

Boiler Grade Powder Coating

Overview: What is the main purpose coating inner surface of a water heater?

Since the surface remain in contact with air and water hence there is a high chance of corrosion.

The coating can increase the life of a water heater and give you a non-contaminated water.

This brochure guide can solve many of your issues related to corrosion and durability. In this part, we discuss the different types of coating and material of the storage tank and its effects.

Coating –Why?

The purpose of buying a storage water heater is that you are able to store hot water to use it subsequently when required. The storage time could be ten minutes or even an hour depending on the utility.

Under such circumstances, you cannot avoid corrosion. Secondly, you find the input water supply is always in the 'ON' position in geysers. Hence, these water heaters are always full of water every time.

This brings the corrosion aspect into the picture. The water heater manufacturers coat the inner surface of these appliances with an anti-corrosive material to prevent corrosion when it is in contact with warm water. This increases the longevity of the appliance.



Types Coating available.

As you narrow down your selection of water heaters, you come to the nature and quality of coating materials used in geysers. You will come across names as follows.

1. Porcelain Enamel Glass Lining
2. Glass Coating
3. Vitreous Enamel Coating
4. Blue Silicon Enamel Coating
5. Powder Coating

The Significance

If you look at it carefully, the first four mentioned coatings constitute use of glass in some way. They are different kinds of processed glass coatings.

The process of coating metals with glass is a complex one. We need not go into the details. To get a basic understanding, glass powder is applied on the metal surface. When you heat it inside a furnace, you get a glass coating on the metal. This can provide protection against corrosion.

Glass is a bad conductor of heat. Hence, you get quality insulation when you use glass in combination with stainless steel.

Polymers are different in the sense that they are synthetic materials. You apply these polymers like paint on the metal surface to prevent corrosion. The question arises as to which one is better, glass coating or polymer coating?

As far as popular usage is concerned, glass coating have a wider acceptance. However, there are chances of damage to the coating on persistent use. The verdict is that polymer coatings are theoretically better than glass coating.

Better the insulation lower is the heat loss. This factor along with the standing loss concept drives the BEE star ratings. Hence, the ideal combination should be a stainless steel tank with polymer or glass coating.

We also offer coating powders which are Non-Hazardous, TGIC Free, ROHs & REACH Compliance.

Boiler Grade Powder Coating

Product Overview:

As you read polymer and glass coating combine with stainless steel is better for geyser life. But manufacturing of geyser with this combination is more expensive.

Rapid coat boiler grade Coating developed for internal parts of water boilers. The product has good mechanical properties, high chemical resistance and excellent boiling water resistance.

It's a normal cure (180°C/10min) product coated with electrostatic spray gun.

Process for Coating

1. Pre Heat The geyser internal body at 200°C for 10 min E.M.T.
2. Spray the powder to achieve a desired coating thickness as per requirement of the corrosion protection ideal coating for geyser is minimum 150-200 micron.
3. Post heat the body for 180°C For 10 min EMT.

Properties of rapid coat powder:

Chemical type		Modified Epoxy
Particle Size		Suitable for spray application
Gloss		85±5
Specific gravity		1.5±0.1 (Theoretical value)
Storage		Dry cool conditions below 25°C
Shelf life		6 months
Stoving schedule		10 minutes at 180°C
Substrate used for chemical & mechanical		0.6mm Zinc phosphated steel
Film Thickness		150-200 microns
Adhesion		Gt 0=0
Erichsen Cupping		6 mm
Hardness		2H
Impact		60 Kg-Cm
Flexibility		6 mm
Salt Spray	1000 Hrs	With creepage from scribe ≤1mm
Constant Humidity	1000 Hrs	Without blistering
Boiling Water Resistance @ 98°		
Rapid Coat Internal method	Sand blasted	200 Hrs
	Iron phosphate	1200 Hrs
	Zn/Mn phosphate	2500 Hrs

We also offer coating powders which are Non-Hazardous, TGIC Free, ROHs & REACH Compliance.