Open to bring alive
in technicolour
with Essar Steel
Colour Coated Sheets
Essar Steel Colour Coated Sheets

Simplified production. Durability in harsh conditions. Choice and convenience. These are some of the reasons why Essar Steel colour coated sheets have become a widely used product in construction, manufacturing and automotive industries.

Customers have found the high quality and flexible supply of colour coated sheets from Essar Steel to be an alternative that offers their engineers extensive design options and maximises their process efficiency.

Manufactured with a high-precision pre-painting process and adhering to stringent JIS, ASTM, ECCA and EN standards, they amalgamate many desirable qualities – strength of steel, enhanced corrosion resistance of galvanised coating and aesthetic appeal of paint.

Advantages

- Excellent corrosion resistance
- Resistance to peeling and flaking
- Aesthetic appeal; allows for architectural creativity
- Excellent formability and design flexibility
- Easy-to-install
- Maintenance-free
- Recyclable and environment friendly
- Lightweight but structurally strong, ability to resist strong winds
- Thermal efficiency

State-of-the-art Technology

Essar Steel colour coated sheets are manufactured using high-quality hot metal made out of best-in-class and environment-friendly technology. During manufacture, products are treated with chemicals to enhance their paint adhesion and corrosion resistance. Epoxy / PU / Polyester / SMP / PVF2 resins are then applied by reverse coating technique and baked in a sophisticated computer-controlled oven. The result is a product which is highly resistant to corrosion, weathering and has excellent workability, durability and aesthetics. Products undergo stringent quality control tests to ensure performance in all-weather conditions.

Superior Paint Technology

Essar Steel colour coated sheets are available in a variety of paint systems like Regular Modified Polyester (RMP), Silicon Modified Polyester (SMP), Poly Vinyl Di-Fluoride (PVDF). The base metal has the first layer of primer coating at both top and bottom surface for superior adhesion with the paint system. The superior coating technology resists cracking and peeling even during heavy forming operations.

Manufacturing Process Flow
Product Range

Essar Steel colour coated sheets are available in:
Trapezoidal profiles – normally available in 930 mm and 1050 mm spans, corrugated sheets, plain sheets, coils

**Profile 930**

- 930 (Cover width)
- 32±1 (Pitch)

**Profile 1050**

- 1050 (Cover width)
- 350 (Pitch)

Material: Colour coated sheets and aluminium profiled sheets
Coating: Conering to JIS 3312
Colours: As per RAL Colour Chart / Mills Std. Shades

Applications

**Construction & Infrastructure**
- Industrial / domestic roofing and cladding
- Cold storages and warehouses
- Airports, atriums in malls and showrooms
- False ceiling, interiors, Venetian blinds

**White Goods**
- Refrigerator
- Display freezers
- Washing machines
- Electric control panels

**Automotive**
- Bus body
- Railway coaches / luxury coaches

Product Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness</td>
<td>&gt;= 0.2 mm to &lt; 1.2 mm</td>
</tr>
<tr>
<td>Width</td>
<td>&gt;= 300 mm to &lt;= 1,310 mm</td>
</tr>
<tr>
<td>Coil weight</td>
<td>15 MT</td>
</tr>
<tr>
<td>Coil ID</td>
<td>508 mm</td>
</tr>
<tr>
<td>Coating thickness</td>
<td>15 – 40 microns (total coating thickness including top, back and primer)</td>
</tr>
<tr>
<td>Substrate hardness</td>
<td>Soft, medium, hard</td>
</tr>
<tr>
<td>Finishes</td>
<td>Smooth, matt, high gloss, textures, printed</td>
</tr>
<tr>
<td>Colour coated specification</td>
<td>EN 10169, IS 14246, ASTM 755</td>
</tr>
<tr>
<td>Base material grade</td>
<td>DX 51D, DX52D, S250GD, S280GD, S320GD &amp; S550GD, CS TYPEB, SPCC, SGCH, SGC340 &amp; SGC570</td>
</tr>
</tbody>
</table>
Composition / Treatment for Different Product Properties

<table>
<thead>
<tr>
<th>Properties</th>
<th>Standard / Test method</th>
<th>Polyester</th>
<th>SDP</th>
<th>SMP</th>
<th>PVF2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specular gloss at 60°</td>
<td>EN 13523 – 2 [2001]</td>
<td>10 – 90</td>
<td>10 – 90</td>
<td>10 – 90</td>
<td>20 – 30</td>
</tr>
<tr>
<td>Resistance to rapid deformation (impact test)</td>
<td>EN 13523 – 5 [2001]</td>
<td>100 kg – cm</td>
<td>100 kg – cm</td>
<td>100 kg – cm</td>
<td>100 kg – cm</td>
</tr>
<tr>
<td>Adhesion after indentation (cupping test)</td>
<td>EN 13523 – 6 [2002]</td>
<td>6.5 mm (min)</td>
<td>6.5 mm (min)</td>
<td>6.5 mm (min)</td>
<td>6.5 mm (min)</td>
</tr>
<tr>
<td>Resistance to cracking on bending (T-bend test)</td>
<td>EN 13523 – 7 [2001]</td>
<td>0T – 2T</td>
<td>2T</td>
<td>2T</td>
<td>2T</td>
</tr>
<tr>
<td>Resistance to salt spray (fog)</td>
<td>EN 13523 – 8 [2002]</td>
<td>500 hrs</td>
<td>750 hrs</td>
<td>750 hrs</td>
<td>1,000 hrs</td>
</tr>
<tr>
<td>Resistance to fluorescent UV light and water condensation (under revision)</td>
<td>EN 13523 – 10 [2001]</td>
<td>1,000 hrs</td>
<td>1,000 hrs</td>
<td>1,000 hrs</td>
<td>2,000 hrs</td>
</tr>
<tr>
<td>M.E.K. / Solvent rubbing test</td>
<td>EN 13523 – 11 [2004]</td>
<td>100 dr (min)</td>
<td>100 dr (min)</td>
<td>100 dr (min)</td>
<td>100 dr (min)</td>
</tr>
<tr>
<td>Scratch resistance</td>
<td>EN 13523 – 12 [2004]</td>
<td>1.5 kg (min)</td>
<td>1.5 kg (min)</td>
<td>1.5 kg (min)</td>
<td>1.5 kg (min)</td>
</tr>
<tr>
<td>Resistance to humidity</td>
<td>EN 13523 – 25 [2006]</td>
<td>1,000 hrs</td>
<td>1,000 hrs</td>
<td>1,000 hrs</td>
<td>2,000 hrs</td>
</tr>
</tbody>
</table>

Essar Steel

Essar Steel is a global steel company with a strong presence in the intensive, steel-consuming markets of Asia and North America. The company has a global capacity of 14 MTPA aiming to reach a capacity of 25 MTPA. Essar Steel is fully integrated, from mining to retail, with a strong downstream capability, and a worldwide network of processing and distribution facilities and the world’s largest steel retail chain. It has substantial investments in pipe and plate mills and a leadership position in the value-added segments of cold rolled, galvanised and colour coated steel.

Rigourous quality control tests

1. Pre-treatment surface quality check for perfect paint adhesion
2. Foam adhesion test for sandwich panels, for strong bonding between the PUF and sheets
3. Boiling water test to ensure complete consistency of incoming paint quality
4. Shower test to eliminate possibility of water entrapment during transit, and storage for error-free packaging

These tests, carried out at each of the key stages of the production process, ensure that Essar Steel Colour Coated products set unsurpassable quality standards for the industry and maximise product life, resulting in 100% customer satisfaction.