solutions that drive process efficiencies and improve cost structures, while enhancing plastic’s overall value.

Innovative technologies exist, and others are emerging. If these are adopted and scaled up, along with updated regulations that keep pace with technological advancements, there is a tremendous opportunity. But to reach this goal, there is a need for investment to support these transformational technologies; for education to increase awareness; and for collaboration among industries, technology providers, and governments.

Source: <https://www.mckinsey.com/business-functions/sustainability/our-insights/sustainability-blog/what-to-do-about-plastics-an-interview-with-rachel-meidl>

IEMs signed in the Plastics segment during February 2021.

IEM No.	Company Name	State / UT	Item of manufacture
132	PG Electroplast Limited	Uttarakhand	Plastic injection moulding products
167	Vakrangee Packaging LLP	Chhattisgarh	Woven sacks and bags
186	PG Electroplast Limited	Maharashtra	Plastic injection moulding products
194	Audax Protective Fabrics Private Limited	Dadra & Nagar Haveli	Other articles of plastics
207	Livia Polymer Bottles Private Limited	Tamil Nadu	Plastic caps and closures
216	Kutch Chemical Industries Limited	Gujarat	HDPE drums
239	PG Electroplast Limited	Maharashtra	Plastic injection moulding products

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The Council is focused on achieving excellence in exports by undertaking various activities and initiatives to promote the industry. The Council undertakes activities such as participation at international trade fairs, sponsoring delegations to target markets, inviting foreign business delegations to India, organising buyer-seller meets both in India and the overseas etc.,

The Council also routinely undertakes research and surveys, organizes the Annual Awards to recognize top performing exporters, monitors the development of new technology and shares the same with members, facilitates joint ventures and collaboration with foreign companies and trade associations as well as represents the issues and concerns to the relevant Government bodies.

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- Financial benefits to exporters, as available through Government of India
- Disseminating trade enquiries/trade leads
- Instituting Export Awards in recognition of outstanding export performance
- Assistance on export financing with various institutions and banks
- Networking opportunities within the plastics industry
- Listing in PLEXCONCIL member's directory

The Plastics Export Promotion Council added the following companies/firms as new members during February 2021. We would like to welcome them abroad!

Sr. No	Name of the Company	Address	City	Pin	State	Director Name	Email
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2	DAAMNI INDUSTRIES	PLOT NO. 87, 87A, 88, 88A, 1ST PHASE, GIDC, VAPI, VALSAD,	Vapi	396195	Gujarat	JIGAR JAYESHKUMAR MORI	daamniind@outlook.com
3	JAGAN ENTERPRISES	H.No -18, LAKSAR ROAD, GOPAL DHAM COLONY, JAGJEETPUR	Haridwar	249408	Uttarakhand	ANIL GAUTAM	jaganindustry@gmail.com
4	JALARAM INDUSTRIES	SURVEY NO 275/2/2, SHIV TIMBER NR. CHOTALAL NI CHALI, OPP ODHAV , SUB POST OFFICE, ODHAV ODHAV	Ahmedabad	382415	Gujarat	PATEL SUMIT PARSHOTAMBHAI	jalaramindustries588@gmail.com
5	POTENSS INDUSTRIAL RUBBER	2/266-B-G2 9TH STREET , KANDASAMY NAGAR PALAVAKKAM ,	Chennai	600041	Tamil Nadu	PRATHIP KUMAR	potenssir@gmail.com
6	PURE RESIN PRODUCTS INDIA PRIVATE LIMITED	D-105, PANCHSHEEL APARTMENT, PLOT NO-24,SECTOR-4, DWARKA	New Delhi	110078	New Delhi	PIARA RAM TOORA	gntalwar@gmail.com
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10	VINZO HAIR PRIVATE LIMITED	TF 3, LOKESH TOWERS, NO 37 OLD NO 18, KODAMBAKKAM HIGH ROAD, NUNGAMBAKKAM,	Chennai	600034	Tamil Nadu	RAJKUMAR ROSHAN	vinzohair@gmail.com