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■ " We expect standardised policy in all the states."

D.S.Chandrashekar

President,
The Institute of Indian Foundrymen

■ **Fioscope: Increase Cast House Safety and Productivity with Fioscope's In-Furnace Air-Cooled Smart Camera Technology**

■ **Enhancing Molten Aluminium Handling with Metallurgical Chemicals and Refractories Part - 2**



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B.E. (Met.) DBM, DJMC

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Administrative Office

1, Alpha, M. G. Road, Vile Parle (E),
Mumbai - 400 057. India
Tel. : 91-22-2619 2376,
2617 1575 / 2617 1866

Email :

info@metalworld.co.in

Editorial : editorial@metalworld.co.in

Website : www.metalworld.co.in



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D. A. Chandekar Editor

Dear Readers,

When the global economy was trying to stabilize after covid pandemic, the Russia – Ukraine war erupted and many countries got affected. The international trade got disrupted as these two countries were war bound and also many trade routes were non operational due to the war. Ukraine used to contribute steel semies and also few minerals to the international trade. Russia also was a major exporter of steel semies and also finished steel. All this came to a halt due to this unfortunate war. Now it is more than a year and the war is still going on with no signs of stopping but the good part is that the industry has adjusted itself, developed new supply chains and moved ahead. We wrote in our last month's column that the industry has learnt to live with the ongoing war. As the industry was trying to come out of the Russia – Ukraine war, another war erupted. The whole world was stunned by the sudden rocket attack by Hamas on Isreal. What is getting unfolded after this is a long chain of undesired events for everybody in the world. So many innocent civillians including ladies and children getting killed is a big blot on humanity. One can observe in case of both these wars, even though there are only two countries or the sides in the front fighting against each other, there are many countries supporting either side and thus participating indirectly in the war. From the industry perspective,

Editorial Desk



a lot of resources of many countries are getting diverted towards the war and to that extent, the developmental work gets the backseat. I will not be surprised if the economies of not only these war bound countries but of many other countries in the vicinity would get affected. Since the last few months, experts were debating a possibility of a global recession. I think that process may now get accelerated. What will happen to India ? Before finding the answer to this question, let me remind you of the situation in 2008. With the debacle of Lehman Brothers, the global financial meltdown was triggered. Most of the developed world economies had a steep fall and India was seen as the only growing economy in those challenging times. That was the moment when India caught the attention of the international industry as well as the investing community and the 'Great Indian Growth Story' began in real terms. With these two wars mentioned above, many countries will suffer economically and again the world economy will be in doldrum. India is already the fastest growing large economy today and can surely consolidate its position further amid these tarbulant times. Of course, most of the factors in this game lie outside the industry perview and fall in the area of geopolitics. In any case, the next few months are going to be very crucial and it will be interesting to watch the future unfolding. My wishful thinking is that the metals industry will be a net gainer !

Write your comments :

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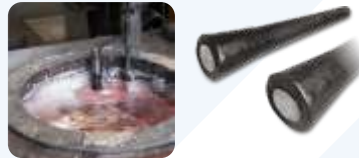
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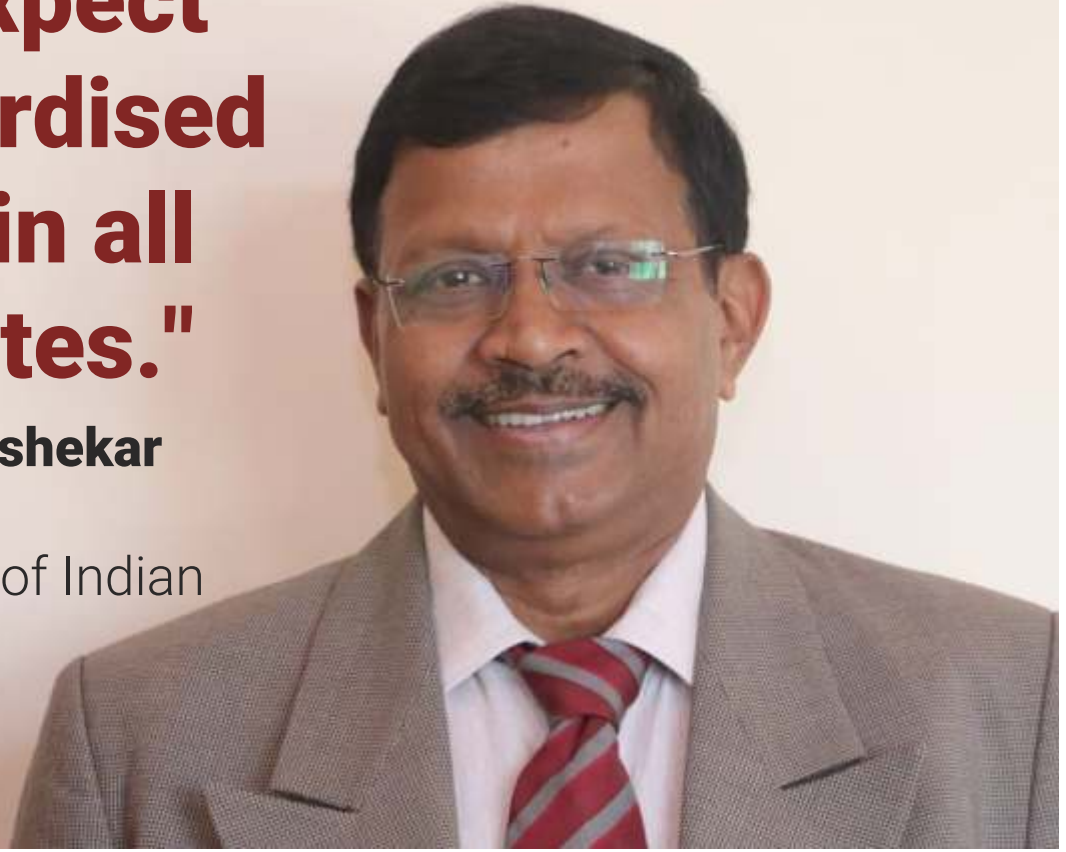
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**" We expect
standardised
policy in all
the states."**

D.S.Chandrashekar

President,
The Institute of Indian
Foundrymen



D.S.Chandrashekar, a member of Shimoga Chapter from Southern Region has been a Corporate Member of IIF for the past 25-plus years. Vice Chairman of M/s Shanthala Spherocast Private Limited, Machenhalli, Shimoga who are manufacturers of S G Iron, Alloy Cast Iron & Grey Iron components to many original equipment manufacturers. He has the bachelor's degree in mechanical engineering. Has professionally grown from Trainee to Managing Director & now as Vice Chairman in the family-owned Foundry Industry with involvement, dedication, commitment. Having extensive strong techno commercial background with experience of more than 35 years in various domains of Foundry - Production planning, Material procurement, Marketing, quality management systems. Under his leadership company got certified to ISO, EHS, OSHAS, EnMS. He is also on the board of 3 more private limited companies situated in Shimoga who are into foundry & machining. The group turnover for the previous financial year is around 340 Crores. He has served The Institute of Indian Foundrymen(IIF) as National Honorary Secretary for consecutive years 2012-13 & 2013-14, at regional events as Chairman. Served one of the Rotary clubs at Shimoga as President & Rotary district as Assistant Governor.

Having lot of business accomplishments during his leadership as Managing Director, Social accomplishments as

Rotarian & involvement in NGO's. Travelled to various countries on business assignments. Hails from an educated, reputed family with a rural background imbibing Family value, Caring, Sharing, Relationships values.

D.S.Chandrashekar brings to the IIF, his vast experience of management , organizing & leadership skills. He loves teamwork, system driven process, doing things differently & discussion driven decisions.

D A Chandekar, Editor & CEO, Metalworld had an exclusive interaction with Mr. D.S. Chandrashekar, President, The Institute of Indian Foundrymen to understand the present situation in the Foundry Industry, present activities of IIF & what does Foundry industry



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expect from the policy makers.

Excerpts:

How is the Present situation in the Foundry Industry in the Country

The Foundry Industry is doing well. After a strong 2022-23 , the new year started off with a good inflow of orders from railways, capital equipment, Exports, trucks, auto and kept the growth momentum till Q1 & Q2 . However, from October 2023 slowdown in tractor industry , pumps, valves & exports is acting as a dampener. Expecting the situation to improve from Dec 2023. Many challenges persists

Non-Availability of Skilled manpower mainly blue coloured

Input cost increases- power & alloys

Stringent pollution norms

How do you see the future of foundry Industry in the country

Since Foundry Industry is

a feeder industry for most of the industries, coupled with Government of India, various state governments massive investments on infrastructure & world focus on Indian foundry the future of foundry industry is bright with many challenges to face.

Tell us about the present activities of the IIF at National Level. How do you like to promote subjects like safety & digitalisation in the Indian Foundry sector?

This year theme is "We Cast"

We-We create a transformed workforce.

C-Circular economy & sustainability



A-Aatmanirbhar supply chain
S-Strategic Financial Management

T-Technologies & Data Analytics

We would like to promote Safety & Digitalisation by Training workshops

See & Learn -Visit to customer places, peers, foundries having best safety & digitalisation,

Short videos on best safety practices , short films

Keynote speakers on the advantages of digitalisation etc.

What does Foundry Industry expect from the policy makers

Foundry Industry has presence in almost 14-15 states. Each state policy has its own merits & demerits. From the policy makers we expect standardised policy in all the states, policy to protect Indian foundry by having anti-dumping on cheaper imports.

To consider Foundry as a priority sector & support – reduced interest rates, corpus for automations etc,
5-About our own company

M/s Shanthala Spherocast established in 1984 . A private limited entity focused on SG Iron manufacturing to OE manufacturers. We are catering to Diesel engine, pumps , valves, hydraulics, earth moving , plastic injection equipment , exports. We have a CNC Machining setup . Now our supply status in 70 -30 (70% machined & 30% raw castings).

We have a manpower of about 600.



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LEADING INNOVATION IN SPECTROSCOPY



Fioscope: Increase Cast House Safety and Productivity with Fioscope's In-Furnace Air-Cooled Smart Camera Technology

Fioscope GmbH are a global pioneer in high temperature camera applications, image processing, machine learning and process control. Through RiA Cast House Engineering GmbH, an exclusive partner for the Aluminium industry, Fioscope has been providing air-cooled In-Furnace camera systems to the Aluminum Cast Houses since 2014. Through this partnership, Fioscope has assisted in advancing safety and productivity levels in numerous Cast Houses worldwide.

In typical operations, the melt cycle cannot be observed without opening the door and losing heat and energy, as well as the associated safety risk to the operators. Fioscope's patented air-cooled camera system – made in Germany – provides Cast House personnel with real time melt process feedback through a true colour, HD resolution video image capture (See figure 1). Giving Cast House personnel this feedback reduces the time and frequency of exposure to molten aluminum, a clear safety advantage. Reducing the amount of time the furnace door is open also provides extensive productivity benefits through keeping the furnace temperature higher, therefore melting material

faster and increasing the throughput of the melting furnace. Reduced energy consumption is also possible through keeping the combustion chamber of the melting furnace at higher temperatures by keeping the door closed, therefore reducing the time that energy sources are required to raise the temperature of the furnace to melting and casting temperatures.



Kiran Deshpande
Country Manager,
India

look into the furnace making it easier to track and plan for maintenance stops for example.

Fioscope's patented air-cooled camera systems have smart capabilities. Combining professional high resolution image acquisition with latest digital image processing technologies for accurate identification of process parameters. After an off-site training period on Fioscope's neural network the software is



Figure 1: Melt Cycle Observed Through Fioscope Camera System Enabling Door Closed Operation

All of the above benefits of increased safety and productivity levels can be further enhanced with the addition of storage and playback capabilities. Meaning, events that may occur in the furnace can be reviewed and preventative actions implemented to prevent them happening again. Similarly, over a weekend or a nightshift for example, Cast House management can review footage from within the furnace over the last 48 hours on a FIFO system. Additionally, 1 frame per hour can be stored for 6 months, meaning long term changes in refractory can be monitored without having to

able to detect the height of the scrap heap or recognize dross on the molten bath and produce a PLC signal to indicate a certain action to the Cast House operator, such as "Furnace Ready to Charge" or "Furnace Ready to Skim". This leads to obvious productivity benefits as the furnace may have been ready to receive more material or to skim earlier, however the operators were unaware. All whilst maintaining a door closed operation, offering the safest environment to operators. Fioscope are constantly developing new and innovative features with our smart camera technology, for example monitoring the burner flame for changes in shape, colour, size. Monitoring



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refractory for signs of damage and wear as well as monitoring the combustion chamber for anomalous and potentially dangerous conditions to alert operators.

Fioscope's patented air-cooled cameras can easily be retrofit to existing furnaces as shown in Figure 2. Fioscope's camera system consists of a camera probe, air blower as well as a



pneumatic and electrical control box which can all be mounted to the furnace itself. Simply requiring a power supply and a compressed air feed to keep the lens dust free and the image clear, the Fioscope system can be installed with minimal alterations to the furnace and in a short downtime period. Reach out to Fioscope today to discuss how our patented air-cooled smart camera technology can increase the productivity of your Cast House whilst protecting your operators.



Figure 2:
Fioscope Camera
Probe and
Air-Blower Mounted
to Furnace Side
Wall.



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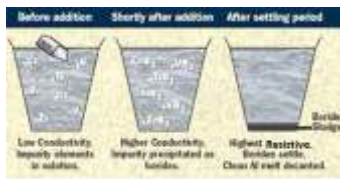
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Presence of Cr,V,Ti,Zr as impurities in Aluminium conductor alloys reduces electrical conductivity. It can be improved by using Al-B Master alloys. Boron reacts with these metals and forms respective borides. As density of these borides are more than molten metal, sinks down as boride sludge.



Conductivity = $63.50 - 6.9x - 83y$ where electrical conductivity is in percent IACS (International Copper Annealed Standard), x = iron + silicon (in weight percent), and y = titanium + vanadium + manganese + chromium (in weight percent).

Available as:

- CERALOY B-3%
- CERALOY B-4%
- CERALOY B-8%
- CERALOY B-10%

ALUMINIUM ZIRCONIUM MASTER ALLOY:

Zirconium is a specified minor addition to a number of high strength wrought Aluminum alloys. The presence of Zirconium in Aluminum alloys: Inhibits recrystallization and grain growth at elevated

temperatures. Reduces susceptibility to stress corrosion Reduces sensitivity to quenching rate from solution temperatures. Enhances weldability by resisting grain coarsening in the heat sensitive zones close to welded joints.

Available as:

- CERALOY Zr- 5%
- CERALOY Zr- 10%

ALUMINIUM VANADIUM MASTER ALLOY:

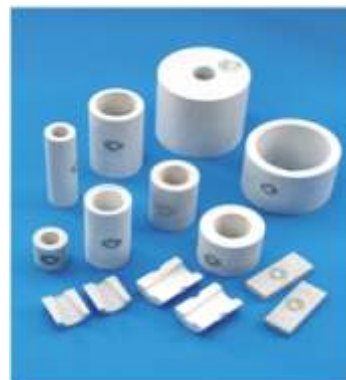
This alloy is used for addition of Vanadium in Aluminium alloys. The vanadium addition is done to improve the thermal stability and strength. Due to their excellent corrosion resistance they are considered ideal for implant application.

Available as:

- CERALOY V- 5%
- CERALOY V- 10%

Import substitute highly insulating and non-wetting to molten aluminium Calcium Silicate based Ceramic Shapes.

CERAMIC SLEEVES:



Part-2

In Aluminium gravity die casting yield of casting is varies from 40-60% due to chunky riser part. Use of highly insulating sleeves helps to improve on the yield by 10-15%, providing improved feeding rate that of riser. Life of Sleeves varies from 1000 cycles to 2500 cycles. High cost of ceramic sleeves is compensated by the increased yield of castings.



Vilas B. Jadhav

Director
Ceraflux India Pvt. Ltd.
Kolhapur

Runners and risers are remelted during production; increase in yield indirectly reduces remelting cost of Aluminium. Ceramic sleeves can be casted through slurry process or precisely machined through Ceramic fiber or Carbon fiber reinforced high density boards. Carbon fiber reinforced ceramic shapes gives extended service life.

Properties of CERAMIC Sleeves.

Nature	: White coloured pre-cast Shapes
Density	: 1.3 gm. / c.c.
C.C.S.	: 95.00+/-5.00 Kg. / cm ²
Temp. for continuous use	: 800 C
Reaction with lubricating oil	: Resistant
Wet-ability to molten Aluminium	: Non- Wet-able
Thermal Conductivity	: 0.48+/-0.1 W/mK at 800 C
Linear Thermal Expansion	: 0.27+/-0.03 %

Advantages:

Non-Wettable to molten Aluminium and its alloys. Withstand thermal shocks from 800 C to room temperature. Cut or machined easily, so that lining of any curvature or critical shape is easy.



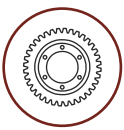
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- ▶ AlTi5B1 Coils / Ingots
- ▶ Al -Mn, Al-Cu, Al-Cr Alloys
- ▶ Al-Boron 3-10%
- ▶ Mn / Fe / Cu / Cr / Ti Adal Tablets
- ▶ Magnesium Ingots
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Industry Update

Highly insulating, temp. drop is very less.

Pre heating is not required.

CERAMIC SLEEVES FOR STALKTUBE USED IN LPDC:

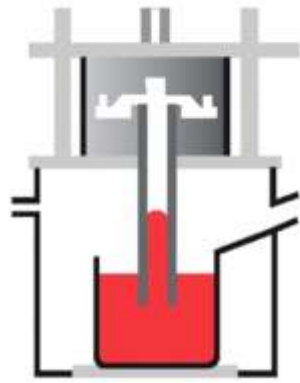
In low pressure die casting, the die is filled with metal from a pressurised furnace, with pressures typically around 0.7 - 2.0 bars. The holding furnace is positioned in the lower part of the vertical die casting machine, with the molten metal injected upwards directly into the bottom of the mould. The pressure holds the metal in the die until it solidifies. One of the main advantages of this process is the precise control of die cavity filling.

Molten metal flows quickly and smoothly through the feeding conduits (**CERAMIC STALKTUBE**), reducing oxide formation and preventing porosity.

STALK TUBES are made from **Ceramic** and **Cast iron** materials.

Ceramic Material includes Aluminium Titanate (AlTi), Silicon Nitride (SiN), Dense Fused Silica. Ceramics are chosen for their insulation and long service life. These are highly expensive.

Cast iron Stalk tubes are less expensive with high mechanical strength, can be designed as per customer specifications. Inside the stalk tubes Ceramic sleeves are fitted and outside fixed with special lining material to avoid the iron pickup from cast iron stalk tube



LPDC MACHINE SKETCH



CERAMIC STALK TUBE



Ceramic Sleeve inside CI Stalk tube

HIGHLY INSULATING DIECOATES AND RISER COATING:

INSULATING DIECOAT FOR GDC:

The sound casting is achieved by controlled directional solidification. Solidification of the cast metal should be in one direction – generally areas remote from the risers and

moving the solidification toward the risers or source of feed metal. In permanent mould casting, this is done by controlling the rate of heat extraction in various parts of the die using different filler materials having various thermal conductivity ratings. Heat flow rates are proportional to the thickness of the insulating material, using different materials and different thicknesses of coating in the die can regulate the rate of heat extraction and promote directional solidification.

DIEDRESS-140ESS:

Water base Refractory cum Insulating Diecoat. Special binding and insulating property of Diecoat influence easy stripping and excellent finish to the aluminium casting.

Mix. the product in can uniformly before taking for dilution. Dilute the diecoat in the ratio 1:3-4 (Product: Water). Clean the die; it should be free from rust, grease etc. Pre-heat the die surface at a Temp. 175C -200C, apply the coating by spraying application. Heat the coated die surface using gas burner at a Temp. 250 10C to remove the moisture and form firm bond.

Apply very thin and uniform layer in each stage. After completion of coating raise temp. of die to 350°C.

Colour of diecoat will change from white to light brick red. Check for peel off and start for production.

For touch-up application maintain temp. of die 250 10C.

Advantages:

1. Non Wetting to Aluminium.

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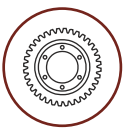
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For Stall Booking & Enquiries, Contact: metallurgy@tafcon.in / Tel: +91-11-49857777



Industry Update

2. Protects metallic dies with critical geometry/ Design.
3. Reduces Maintenance cost.
4. Good life of coating, intermittent touch up is suggested to get extended coating life.



Alloy Wheel Die Coated



Alloy Wheel casting



Product: DIEDRESS-140ESS

DIEDRESS-1400:

Water based Boron Nitride Diecoat. Special binding and insulating property of Diecoat influence easy stripping and excellent finish to the aluminium casting. Mix. the product in can uniformly before taking for

dilution. Dilute the diecoat in the ratio 1:4 (Product: Water). Clean the die it should be free from rust, grease etc. Pre-heat the die surface at a Temp.175C -200C, apply the coating by spraying application. Heat the coated die surface using gas burner at a Temp. 250 10C to remove the moisture and form firm bond. Apply very thin and uniform layer in each stage. After completion of coating raise temp. of die to 350°C. Colour of diecoat will change from white to light brick red. Check for peel off and start for production. For touch-up application maintain temp. of die 250 10C.

Advantages:

1. Non Wetting to Aluminium.
2. Protects metallic dies with critical geometry/ design
3. Reduces Maintenance cost.
4. Life of Coating is more compare to conventional diecoats.

Proper applied coating on Die will remain for 24 hrs to one week.



Before Application



After Application



Product DIEDRESS-1400

DIEDRESS-7029:

Water base highly insulating Riser coat. Special binding and insulating property of Riser coating provides longer life with better feeding effect to runner and risers of aluminium castings.

Mix it thoroughly in can. Dilute @ 1:0.25-0.5 (Product: water). Clean the Tools i.e. should be free from rust, grease etc. Pre-heat the die surface at a temp.90 -100C. Apply the coating by brushing application to the runner and riser of the die. Heat the coated die surface at a Temp. 250C 10C to remove the moisture and form firm bond. Ensure complete drying of coating before taking for casting.

Advantages:

- 1) Improved metal flow and filling of the intricate casting.
- 2) Longer life of riser coating.

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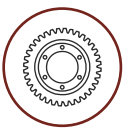


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3) Increased Productivity.



Coating applied on the riser



Casting with improved feeding.



Product DIEDRESS-7029

DIEDRESS-MS 11

DIEDRESS -MS 11 is titanium oxide and oil base dressing Diecoat recommended for M.S. tools, M.S. Spoons, Auto Pour Ladles for GDC as well as PDC.

ADVANTAGES:

- I) Extended life of M.S. tools
- II) Reduce chances of iron pick-up
- III) Reduce breakdown time
- IV) Non-wetting to molten Aluminium & its alloys

Apply the coating by brush/swabbing application on preheated to 90-100°C MS tools/spoons/ladles.

Coated M.S. Tools should either be heated up to 400-600° C by portable burner or dip in untreated molten

Aluminium for ensuring strongly adhere of coating before continuous use.



Spoon Coated with DIEDRESS-MS 11



Product DIEDRESS- MS 11

CONCLUSION:

Metallurgical Chemicals / Master Alloys used in Recycling & Melt Treatment of Aluminium Alloys plays very vital role by,

1. Achieving Desirable Microstructure.
2. Achieving Desirable Mechanical properties such as Tensile Strength, Elongation, Hardness etc.
3. Making Aluminium alloys castings more popular for Auto Industries due to high Strength to weight ratio as compared to ferrous castings.



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Feature



Bureau of
International
Recycling

BIR World Recycling Convention & Exhibition,

Abu Dhabi (22) 23 - 24 October 2023

Opening Session: 'BIR – 75 and beyond'

After 75 years, the world recycling organisation is told

its work has never been more important.

Recyclers around the world have been urged to be more proactive about their vital role in ensuring the earth's limited and valuable natural resources are recovered and used sustainably. The call came during a fascinating glimpse into the years ahead by futurist Matthew Griffin whose keynote address kicked off the Bureau of International Recycling's World Recycling Convention in Abu Dhabi on October 23. With BIR looking back on its history over the past 75 years and forward to the opportunities of the future, Mr Griffin painted a picture of changing global supply chains, new materials, evolving technologies and far greater use of artificial intelligence (AI) and robotics. Mr Griffin is the founder and futurist-in-chief of the 311 Institute, a global advisory firm. His presentation, 'Recycling the Future', detailed a range of issues which will affect BIR members in the coming decades and a key part of his message was to challenge recyclers to "adapt

to world realities".

During questions from the floor, it was suggested that recyclers get insufficient credit for their role in global sustainability, partly because of an association with "waste" when in fact they were dealing with valuable commodities. Mr Griffin agreed.

"Waste is a cultural bias," he said. "Previously, we would use something and it would go to landfill. Landfill is waste, but as an industry you are not dealing with waste; you are dealing with resource. It's a marketing problem. You've got to correct everybody."

The speaker cautioned that he had looked at recyclers' websites and found many were still using the word 'waste' or 'waste recyclers'. "No, you are 'resource recyclers', you should replace 'waste' with 'resource'. It is doing you a disservice. Re-market yourselves."

Change and opportunity
He highlighted two contrasting figures: global waste accounts for 2.4 billion tonnes a year while only around 312 million tonnes of "hard waste" is recycled. The former is a well-established total, he said, the latter is only an estimate.

"No-one is asking you how much you recycle. We don't

have standards for reporting. Most organisations under-report or don't want to report. We should know exactly how much we are wasting."

The futurist set out his view of a world splitting into two along cultural, economic and political lines, disrupting supply chains and forcing businesses to re-think where and how they operate. Fragile governments brought uncertainty, he told delegates, and resource scarcity was a message "you should hammer home".

Mr Griffin believed the greatest opportunity for recyclers was "resource weaponisation", whereby countries either banned exports of rare earth and other essential metals or erected trade tariffs to protect domestic industries. The "Rich Have" countries were also paying top rates, securing resources at premium rates because they are so crucial.

"[Resource scarcity] is concerning governments everywhere," he said. "That's kind of a good thing because if they can't get materials they will give tax and other incentives so that you can recover and recycle [them] locally."

On top of that, he told his audience, investors were increasingly concerned about sustainability. "Investors pull the strings. They say: 'If you cannot prove your company is



Feature

green, we will dump your stock from our portfolio'. They are on your side. That means industry will want to talk to you."

New President

In her first address as the new President of BIR, Susie Burrage OBE of Recycled Products Ltd, UK, said the recycling industry had once been described as one of the world's best kept secrets. "Today, however, no international or supranational body concerned with the economic and environmental welfare of the planet can afford to ignore recycling. The secret is finally out."

Ms Burrage reminded delegates that BIR was celebrating its 75th anniversary. "This is a momentous occasion that bears testament to our predecessors' dedication and tireless efforts. Together, they laid the groundwork for a world where recycling is not seen as a burden but as an opportunity for innovation and growth, a cornerstone in sustainability and an essential cog in the circular economy."

While it was BIR and its first members who secured the opening of frontiers to recycling commodities in Europe well before the EU was formed, the president called it "unbelievable" that the achievements of the organisation's founders and forefathers were under threat from deglobalisation. "Increasing trade barriers pose a significant challenge



to our industry. BIR is actively addressing this in various fora and has consistently campaigned for the free movement of recycled materials to avoid shortages in certain geographical areas and surpluses in others."

Ms Burrage also spoke of BIR's strong growth in membership, successful conventions and a robust financial situation which was enabling the leadership to make significant investments, strengthen its secretariat and increase its advocacy efforts.

BIR's new president was filled with "a sense of wonder" about what recyclers can accomplish collectively. "It is undeniable that with our combined determination and abilities, we have the ability to become an unstoppable voice".

The event was formally

opened by Director General Arnaud Brunet who said it had attracted 1,100 people from 56 countries with the largest delegation coming from the United Arab Emirates.

BIR is the international trade association of the recycling industries. Around 70 countries are represented through their national trade associations and individual companies, which are involved in recycling. BIR comprises four commodity divisions: iron & steel, non-ferrous metals, paper and textiles, and has four commodity committees dealing with stainless steel & special alloys, plastics, tyres & rubber and E-scrap. BIR's primary goal is to promote recycling and recyclability, thereby conserving natural resources, protecting the environment and facilitating free trade of secondary raw materials.



Feature



Bureau of International Recycling

BIR World Recycling Convention & Exhibition,

Abu Dhabi (22) 23 - 24 October 2023

Ferrous Division:

Scrap sector looks for growth as mills drive to green steel

The consequences for recyclers as the steelmaking industry looks to decarbonise in the coming decades was the major theme during BIR's Ferrous Division session at the Abu Dhabi convention on 23 October. Guest speaker Kedar Joshi, markets manager (Asia) for Davis Index, asserted "the revolution is here and we are all part of it".

Mr Joshi said two important pronouncements in the previous three months showed him that scrap traders and recyclers were finally getting due recognition. In July, the World Economic Forum said 6.5 billion tonnes of materials will be needed between now and 2050 for the energy transition with steel, copper and aluminium accounting for around 95% of this. It maintained "this is not possible without increasing metals recycling". In September, McKinsey concluded that "the metals sector will be fundamental in the effort to limit climate change".

Such perceptions, Mr Joshi argued, meant:

- integrated mills will have to increase

scrap utilisation to meet investor and community demand for lower carbon scores;

· higher demand for finished products with different environmental, social and corporate governance and carbon footprint ratings would boost scrap utilisation;

· lighter substitute materials such as aluminium were placing steel under pressure;

· increased electric vehicle (EV) penetration was changing the typical shredder feedstock mix.

Strategic resource

Acknowledging recycled steel as a 'strategic resource', Mr Joshi cautioned: "Growing protectionism and the political need for better domestic supply chains are causing a rise in regional markets. This changes traditional trade routes. We expect this trend to continue."

That protectionism was already evident, he said, with more than 60 countries having banned or in the process of restricting exports

to support domestic producers.

"We are at the beginning of a 30-year demand super cycle for recycled steel. If there are no major disruptions from new materials this new demand shift will last decades longer."

Calling the market for recycled steel 'Industry 4.0', Mr Joshi said: "For our industry, the 4.0 era will mean having to embrace better technology to identify, sort, process and ship materials."

He quoted his ceo Sean Davison: "BIR, it's time we drive this message to everyone we meet. Tell them: 'You want a greener planet? Just let us continue doing the job we've been doing for over a hundred years'."

The other guest speaker, Davide Braga, head of global capital equipment sales at Danieli Centro Recycling in Italy, said demand for steel would continue to grow slowly to 2050 with millowners looking to cut CO2 emissions by between 70% and 90% by then. The switch towards electric arc furnaces (EAFs), he said, would double their share of the production by 2050 and include a significant increase in direct reduced iron (DRI) production. More than an extra 300 million tonnes of scrap per year would be needed to feed the additional EAF production in the transition to green steel, he added.



Feature

Danieli says its proprietary Digimelter, which uses scrap or DRI, or a mix of scrap, DRI and hot metal as raw materials, can progressively enhance EAFs. The company calls it a “zero bucket” type delivering a continuous scrap charging and preheating system providing optimal scrap charge, lower energy consumption and smaller environmental footprint. Presenting the update to

preventing almost 950 million tonnes of CO2 emissions while also saving energy and conserving natural resources,” he said. The proportion of recycled steel used in crude steel production was 21.7% in China, 60.3% in the EU-27 and 54.7% in the USA. Particularly noteworthy, said Mr Willeke, was the high figure of 87.2% for Turkey. His final graph showed both US and EU export prices

Germany, closed the session by announcing it was his final task before handing over the presidential reins to Shane Mellor of Mellor Metals Ltd in the UK. “I’d like to thank my colleagues from the Ferrous Board for all their support and valuable input but also want to thank the BIR secretariat, the Director General, Past President Tom Bird and [current President] Susie Burrage.”.

BIR is the international trade

association of the recycling industries.

Around 70 countries are represented through their national trade associations and individual companies, which are involved in recycling. BIR comprises four commodity divisions: iron & steel, non-ferrous metals, paper and

textiles, and has four commodity committees dealing with stainless steel & special alloys, plastics, tyres & rubber and E-scrap. BIR's primary goal is to promote recycling and recyclability, thereby conserving natural resources, protecting the environment and facilitating free trade of secondary raw materials. ■



BIR's 14th edition of World Steel Recycling in Figures, statistics advisor Rolf Willeke said that global crude steel production in the first half of 2023 totalled 943.9 million tonnes for a decline of 1.1% over the same period in 2022. “From our own calculations and those of worldsteel, it has been concluded that some 630 million tonnes of recycled steel are used each year in global steel production, thereby

following a largely parallel course. From May to June 2023, prices for HMS 1 in the USA and 80/20 in the EU increased to US\$ 369 and US\$ 378 per tonne respectively.

“This is a great sign that our market for recycled steel is a world market. We can [safely] say we can support the steel industry on its way to green steel.”

Ferrous Division President Denis Reuter, of TSR Recycling GmbH & Co. KG in



UAE's IHC signals interest in Zambian copper mine

Abu Dhabi's International Holding Company has expressed interest in taking over a key Zambian copper mine that is up for sale, according to four people familiar



with the matter.

The approach by the United Arab Emirates' largest listed company comes as South African miner Sibanye-Stillwater is vying to take on Mopani Copper Mines, a prized but struggling state-owned asset in Africa's second-biggest producing country, these people added.

Mopani produces the metal used in power lines, electric cars and renewable power. Two Chinese groups, Zijin Mining and Norinco, a defence company, which were initially part of the auction process for the mine, have dropped out, three of the people said.

Zijin's departure was due to delays on the Zambian side of the process, while Norinco has had sanctions imposed on it by the US government, one of the people added.

The sale of the mine also comes amid heightening geopolitical tensions between China and the US, which is stepping up its efforts to secure strategic minerals such as copper, cobalt and graphite. In particular, Washington is placing a growing emphasis on preventing Chinese companies from tying up important supply sources in Africa.

Washington is reviewing giving \$250mn of financing to help build the Angolan leg of the Lobito Corridor railway that will help the Democratic Republic of Congo and Zambia export commodities. It is also supporting jointly with the EU the launch of a pre-feasibility study to extend the line to Zambia.

Commodity trader Glencore sold its majority stake in Mopani to Zambia in 2021 in return for a government promise to repay \$1.5bn of loans in exchange for future output. The underground mine is hemorrhaging cash because of operational challenges and high costs, posting pre-tax losses of \$300mn last year.

Any buyer would have to fully repay Glencore the debt it is owed or continue to give the Swiss trading house supplies of metal produced in order to settle the debt.

India's copper industry to add-on half a million tonnes of refining capacity slated for March next year

For 2022-23 (FY23), India's domestic copper production was estimated at half a million tonnes.

Gautam Adani's conglomerate is about to step into a new business venture: India's copper industry, boasting half a million tonnes of refining capacity slated for March next year. Although the incremental capacity doubles India's last year's production, industry executives suggest that Adani poses less of a threat to the incumbents and more to those exporting to India.

"The new capacity of Kutch Copper is expected to reshape trade dynamics," said Miren Lodha, director-research, CRISIL Market Intelligence & Analytics.

For 2022-23 (FY23), India's domestic copper production was estimated at half a million tonnes.

Adani Group is investing over a billion dollars to establish a refining capacity of 1 million tonne (mt), half of which (500,000 tonnes) is anticipated to commence production in March.

With this, Adani's Kutch Copper will join the ranks of the other three refined copper producers in India: Aditya Birla Group's Hindalco Industries, Hindustan Copper, and Anil Agarwal-promoted Vedanta Ltd.

Despite the significant investment, existing companies are not expected to feel intense competition.

"Competition in any sector will lead to improved benchmarks, regulations, and value creation for its stakeholders," said A Sumathi, chief operating officer for Sterlite Copper, the copper division of Vedanta.

Sterlite Copper's 400,000-tonne smelter in Tuticorin has been closed since 2018 due to pollution-related issues. Vedanta hopes to resume operations at this unit, subject to a Supreme Court order. With the closure, India's copper exports have declined, and imports have risen over the past five years.

Adani's copper capacity is expected to help address this deficit to some extent. Nevertheless, Vedanta remains unconcerned about the prospects for Sterlite.

"Even if Sterlite's idle capacity is reinstated, we believe there is ample room for new players to drive robust growth in the sector and the economy at large," said Sumathi from Sterlite Copper.

Industry veterans share Sumathi's enthusiasm.

"India's copper demand is expected to reach 3 mt in the next few years. Adani's entry will not adversely affect the existing players," said a former senior executive from the industry.

Lodha from CRISIL estimates that in the near term, the share of imports is set to decrease from 55-60 per cent in FY23 to 40-45 per cent in 2025-26, assuming that the completion and ramp-up of the Adani plant proceeds as scheduled.



Indian automobile industry records highest ever passenger vehicles sales in September quarter: SIAM

India's passenger vehicle sales rose to 10.74 lakh in the July to September quarter, the highest ever in a quarter, from 10.26 lakh in the corresponding quarter of the previous fiscal, data released by the Society of Indian Automobile Manufacturers (SIAM) showed on October 16.

On a monthly basis, total passenger vehicle sales rose 1.8% to 3.61 lakh in September versus 3.55 lakh in the same month in 2022.

Among segments, three-wheelers have recorded the highest-ever sales at 1.95 lakh during the quarter under review, surpassing the 2018-19 level, SIAM pointed out. Two-wheeler sales on the other hand have slipped below 2016-17 levels to 45.98 lakh in the September quarter. The sale of commercial vehicles, meanwhile, rose to 2.47 lakh during Q2 as against 2.31 lakh in the September quarter last year.

The total domestic sales, meanwhile, have risen by a per cent on a year-on-year basis to 60.52 lakh in the second quarter of the fiscal, compared to 61.16 lakh in the same quarter last year, according to SIAM data

Commenting on sales data of Q2 for 2023-24, Mr Vinod Aggarwal, President, SIAM said, "Passenger Vehicle, Three Wheelers, and Commercial Vehicle segments continue to witness growth in Q2 of 2023-24, although Two Wheelers wholesale numbers have posted a marginal de-growth, compared to Q2 of last year, the retails have been encouraging. As we get into the

festival season, all segments of the Industry are optimistic and look towards posting good numbers in Q3. This growth in the automobile sector can be attributed to the all-around Economic growth of the country is also enabled through the conducive Government policies."

In an interaction with CNBC-TV18, Aggarwal said he would like to urge the government for tax relief for two-wheelers in view of regulatory changes that have pushed up prices. He, however, said overall numbers were satisfactory with supply chain challenges behind the industry. Demand outlook is very good for the festive season and overall sentiment is positive, he said.

Aggarwal also noted that the government is working to boost exports and that he expects improvement if the rupee trade increases to include more countries. Commenting on the Q2 2023-24 performance, Mr Rajesh Menon, Director General, SIAM said, "Sales of both Passenger Vehicles and Three Wheelers in Q2 of FY2023-24 has been the highest ever in Q2. Passenger Vehicles have posted a growth of 4.7% and Three Wheelers have posted a growth of 62.2%, compared to Q2 of last year. The Passenger Vehicle segment crossed 2 million units sales for the first time, in the first half of the current financial year. Commercial Vehicles also posted a decent growth of 6.9% in this Quarter, compared to Q2 of last financial year, driven by good growth in Medium and Heavy Commercial Vehicles. The two-wheelers segment has declined by (-)1.6% in this Quarter as compared to last year "

SIAM						
Segment wise Comparative Production, Domestic Sales & Exports data for the month of September 2023						
Category Segment/Subsegment	Production		Domestic Sales		Exports	
	September		September		September	
	2022	2023	2022	2023	2022	2023
Passenger Vehicles (PVs)*						
Passenger Cars	1,88,722	1,51,215	1,42,727	1,11,889	31,207	41,387
Utility Vehicles (UVs)	1,72,346	2,11,723	1,51,759	1,93,072	19,986	18,136
Vans	13,058	13,029	12,903	11,147	30	556
Total Passenger Vehicles (PVs)	3,72,126	3,75,967	3,07,389	3,16,908	51,223	60,079
Three Wheelers						
Passenger Carrier	75,974	89,256	39,383	59,501	32,291	28,919
Goods Carrier	8,915	9,825	7,977	10,093	351	133
E-Rickshaw	2,941	4,547	2,950	4,569	-	-
E-Carl	339	251	338	255	-	-
Total Three Wheelers	88,169	1,03,879	50,626	74,418	32,642	29,052
Two Wheelers						
Scooter/ Scoolaralle	6,00,973	6,45,055	5,72,919	5,89,087	94,780	50,428
Motorcycle/Step-Throughs	13,75,090	13,50,649	11,14,667	11,15,764	2,59,843	2,51,744
Mopeds	42,748	42,290	47,813	44,943	438	48
Total Two Wheelers	20,18,811	20,38,794	17,35,199	17,49,794	2,95,061	3,02,220
Quadricycle	182	465	72	88	102	366
Grand Total	24,79,288	25,19,105	20,93,286	21,41,208	3,79,028	3,91,717

* BIKW, Maruti, JLF, Tata Motors and Value Add data is not available
Source: Society of Indian Automobile Manufacturers (SIAM) (16/10/2023)



SIAM						
Summary Report: Cumulative Production, Domestic Sales & Exports data for the period of July-September 2023						
(Number of Vehicles)						
Category Segment/Subsegment	Production		Domestic Sales		Exports	
	July-September		July-September		July-September	
	2022-23	2023-24	2022-23	2023-24	2022-23	2023-24
Passenger Vehicles (PVs)*						
Passenger Cars	5,79,574	5,30,585	4,68,513	3,96,499	97,300	1,20,721
Utility Vehicles (UVs)	5,93,905	7,12,330	5,17,898	6,39,552	63,016	61,831
Vans	40,223	38,493	39,898	38,138	74	2,046
Total Passenger Vehicles (PVs)	12,13,702	12,81,408	10,26,309	10,74,189	1,60,390	1,84,598
Commercial Vehicles (CVs)**						
M&HCVs						
Passenger Carrier	8,260	12,215	7,762	11,262	2,148	2,519
Goods Carrier	73,921	84,141	71,999	82,534	3,722	2,133
Total M&HCVs	82,181	96,356	79,761	93,796	5,870	4,652
LCVs						
Passenger Carrier	10,803	18,826	10,595	13,142	828	886
Goods Carrier	1,58,345	1,58,190	1,41,635	1,40,991	16,184	11,701
Total LCVs	1,69,148	1,77,016	1,52,230	1,54,133	16,812	12,587
Total Commercial Vehicles (CVs)	2,51,329	2,73,372	2,31,991	2,47,929	22,682	17,239
Three Wheelers						
Passenger Carrier	2,06,514	2,44,504	90,895	1,56,128	1,13,895	81,248
Goods Carrier	22,984	28,390	21,647	28,061	994	546
E-Rickshaw	7,005	10,380	6,859	10,430	-	-
E-Cart	906	618	918	596	-	-
Total Three Wheelers	2,37,409	2,83,892	1,20,319	1,95,215	1,14,889	81,794
Two Wheelers						
Scooter/ Scooterette	17,05,750	17,11,635	15,56,224	15,87,017	1,30,849	1,39,085
Motorcycle/Step-Throughs	38,29,175	37,30,970	30,01,489	29,13,779	8,24,198	7,55,196
Mopeds	1,15,339	1,21,392	1,16,218	1,17,642	1,206	330
Total Two Wheelers	56,50,264	55,63,997	46,73,931	45,98,442	9,56,251	8,94,591
Quadricycle	498	1,125	189	316	348	786
Grand Total	73,53,202	74,03,794	60,52,739	61,16,091	12,54,560	11,79,008

* BMW/ Mercedes, JLR and Volvo Auto data is not available
 ** Daimler, JBM & Scania data is not available
 Society of Indian Automobile Manufacturers (16/10/2023)

SIAM						
Summary Report: Cumulative Production, Domestic Sales & Exports data for the period of April-September 2023						
Report I (Number of Vehicles)						
Category Segment/Subsegment	Production		Domestic Sales		Exports	
	April-September		April-September		April-September	
	2022-23	2023-24	2022-23	2023-24	2022-23	2023-24
Passenger Vehicles (PVs)*						
Passenger Cars	10,90,400	10,31,106	8,80,020	8,10,222	2,01,700	2,15,514
Utility Vehicles (UVs)	11,11,294	13,14,475	9,82,454	11,86,155	1,18,583	1,17,250
Vans	74,707	73,020	74,330	73,786	243	3,990
Total Passenger Vehicles (PVs)	22,76,401	24,18,601	19,36,804	20,70,163	3,20,526	3,36,754
Commercial Vehicles (CVs)**						
M&HCVs						
Passenger Carrier	17,160	23,839	15,638	22,289	4,371	4,907
Goods Carrier	1,54,145	1,62,072	1,39,977	1,49,369	7,455	3,533
Total M&HCVs	1,71,305	1,85,911	1,55,615	1,71,658	11,826	8,440
LCVs						
Passenger Carrier	22,297	37,014	22,185	27,580	902	1,276
Goods Carrier	3,15,085	3,03,959	2,79,879	2,65,825	29,578	22,148
Total LCVs	3,37,382	3,40,973	3,00,864	2,93,405	30,480	23,424
Total Commercial Vehicles (CVs)	5,08,687	5,26,884	4,56,479	4,65,083	42,306	31,864
Three Wheelers						
Passenger Carrier	3,51,060	4,27,256	1,41,558	2,70,220	2,09,933	1,54,179
Goods Carrier	46,244	52,157	42,997	49,791	2,193	975
E-Rickshaw	10,155	16,496	10,428	17,990	-	-
E-Cart	1,639	1,419	1,631	1,889	-	-
Total Three Wheelers	4,09,098	4,97,328	1,96,612	3,39,690	2,12,126	1,55,154
Two Wheelers						
Scooter/ Scooterette	29,82,253	31,18,943	27,84,127	28,66,372	2,27,624	2,64,955
Motorcycle/Step-Throughs	72,80,021	71,12,035	54,08,717	56,51,127	18,75,873	14,20,238
Mopeds	2,22,445	2,31,461	2,27,620	2,22,907	1,548	714
Total Two Wheelers	1,04,84,729	1,04,62,439	83,98,464	87,39,406	21,04,845	16,85,907
Quadricycle	999	2,233	290	459	744	1,778
Grand Total	1,36,79,894	1,39,07,485	1,09,88,649	1,16,14,781	26,80,527	22,11,457

* BMW/ Mercedes, JLR and Volvo Auto data is not available
 ** Daimler, JBM & Scania data is not available
 Society of Indian Automobile Manufacturers (16/10/2023)



Statistics

SIAM												
Category & Company wise Summary Report for the month of September 2023 and Cumulative for April-September 2023												
												Report II
												(Number of Vehicles)
Category	Production				Domestic Sales				Exports			
Segment/Subsegment	September	2023	April-September	2023-24	September	2023	April-September	2023-24	September	2023	April-September	2023-24
Manufacturer	2022	2023	2022-23	2023-24	2022	2023	2022-23	2023-24	2022	2023	2022-23	2023-24
Passenger Vehicles (PVs)												
FCA India Automobiles Pvt Ltd	1,303	772	9,795	5,293	1,116	481	7,264	2,694	315	304	2,518	2,636
Force Motors Ltd	51	101	402	645	50	97	398	599	-	-	1	3
Honda Cars India Ltd	11,403	11,305	59,815	49,863	8,711	9,801	47,163	37,658	2,393	1,310	13,326	9,659
Hyundai Motor India Ltd	63,800	59,088	3,59,500	3,90,631	49,700	54,241	2,85,005	3,07,075	13,501	17,400	74,072	85,105
Isuzu Motors India Pvt Ltd	177	-	1,617	90	48	45	295	211	35	-	229	-
Kia Motors India Pvt Ltd	31,516	22,400	1,77,704	1,57,307	25,857	20,022	1,31,962	1,20,615	6,934	5,009	44,564	39,247
Mahindra & Mahindra Ltd	35,501	43,812	1,70,616	2,17,797	34,508	41,207	1,68,723	2,14,314	398	1,000	3,498	6,656
Maruti Suzuki India Ltd	1,73,929	1,73,451	9,54,103	9,73,843	1,48,380	1,50,812	7,84,550	8,73,107	20,688	22,246	1,31,070	1,31,548
MG Motor India Pvt Ltd	4,807	3,109	24,492	28,738	3,800	3,755	22,163	24,559	-	-	-	-
Nissan Motor India Pvt Ltd	8,371	7,577	48,664	35,732	3,177	2,453	17,883	14,650	1,088	8,313	25,813	20,153
PCA Motors Pvt. Ltd	1,427	1,333	3,152	8,139	1,366	748	2,553	4,473	-	53	-	1,101
Renault India Pvt Ltd	11,529	5,215	60,624	30,280	7,623	3,368	43,884	25,007	2,215	1,283	14,733	8,947
SkodaAuto India Pvt. Ltd	1,845	2,120	27,543	25,348	3,543	4,032	27,551	24,006	195	182	195	911
Tata Motors Ltd	NA	NA	2,79,965	2,81,930	NA	NA	2,75,735	2,81,127	NA	NA	753	1,403
Toyota Kirloskar Motor Pvt Ltd	18,850	30,743	59,802	1,68,855	15,378	22,157	81,429	1,14,538	1,422	45	8,254	45
Volkswagen India Pvt Ltd	9,814	2,111	27,657	43,099	4,103	3,508	15,443	21,258	271	1,546	9,641	20,200
Total Passenger Vehicles (PVs)	3,72,126	3,75,967	22,76,401	24,18,601	3,07,389	3,16,908	19,36,804	20,70,163	51,223	60,079	3,20,506	3,35,754

SIAM												
Segment & Company wise Production, Domestic Sales & Exports Report for the month of September 2023 and Cumulative for April-September 2023												
												Report III
												(Number of Vehicles)
Category	Production				Domestic Sales				Exports			
Segment/Subsegment	September	2023	April-September	2023-24	September	2023	April-September	2023-24	September	2023	April-September	2023-24
Manufacturer	2022	2023	2022-23	2023-24	2022	2023	2022-23	2023-24	2022	2023	2022-23	2023-24
Passenger Vehicles (PVs)												
A: Passenger Cars												
Honda Cars India Ltd	10,544	9,799	50,105	41,221	8,120	4,175	43,547	20,151	2,239	1,310	13,030	6,309
Hyundai Motor India Ltd	52,350	30,640	1,69,550	1,69,984	22,627	18,214	1,32,507	1,20,258	9,421	14,054	53,645	60,559
Mahindra & Mahindra Ltd	-	-	-	-	40	-	96	-	-	-	-	-
Maruti Suzuki India Ltd	1,31,252	1,03,353	6,69,077	6,30,732	1,09,109	80,354	5,61,410	4,98,821	17,770	17,363	87,552	1,01,675
MG Motor India Pvt Ltd	-	NA	-	3,022	-	NA	-	1,914	-	-	-	-
Nissan Motor India Pvt Ltd	1,534	1,326	23,668	17,494	-	-	-	-	3,879	7,551	22,981	17,178
Renault India Pvt Ltd	2,836	868	18,376	7,775	2,001	747	11,130	5,520	795	47	5,419	3,524
SkodaAuto India Pvt Ltd	577	896	14,507	10,404	1,243	1,531	14,021	9,343	-	-	-	12
Tata Motors Ltd	NA	NA	94,072	1,08,839	NA	NA	90,569	1,05,948	NA	NA	99	828
Toyota Kirloskar Motor Pvt Ltd	43	248	503	1,084	3,596	4,968	16,743	27,655	-	-	-	-
Volkswagen India Pvt. Ltd	4,590	1,390	15,441	25,516	1,935	1,791	9,157	10,532	5	1,202	8,787	12,459
Total A: Passenger Cars	1,86,722	1,51,218	10,90,400	10,31,106	1,42,727	1,11,889	8,80,029	8,10,222	31,207	41,387	2,01,700	2,15,514
B: Utility Vehicles (UVs)												
FCA India Automobiles Pvt Ltd	1,303	772	9,795	5,293	1,116	481	7,264	2,694	615	304	2,518	2,636
Force Motors Ltd	51	101	402	645	50	97	398	599	-	1	1	5
Honda Cars India Ltd	259	5,515	5,810	8,662	594	5,685	3,316	8,507	94	-	287	270
Hyundai Motor India Ltd	51,160	36,739	1,73,240	2,03,647	27,073	36,027	1,52,195	1,86,520	7,250	3,315	20,229	16,799
Isuzu Motors India Pvt Ltd	177	-	1,617	90	48	45	295	211	35	-	229	-
Kia Motors India Pvt Ltd	31,516	22,400	1,77,704	1,57,307	25,857	20,022	1,31,962	1,20,615	6,934	5,009	44,564	39,247
Mahindra & Mahindra Ltd	35,303	43,897	1,38,321	2,19,622	34,282	41,207	1,67,952	2,14,934	338	893	3,485	6,509
Maruti Suzuki India Ltd	29,811	59,379	2,11,067	2,70,341	32,574	59,271	1,53,550	3,05,457	5,598	4,314	33,350	26,112
MG Motor India Pvt Ltd	4,807	3,109	24,452	23,634	3,808	3,755	22,163	22,944	-	-	-	-
Nissan Motor India Pvt Ltd	3,424	3,251	24,555	21,237	3,177	2,453	17,883	14,650	109	952	2,852	2,965
PCA Motors Pvt. Ltd	1,427	1,333	3,152	8,139	1,395	748	2,903	4,473	-	53	-	1,101
Renault India Pvt Ltd	8,650	4,377	44,248	22,531	5,622	2,522	32,504	19,357	1,422	1,248	9,314	5,220
SkodaAuto India Pvt Ltd	1,269	1,224	13,408	14,944	2,255	2,451	10,970	14,125	195	182	195	899
Tata Motors Ltd	NA	NA	1,62,016	1,75,016	NA	NA	1,81,451	1,72,124	NA	NA	920	491
Toyota Kirloskar Motor Pvt Ltd	18,907	30,485	59,386	1,67,771	11,786	17,171	74,696	80,656	-	1,422	45	3,254
Volkswagen India Pvt. Ltd	5,234	931	12,216	17,523	2,117	1,777	10,256	10,576	266	941	854	6,747
Total B: Utility Vehicles (UVs)	1,72,346	2,11,723	11,11,284	13,14,475	1,51,759	1,93,872	9,82,454	11,88,165	19,988	18,138	1,18,583	1,17,250
C: Vans												
Mahindra & Mahindra Ltd	188	19	1,785	174	206	-	1,435	10	-	7	-	147
Maruti Suzuki India Ltd	12,860	13,014	59,929	72,770	12,697	11,147	59,510	67,719	-	549	188	3,759
Tata Motors Ltd	NA	NA	2,583	75	NA	NA	3,355	8,357	NA	NA	55	84
Total C: Vans	13,058	13,029	74,707	73,020	12,903	11,147	74,330	73,786	30	556	243	3,990
Total Passenger Vehicles (PVs)	3,72,126	3,75,967	22,76,401	24,18,601	3,07,389	3,16,908	19,36,804	20,70,163	51,223	60,079	3,20,506	3,35,754

SIAM						
Category & Company wise Summary Report of Commercial Vehicles for April-September 2023						
						Report II
						(Number of Vehicles)
Category	Production		Domestic Sales		Exports	
Segment/Subsegment	April-September		April-September		April-September	
Manufacturer	2022-23	2023-24	2022-23	2023-24	2022-23	2023-24
Commercial Vehicles (CVs)						
Ashok Leyland Ltd	86,390	92,879	79,639	86,052	5,307	5,123
Force Motors Ltd	8,612	12,884	8,629	12,178	65	161
Isuzu Motors India Pvt Ltd	10,701	12,130	641	954	8,235	7,766
Mahindra & Mahindra Ltd	1,33,081	1,44,812	1,23,076	1,29,760	12,004	7,581
Maruti Suzuki India Ltd	24,730	15,641	19,509	15,496	1,562	996
Olectra Greentech Limited	280	140	260	140	-	-
SML Isuzu Ltd	5,922	7,070	6,178	7,053	107	80
Switch Mobility Automotive Ltd	NA	15	NA	52	-	-
Tata Motors Ltd	2,01,614	1,99,975	1,86,133	1,75,346	11,934	8,393
Toyota Kirloskar Motor Pvt Ltd	480	1,065	457	1,137	-	-
VECV-Eicher	36,677	40,273	31,265	36,178	3,092	1,764
VECV-Volvo	NA	NA	672	716	-	-
Total Commercial Vehicles (CVs)	5,08,667	5,26,884	4,56,479	4,65,063	42,306	31,864

Society of Indian Automobile Manufacturers (SIAM) 2023



SIAM												
Sub-segment & Company wise Production, Domestic Sales & Exports Report for the month of September 2023 and Cumulative for April-September 2023												
												Report IV
												(Number of Vehicles)
Category	Production				Domestic Sales				Exports			
	September	2023	April-September	2023-24	September	2023	April-September	2023-24	September	2023	April-September	2023-24
Segment/Subsegment												
Manufacturer	2022	2023	2022-23	2023-24	2022	2023	2022-23	2023-24	2022	2023	2022-23	2023-24
Passenger Vehicles (PVs)												
A : Passenger Cars - Upto 5 Seats												
Micro : Seats upto-4, Length Normally <3200 mm, Body Style-Hatchback, Engine Displacement Normally upto 0.8 Litre												
MG Motor India Pvt Ltd (Carve: EV)	-	NA	-	3,062	-	NA	-	1,914	-	-	-	-
Total Micro	-	-	-	3,062	-	-	-	1,914	-	-	-	-
Mini : Seats upto-5, Length Normally <3600 mm, Body Style-Hatchback, Engine Displacement Normally upto 1.0 Litre												
Maruti Suzuki India Ltd (Ain/Bressan)	35,887	10,705	1,47,611	94,738	29,574	10,351	1,21,058	72,550	1,545	2,892	25,074	20,961
Rajaul, India Pvt Ltd (Kwid)	2,636	868	16,378	7,779	2,001	747	11,180	5,020	793	47	5,418	3,624
Total Mini	38,723	11,573	1,63,987	1,02,538	31,575	11,098	1,32,236	78,170	2,138	3,039	28,493	24,585
Compact : Seats upto-5, Length Normally between 3600 - 4000 mm, Body Style-Sedan/Estate/Hatch/Notchback, Engine Displacement Normally upto 1.4 Litre												
Honda Cars India Ltd (Amaze/Jazz)	4,929	3,844	24,803	21,575	4,700	2,577	24,570	10,650	93	90	543	514
Hyundai Motor India Ltd (Aura Grand / i20/ Santro/ Xcent)	26,430	22,477	1,57,633	1,40,963	20,872	15,664	1,23,277	1,00,522	5,251	9,602	34,162	45,725
Maruti Suzuki India Ltd (DEW Model/Baleno/Celerio/Dzire)	92,717	80,849	5,22,924	5,21,691	72,176	58,552	4,33,423	4,18,330	12,878	12,413	70,128	75,624
Tata Motors Ltd (Altroz/ Nano/ Tigor)	NA	NA	54,072	1,06,838	NA	NA	90,969	1,05,346	NA	NA	95	828
Toyota Kirloskar Motor Pvt Ltd (Glanza)	-	-	-	-	5,328	4,727	18,226	28,560	-	-	-	-
Volkswagen India Pvt Ltd (Polo)	-	-	874	-	-	-	753	-	-	-	1,055	-
Total Compact	1,23,976	1,18,137	8,00,366	7,91,069	1,01,377	91,460	6,89,223	6,71,908	18,202	22,105	1,06,032	1,20,704
Super Compact : Seats upto-5, Length Normally between 4000 - 4250 mm, Body Style-Sedan/Estate/Hatch/Notchback, Engine Displacement Normally upto 1.6 Litre												
Mahindra & Mahindra Ltd (Verito)	-	-	-	-	40	-	86	-	-	-	-	-
Total Super Compact	-	-	-	-	40	-	86	-	-	-	-	-
Mid-Size : Seats upto-5, Length Normally between 4250 - 4500 mm, Body Style-Sedan/Estate/Hatch/Notchback, Engine Displacement Normally upto 1.8 Litre												
Honda Cars India Ltd (City)	5,715	4,946	31,212	19,646	5,420	1,899	19,277	8,507	2,146	1,220	12,491	8,455
Hyundai Motor India Ltd (Verna)	5,920	7,205	29,017	45,021	1,854	2,610	9,230	19,733	4,190	5,482	19,881	25,607
Maruti Suzuki India Ltd (Ciaz)	2,654	2,304	12,542	14,282	1,355	1,491	6,926	7,447	547	878	4,350	5,090
Nissan Motor India Pvt Ltd (Sunny)	4,504	4,020	23,009	17,493	-	-	-	-	3,979	7,301	22,981	17,178
Volkswagen India Pvt Ltd (Vento/Vplus)	4,580	1,580	14,507	25,510	1,080	1,791	8,404	10,592	5	1,202	7,802	15,459
Total Mid-Size	23,403	20,361	1,11,007	1,22,960	8,419	7,491	43,637	47,267	10,867	16,243	67,175	70,213
Executive : Seats upto-5, Length Normally between 4500 - 4700 mm, Body Style-Sedan/Estate/Notchback, Engine Displacement Normally upto 2 Litre												
Skoda Auto India Pvt Ltd (Octavia/Slavia)	379	896	13,862	10,404	1,058	1,581	13,134	9,872	-	-	-	12
Total Executive	379	896	13,862	10,404	1,058	1,581	13,184	9,812	-	-	-	12
Premium : Seats upto-5, Length Normally between 4700 - 5000 mm, Body Style-Sedan/Estate, Engine Displacement Normally upto 3 Litre												
Skoda Auto India Pvt Ltd (Superb)	188	-	845	-	190	-	637	131	-	-	-	-
Toyota Kirloskar Motor Pvt Ltd (Carniv)	43	248	600	1,084	68	259	57	1,020	-	-	-	-
Total Premium	241	248	1,348	1,084	258	259	1,354	1,151	-	-	-	-
Total Passenger Cars	1,86,722	1,51,215	10,90,400	10,31,106	1,42,727	1,11,689	8,80,020	8,10,222	31,207	41,387	2,01,700	2,15,514

NA: Not Available

NA: Not Available

SIAM							
Segment & Company wise Production, Domestic Sales & Exports Report of Commercial Vehicles for April-September 2023							
							Report III
							(Number of Vehicles)
Category	Production		Domestic Sales		Exports		
	April-September	2023-24	April-September	2023-24	April-September	2023-24	
Segment/Subsegment							
Manufacturer	2022-23	2023-24	2022-23	2023-24	2022-23	2023-24	
Commercial Vehicles (CVs)							
M&HCVs							
A: Passenger Carriers							
Ashok Leyland Ltd	7,032	10,073	3,793	7,372	2,896	3,186	
Force Motors Ltd	37	-	37	-	-	-	
Olectra Greentech Limited	280	140	280	140	-	-	
SML Isuzu Ltd	1,880	2,272	1,752	2,354	9	41	
Switch Mobility Automotive Ltd	NA	15	NA	52	-	-	
Tata Motors Ltd	1,914	3,505	4,507	5,814	917	1,164	
VECV-Eicher	6,217	7,834	5,269	6,557	549	516	
Total A: Passenger Carriers	17,160	23,839	15,638	22,289	4,371	4,907	
B: Goods Carriers							
Ashok Leyland Ltd	48,574	49,390	44,422	46,861	1,717	832	
Mahindra & Mahindra Ltd	3,102	4,301	2,646	3,846	63	33	
SML Isuzu Ltd	1,053	1,117	1,063	991	27	20	
Tata Motors Ltd	79,720	82,000	71,127	73,616	3,786	1,801	
VECV-Eicher	23,696	25,264	20,047	23,339	1,882	847	
VECV-Volvo	-	-	672	716	-	-	
Total B: Goods Carriers	1,54,145	1,62,072	1,39,977	1,49,369	7,455	3,533	
Total M&HCVs	1,71,305	1,85,911	1,55,615	1,71,658	11,826	6,440	

NA: Not Available



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