Bodycote

Bodycote Metallurgical Coatings

Sherardizing - Construction Components

What is Sherardizing?

Sherardizing is a thermal diffusion coating process providing uniform thickness and corrosion protection which ensures product functionality in often harsh environments. Steel components are placed inside a retort, together with an inert media and zinc powder. The mixture is rotated at 4 rpm and heated to around 400°C (750°F) for approximately two hours. During this process the zinc powder vaporises and diffuses into the component surface, forming a zinc alloy layer. Coating thicknesses are available in the ranges 15 – 40 Microns (0.0006 – 0.0016 inches) and 30 – 60 Microns (0.0012 – 0.0024 inches), based on ISO EN 13811 standard coating thickness requirements.

Quality

Quality is an advantage to be expected of a well established process developed over half a century by a leading provider of metallurgical services. Bodycote places great importance on close consultation between its staff and customers to ensure that there is a complete understanding of the anticipated performance of Sherardizing and the extent to which it will prolong the working life of a product. Bodycote facilities hold numerous national accreditations and customer approvals and our Sherardizing is carried out in accordance with the specified quality standard for Sherardizing, ISO EN 13811.

Construction component applications for Sherardizing

Sherardizing is a very robust long-term corrosion resistant coating. The Sherardizing process has, therefore, been used extensively throughout the construction industry. As Sherardizing is a zinc-based thermal diffusion coating, it exhibits unique properties not found with other zinc coatings:

- The coating follows the contours of components exactly and is completely uniform in thickness.
- The coating produced is a zinc-iron alloy and has the highest hardness values of any zinc coating, making it more damage resistant.
- The surface texture of Sherardizing allows for subsequent paint treatments, without the need for etching primer coats.
- Coating thicknesses of 30 to 60 microns (0.0012 to 0.0024 inches) offer long-term corrosion protection in harsh environments.

All these properties are ideal when considering corrosion protection in the construction industry.

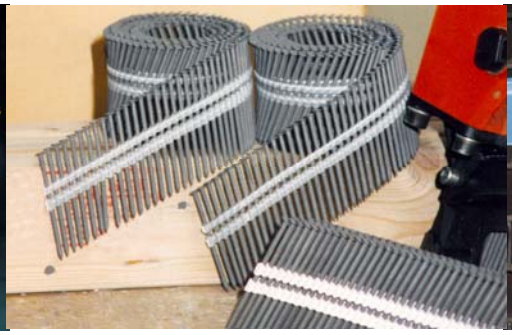
Assorted components - ladder hinges, tent pegs, jubilee clips, joist hanger brackets, gas cylinder valve guards, door hinges, door locks and fittings.

Foundation bolts demonstrating the uniformity of the coating on threaded components and the fact that finished parts can be treated prior to assembly.

Scaffolding fittings must perform in a tough Environment, particularly when hit and dropped, etc. Sherardizing is resistant to these types of impact.

Land Rover door locking assembly.

Assorted Sherardized components - Cast drainage pipes, flange, scaffolding clamps, cable hangers, fuel filler pipe, strapping buckles.



Collated nails, Sherardized before assembly into strip form, as used in nail guns.

Sherardized fasteners in building steel work construction. 4.6, 8.8 and 10.9 grades of fasteners can be treated without affecting their properties.

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Why use Sherardizing?

The table below shows why Sherardizing is a better choice when choosing a coating for construction parts.

Coating Properties Comparison:

Type of Coating	Coating Properties
Sherardizing	Uniform thickness, damage resistant, long-term corrosion protection. Suitable for high-strength materials and threaded parts.
Hot Dip Spin Galvanizing	Molten zinc may stick components together, non uniform thickness (may peel off), not suitable for high-strength materials or threaded parts.
Mechanical Plating	Limited component size, higher cost, lack of adherence.
Organic Coating Magni – Delta Protekt	Not durable enough for environment and working conditions.
Zinc Electroplating	Cheap but very low protection value, thickness range 5-8 microns (0.0002” to 0.0003”). May cause brittleness in high-strength materials.

Other Bodycote Metallurgical Coatings services include:

Abrasion Resistant Coatings
Advanced Coatings
Anti-fouling Coatings
Anti-coking Coatings
Anti-rusting Coatings
Anti-seizure Coatings
Carbide Coatings
Ceramic Densification
Ceramic Overlay
Chrome Densification
Chrome Seal
CoatAlloy™ Coatings
Decorative Coatings
Diffusion Coatings
Duplex Coatings
Engineering Coatings
Erosion Resistance
Flame Spray Coatings
Hard Coatings
HVOF
Low Friction Coatings
Passivation
Plasma Spray Coatings
Sacrificial Coatings
Surface Protection
Surface Sealants
Thermal Diffusion Coatings
Tribological Coatings
Wear Resistant Coatings

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Thermal Processing