 JSW Steel helping india move forward.
JSW Group

An $13 billion conglomerate, with presence across India, USA, Italy, South America & Africa, the JSW Group is a part of the O.P. Jindal Group with strong footprints across core economic sectors, namely, Steel, Energy, Infrastructure, Cement, also in Ventures and Sports.

The Group is paving the way for India’s development as a global superpower. JSW Steel is India’s leading steel producer and among the world’s most illustrious steel company. The Group is also leading in every sector that it operates in.

JSW Energy is one of the earliest private entrants into the power sector positioned strongly as a full-spectrum integrated power company with a presence across the power sector value chain. It is one of the most efficient Power Company in the country with one of the country’s largest open cast mining operation by volume and one of the largest private sector Hydro Operator in India. JSW Cement creates the building blocks of India with its environment friendly products.

JSW Infrastructure is contributing to the nation’s development by providing world class services to clients through state of the art ports, terminals, shipyards and other facilities. JSW Sports runs the Sports Excellence Program (SEP) to identify, nurture and develop Indian athletes to ensure that they bring sporting glory to the nation on the global stage. JSW Sports also runs the Bengaluru Football Club, Delhi Capitals cricket team and the Bengaluru Yodhas wrestling team.

The JSW Group is committed to creating more smiles at every step of the journey. JSW Foundation, the Group’s CSR and sustainability arm, is in constant pursuit of making life better for communities with its various initiatives in the fields of health, education, livelihood and sports, along with art and culture.

JSW Group is proud to be charting a course to excellence that creates opportunities for every Indian and leads to the creation of a sustainable, dynamic and developed nation.
The flagship company of USD 11 billion JSW Group, JSW Steel is one of India’s leading integrated steel manufacturers with a capacity of 18 MTPA. It is one of the fastest growing companies in India with a footprint in over 100 countries. With state-of-the-art manufacturing facilities located in Karnataka, Tamil Nadu and Maharashtra, it is recognized for its innovation and quality.

JSW offers a wide gamut of steel products that includes Hot Rolled, Cold Rolled, Bare & Pre-painted Galvanized & Galvalume®, TMT Rebars, Wire Rods, Special Steel, Electrical Steel and Tinplate.

JSW Steel continues to enhance its capabilities to meet the rapidly changing global market needs. To stay on the leading edge of technical advancement, JSW has entered into technological collaboration with JFE Steel Corp., Japan to manufacture high strength and advanced high strength steel for the automobile sector. JSW Steel has also entered into a joint venture with Marubeni-Itochu Steel Inc., Tokyo, to set up a state-of-the-art steel processing center. To strengthen its global network, the Company has also acquired a Pipe and Plate making steel mill in Baytown, Texas in USA. Going forward, JSW Steel aims to produce 40 million tons of steel annually.
JSW Steel
Coated Products Ltd.

JSW Steel Coated Products Limited is 100% subsidiary company of JSW Steel, having state-of-the-art manufacturing facilities in the state of Maharashtra.

JSW Steel Coated Products Ltd. is India’s largest manufacturer and exporter of Coated Steel as well as Colour Coated Steel. The production facilities, Tarapur and Vasind Works, are located in the vicinity of major ports. The company’s Kalmeshwar Works is centrally located near Nagpur to serve across regions.

JSW is an ISO 9001:2008 Certified Organization and the first licensee producer for Galvalume® in India. The Tarapur plant is specialized in manufacturing Ultra-Thin Coated Products. The company is also a manufacturer of appliance grade colour coated products. JSW’s Kalmeshwar Works is the first producer of Galvanized and Colour Coated Steel in India. JSW also has established India’s first Appliance Grade Line to manufacture Pre Coated and Vinyl Coated Metal.
First continuous annealing line in India
• Widest Cold Rolling Mill (upto 1870 mm width)
• India’s largest Coated Steel producer
• First Licensee Galvalume® producer in India
• JSW Steel Salem works is the largest integrated Alloy and Special Steel plant in India
• One of the widest Hot Strip Mill in India
• India’s most modern and largest Vertical Caster-300/260/220 x 2200 mm
• India’s only Multi-Radii Bloom Caster operational at Salem works
• ZERO EFFLUENT discharge for greener & cleaner environment
• 1.6 million trees planted at Vijayanagar works, transforming the area into a green oasis
• India’s largest Long Steel producer by installed capacity
Business & Operations
JSW wins the prestigious Deming Prize for its excellence in TQM
The JSW Vijayanagar Works is the largest single location integrated steel plant in the world to be awarded the prestigious Deming Prize for excellence in Total Quality Management (TQM) presented by the Union of Japanese Scientists and Engineers (JUSE).

- The 25th Steel Minister's Trophy for the best performing integrated steel plant for the year 2016-17 awarded to JSW Steel Limited – Vijaynagar Works. JSW-Vijayanagar has demonstrated resilience amidst vagaries of demand and input costs by bouncing back in 2016-17, posting healthy gross margin of over 21%. Besides strong performance on techno-economic front, the plant demonstrated its strong commitment towards sustainable development.

- IMC RBNQA Performance Excellence Trophy 2016
The maiden participation of JSW Steel Coated Products Ltd in IMC RamKrishna Bajaj National Quality Award 2016 resulted in winning of IMC RBNQA Business Performance Excellence Trophy 2016.

Management
Business Standard CEO of the Year Award, 2018
JSW Group’s Chairman and MD, Mr. Sajjan Jindal, awarded the ‘Business Standard CEO of the Year’, in recognition of his indomitable spirit and progressive work in the steel industry.

Outstanding Business Leader of the Year CNBC-TV18, 2018
Mr. Sajjan Jindal, Chairman and MD of the JSW Group was presented with the Outstanding Business Leader of the Year Award at the CNBC IBLA Awards in recognition of his transformative role and vision of propelling JSW to being one of India’s largest exporters of steel.

Chief Finance Officer of the Year, 2018
Mr. Seshagiri Rao, JMD & Group CFO for JSW Steel has been awarded the ‘CFO of the Year’ at the FE CFO Awards.

Sustainability
CII 19th National Award for Excellence in Energy Management, 2018
JSW Steel Coated Products Ltd, Vasind has won the CII 19th National Award for Excellence in Energy Management 2018 for Excellence in Energy Management among the Industrial Sector and facilitating sharing of information on Best practices & technologies.

Apex India Energy Efficiency Award -2018
JSW Steel Coated Products Ltd., Vasind has been awarded with Gold Category for Excellence in Energy Efficiency for Year-2018 by Apex India Foundation in the sector of Metal and Mining.

Golden Peacock Environment Management Award 2018
JSW Steel - Dolvi Works adjudged the winner of Bayot GOLDEN PEACOCK ENVIRONMENT MANAGEMENT AWARD for the year 2018 in the Steel Sector for significantly embedding risk management strategies and sustainability practices into our operations and decision-making processes, leading to improved performance and have gone beyond the statutory requirements.

CII - National Energy Management Award 2017
JSW Vijayanagar Unit is honoured with prestigious - National Energy Management Award 2017, in the Integrated steel sector.

Award & Recognitions
Business & Operations
JSW wins the prestigious Deming Prize for its excellence in TQM
The JSW Vijayanagar Works is the largest single location integrated steel plant in the world to be awarded the prestigious Deming Prize for excellence in Total Quality Management (TQM) presented by the Union of Japanese Scientists and Engineers (JUSE).

- JSW Steel Dolvi Works was awarded a Platinum level recognition in the CII Exim Bank Awards for Business Excellence.
JSW Platina

JSW Steel - India’s largest private steel manufacturer - adds another feather in its cap through its green field State-of-the-art Cold Rolling & Tinning Plant at Tarapur, Maharashtra. The plant has an installed capacity of 2 lakh tonnes per annum for manufacturing of world class tin mill products. This downstream investment showcases the Conglomerate’s commitment towards the initiative of Make in India. This investment will ensure availability of world’s best quality tinplate & tin free steel in India. With commissioning of this plant, JSW becomes the first company to bring in Continuous Annealing Technology for Tin Mill products in India.

Tinplate is typically a thin steel sheet with a coating of tin applied on either side through an electrolytic process. Tinplate exhibits high strength and formability - imparted by the base steel, and corrosion resistance - imparted by the tin coating. The smooth surface finish adds printability and weldability while giving a lustrous aesthetic appeal. Over the years, Tinplate has found an acceptance in numerous applications because of its beautiful appearance, light weight, low cost, easy utilization, high shapeability, different varieties etc. Being non-toxic in nature and because of its ability to resist bacteria, UV radiation, retain original colour, flavor and aroma of the contents, Tinplate is extensively used as a packaging medium for storage of canned foods, juices and other beverages. Other than edibles, Tinplate has paved its way into the packaging of paints, aerosols, battery jackets, chemicals, closures, etc. It is 100% bio-degradable and 100% recyclable, and thus, a highly sustainable packaging medium.

Having similar applicability, an economic alternative to Tinplate is the Tin Free Steel, also called Electrolytic Chromium Coated Steel. The replacement of tin with chromium alters some fundamental characteristics: improved lacquer adhesion, inability to weld or solder and lower brightness, compared to Tinplate. Tin Free Steel is often exclusively used in packaging where welding or soldering is not required for e.g. manufacturing of crown caps and two-piece shallow drawn cans.
The CAL Advantage

JSW has commissioned its first Continuous Annealing Line (CAL) for Tinplate in India. Unlike the historically used batch annealing method of production, the Tinplate produced by CAL has very high uniformity in terms of gauge and temper. This uniformity in characteristics of CAL produced Tinplate provide a clear edge in different applications:

- Food and Beverage Cans
- Crown Caps
- Battery jackets

Uniformity and precision are the most crucial differentiators for manufacturers with high speed can lines. High uniformity allows manufacturers to increase their yield per tonne of Tinplate due to fewer rejections. Continuous annealed tinplate is thus, key to enabling higher productivity for manufacturers. The advantages of continuous annealed tinplate can have a direct bearing on the scale, efficiency and profitability of business.

Can manufacturers had to rely on imports for their requirement for supply of high quality tinplate. With JSW CAL produced Tinplate, can manufacturers are able to get domestically produced high quality Tinplate right at their doorstep.

Product range & Specifications

JSW Tinplate products have a wide variety of applications in both food and non-food product packaging and are available in both Single Reduced (SR) and Double Reduced (DR) variety. Double Reduced (DR) Tinplate is normally Thinner, Stronger, and Brighter, as compared to conventional Single Reduced Tinplate and gives more cans from each ton of Tinplate. Both the grades are tailor made within the following ranges:

<table>
<thead>
<tr>
<th>Designation Alternate Designation</th>
<th>Nominal Rockwell Hardness Values 30T</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-49</td>
<td>49</td>
</tr>
<tr>
<td>T-53</td>
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<td>T-61</td>
<td>61</td>
</tr>
<tr>
<td>T-65</td>
<td>65</td>
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</tbody>
</table>

Available in batch annealed condition in 4 categories of temper classification as per IS 1993 : 2006

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tin coating</td>
<td>0.66 gsm</td>
<td>16.8 gsm</td>
</tr>
<tr>
<td>Thickness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Reduced</td>
<td>0.18 mm</td>
<td>0.60 mm</td>
</tr>
<tr>
<td>Double Reduced</td>
<td>0.14 mm</td>
<td>0.21 mm</td>
</tr>
<tr>
<td>Width</td>
<td>650 mm</td>
<td>1250 mm</td>
</tr>
</tbody>
</table>
Temper

Different applications of tinplate require different degree of hardness for the base material. The desired hardness is established in the temper rolling mill/double cold rolling mill. The standard temper grades are designated according to the Rockwell Hardness Test. The doubly reduced (DR) temper is produced to obtain extremely high yield strength tinplate. Such tinplate enables the can maker to produce thinner gauge and lighter cans, without compromising strength.

<table>
<thead>
<tr>
<th>Type</th>
<th>Designation</th>
<th>Nominal Rockwell Hardness Values 30T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doubly Reduced</td>
<td>DR-7.5</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>DR-8</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>DR-8.5</td>
<td>73</td>
</tr>
<tr>
<td></td>
<td>DR-9</td>
<td>75</td>
</tr>
</tbody>
</table>

Coating Grades

Tin coating on the outer surface of the finished product depends on the desired aesthetic finish, while the coating for the internal surface depends on the material to be packed. Accordingly, multiple combination of coating is available as part of our product offering, as mentioned below.

![Coating Grades Table]

Some typical end uses of JSW Tinplate – gaugewise

### Double Reduced (DR)

<table>
<thead>
<tr>
<th>Thickness (mm)</th>
<th>End uses &amp; Top/Bottom of Cans</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.15 - 0.26</td>
<td>Non Oil Cans Body, Top and Bottom</td>
</tr>
<tr>
<td>0.15 - 0.23</td>
<td>Tall Built-up Cans</td>
</tr>
<tr>
<td>0.18</td>
<td>Body for Baby Food, Coffee Cans &amp; Edible Oils, Ghee and Vanaspati</td>
</tr>
<tr>
<td>0.24 - 0.30</td>
<td>15Kg Edible Oil Cans</td>
</tr>
</tbody>
</table>

### Single Reduced (SR)

<table>
<thead>
<tr>
<th>Thickness (mm)</th>
<th>End uses &amp; Top/Bottom of Cans</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.19</td>
<td>Lids and Ends for Baby Food Cans (Welded/ Non Welded), Body for other Food Cans</td>
</tr>
<tr>
<td>0.20 - 0.30</td>
<td>OTRC (Baked Beans, Mango Pulp, Mushroom, Baby Corn, Green Peas, Tomato Puree etc)</td>
</tr>
<tr>
<td>0.17 - 0.38</td>
<td>Battery / Aerosol Cans</td>
</tr>
<tr>
<td>0.22</td>
<td>2Kg Edible Oil / She-Containers and End Components, Cheese/Butter Cans, Lugcaps</td>
</tr>
<tr>
<td>0.24 - 0.35</td>
<td>Crown Corks, 5Kg Edible Oil-Containers and Components</td>
</tr>
<tr>
<td>0.28</td>
<td>15Kg Edible Oil Containers (Body, Top &amp; Bottom), Cashew Cans, Biscuit Cans etc</td>
</tr>
</tbody>
</table>
Advantages of JSW Tinplate as a packaging medium

- Long shelf life
- Ultraviolet ray & bacterial protection
- Aroma & flavour retention
- Pilfer & tamperproof
- Excellent printability
- Eco-friendliness
JSW offers effective packaging as per your requirements and in compliance with international norms. Emphasis is placed to ensure durability, prevention of any damage during transportation and better storage.
## Sales Offices

**Corporate Head Office**

JSW Centre
Bandra Kurla Complex, Bandra (East), Mumbai - 400 051
Tel.: +91 22 - 42861000 | Fax: +91 22 - 42863000

### Ahmedabad

Office no. 501 & 502
Mondevi Heights, B-wing Iscon Cross Road,
Near Novotel Hotel, opp. Karnavati Club, S. G. Highway,
Ahmedabad-380 054
Mobile: 09427334449
Tel.: 079-49000270/271/272/273/274/275

### Bengaluru

The Estate,
3rd Floor, West Wing, 121,
Dickenson Road, Bengaluru - 560 042
Tel: 080-42448888

### Chennai

5th Floor, KRM Plaza, No. 2,
Harrington Road, Chetpet, Chennai - 600 031
Tel: 044-28297420, 28297422

### Coimbatore

T. V. Swamy Road (West), Coimbatore - 641 002
Tel: 0422-2541870

### Delhi

NTU Complex (4th Floor),
A-22, Shastri Park, Delhi 110001
Tel: 011-48706020 | Fax: 011-48706099

### Faridabad

Pushpak Vaishali, Mahipalpur
1st Floor, Plot No. 7, Opposite Escorts Hospital, Sector-32,
Ghaziabad - 201001
Tel: 0120-2532900

### Hyderabad

5th Floor, Babukhan Millenium Centre,
63-1099 /1100, 7th Floor, Somajiguda, Hyderabad - 500082
Tel: 040-27846669/79

### Indore

3rd Floor, Lakshya Badgyard, 13 / 17
Near Big Bazaar, Indore, Indore - 452 001
Tel: 0731-2402600/01/02/03

### Jaipur

Evershine Tower, 1-1, 705, 7th Floor,
Amanshia Centre, Vatshal Nagar, Jaipur - 302 001
Tel: 0141-2231300

### Kanpur

Room No. 105, Ratan Esquire, Chunniganj,
Kanpur - 208 001
Tel: 0512-3271907

### Kolkata

Godrej Waterside, 10th Floor, Tower - 1,
Room No. 1003, Block - DP, Salt Lake City, Kolkata - 700 091,
Tel: 033-40002020 | Fax: 033-40002021

### Ludhiana

109, Modelgram, Near Kochar Market, Opp. Malwa School, Ludhiana - 141 002
Tel: 0161-6578944, 6450816

### Mumbai

Grande Palladium, 6th Floor, 175,
CST Road, Kalina, Santacruz (East), Mumbai - 400 098
Tel: 022-61871000

### Nagpur

Poonam Plaza, Bank Road, Nagpur - 440 010
Tel: 0712-4259899

### Patna

PSCO Complex, 2nd Floor,
CIVIL COLLEGE, Madhuban
Patna - 800 020
Tel: 0612-2708517

### Pune

Evershine Tower, F - 1, 705, 7th Floor,
Amanshia Centre, Vatshal Nagar, Pimpri - 411 001
Tel: 0129-2239248, 2232387

### Rudrapur

Plot No. 254, By Pass Road, Village Kirtharpur,Kirchans, District Udhamsingh Nagar - 263 148
Tel: 05944-2633950

### USA Offices

**USA Steel USA Baytown,**
5220 East McKinney Road, Baytown, Texas - 77523,
Tel.: 281-383-5100
sales@jswsteel.us

**USA Steel USA Ohio,**
Alok Chandra
1500 Commercial Avenue, Mingo Junction, OH - 44250
Mobile: +91 9819705996
alok.chandra@jsw.in

### Italy Office

25050 Rongerio Lavoro, Lonato (BS), Italy
Tel.: +39 035 835 4411

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