Sherardizing, Thermal Zinc Diffusion, is the forming of a uniform corrosion resistant coating of zinc-iron alloy on the surface of iron or steel objects by means of a metallurgical vapour diffusion process. The sacrificial zinc-iron alloy layer formed provides corrosion protection to the coated steel components.

Features
- Uniform zinc-iron alloy coating
- Protection of irregularly shaped and recessed components
- Even coating of hollow and tubular components
- Thermal diffusion of a wide range of steel components i.e. spring steel, cast iron, sintered and low carbon steels
- The thermally diffused surface is ideal for the further application of duplex coatings, powder coating and vulcanising
- No Hydrogen embrittlement

Technology holding back the corrosive forces of Nature - ecologically and economically, we’ve got you covered.

TECHNICAL INFORMATION

<table>
<thead>
<tr>
<th>Coating process temperature °C</th>
<th>Coating thickness μm</th>
<th>*Salt spray test hours</th>
<th>Operating temperature °C</th>
<th>Micro Hardness HRC</th>
<th>Complies with RoHS ELV Directive (2002/95/EC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>380 - 450</td>
<td>15 - 80</td>
<td>To 1000</td>
<td>To 350</td>
<td>40 - 43</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* Neutral salt spray resistance up to 1000 hours with no sealers and no special passivation layer; with a coating loss rate less than 0.050 g/m²/hr. (As per ASTM B117). The coatings contain no Chrome vi or Chrome vii.

Ecologically responsible technology
- Isolated zinc process. Very low levels of free zinc dust contamination
- No production of dangerous gasses
- Chrome free passivation process
- No chemical waste flows. Efficient use of degreasers and passivation chemicals result in smaller process quantities required and are therefore fully contained.

Applications
- Communications infrastructure, railway infrastructure, power transmission hardware, solar and wind turbine components
- Construction, mining and agricultural components
- Corrosion and wear protection for fasteners in all industries
- Protection of infrastructure components, i.e. rebar/hollow bar and port infrastructure
- Automotive components.
TECHNICAL INFORMATION
Eco-Galv™ compared to other Zinc based anti-corrosion coatings

<table>
<thead>
<tr>
<th>Coating</th>
<th>At thickness range of (Micron)</th>
<th>Corrosion resistance</th>
<th>Uniformity</th>
<th>Embrittlement</th>
<th>Duplex coat adhesion</th>
<th>Weldability?</th>
<th>Anti-galling</th>
<th>Heat resistance</th>
<th>Abrasion resistance</th>
<th>Coating hardness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot dip galvanising</td>
<td>25 - 80</td>
<td>Fair</td>
<td>Poor</td>
<td>Yes</td>
<td>Poor</td>
<td>No</td>
<td>No</td>
<td>Low</td>
<td>Poor</td>
<td>No</td>
</tr>
<tr>
<td>Mechanical</td>
<td>3 - 76</td>
<td>Fair</td>
<td>Poor</td>
<td>No</td>
<td>Poor</td>
<td>No</td>
<td>No</td>
<td>Low</td>
<td>Poor</td>
<td>No</td>
</tr>
<tr>
<td>HDG/spin</td>
<td>20 - 25</td>
<td>Fair</td>
<td>Poor</td>
<td>Yes</td>
<td>Poor</td>
<td>No</td>
<td>No</td>
<td>Low</td>
<td>Very Poor</td>
<td>No</td>
</tr>
<tr>
<td>Electro-plating</td>
<td>5 - 25</td>
<td>Poor to good for alloys</td>
<td>Poor</td>
<td>Yes</td>
<td>Poor</td>
<td>No</td>
<td>No</td>
<td>Low</td>
<td>Poor</td>
<td>No</td>
</tr>
<tr>
<td>Eco-Galv™</td>
<td>15 - 125</td>
<td>Excellent</td>
<td>Excellent</td>
<td>No</td>
<td>Excellent</td>
<td>Yes</td>
<td>Yes</td>
<td>To 400°C</td>
<td>Excellent</td>
<td>Excellent</td>
</tr>
</tbody>
</table>

Documented visual results
A customer 500 hour salt spray test result

Component electro-galvanised to BS7371 Part 3
Component galvanised to BS ISO EN 1461
Component spheroidized with Eco-Galv™

ASTM 117 SALT SPRAY TEST - Proving superior performance

Failure is reached when the area of base metal corrosion exceeds 5% of the total sample area

Product advantages
- Time saver - quicker coating process compared to traditional zinc coating processes
- All component surfaces are coated during the thermal diffusion process, e.g. 1) The inside thread of nuts, with no loss of torque strength. 2) Casting vent holes coated but not clogged
- Thermal diffusion of certain pre-assembled components i.e. scaffolding fittings and small automotive components can be coated
- The thermal diffusion process offers an energy efficient and environmentally friendly approach to the anti-corrosion industry
- Components up to 3.2m long and 700mm in diameter can be processed
- Greater wear and abrasion resistance than traditional galvanised methods
- The thermal diffused coating is weldable and spark-free
- Coating thicknesses can be adjusted from 15 to 120 micron, depending on application
- Better resistance to Ph variances than traditional galvanised coatings
- Good anti-galling properties and a low co-efficient of friction
- Long term corrosion protection in adverse environments of up to 400°C.