GLASS FLAKE

GLASS FLAKE FILLED HIGH PERFORMANCE PROTECTIVE COATING

DESCRIPTION

y Glass Flake is a line of monolithic coatings high-thickness anti-corrosion products, for indoor and outdoor use, indicated as corrosion protection for steel structures and concrete.

y Formulated based on solvent-free novolac epoxy resins, epoxy or vinyl ester, composed with glass flakes or carbon and chemically inert ceramic fillers.

y Two-component curing product at room temperature.

y Meets the requirements of the Petrobras N-2912 standard.

APPLICATIONS

y For exceptional corrosion protection of steel or concrete under chemical attacks and severe mechanics stresses.

y Typical Applications: oil tanks, naphtha, diesel, gasoline, vessels, separating filters and pipes in refineries, oil production stations and platforms, gas pipelines, electroplating tanks and pickling, aerators, tanks in treatment plants of water and wastewater and other applications in industries such as: steel, petrochemical, metallurgy, cellulose and paper, fertilizers, food and pharmaceuticals.

BENEFITS

y Glass flakes provide low permeability and reduce the thermal expansion of the coating;
y Withstand severe chemical attacks;
y Excellent resistance in acid and alkaline enviroments;
y Withstand temperatures up to 120ºC in total immersion;
y Withstand thermal shock;
y High adhesion to steel and concrete substrates.

SYSTEM	THICKNESS (MM)	RESIN	SUBSTRATE
Glass Flake 421	0.45 - 1.00	Vinylester Epoxy novolac	Steel/ Concrete
Glass Flake 421	0.25 - 0.80	Epoxy	Steel/ Concrete
Glass Flake 3215	0.80 - 2.50	Vinylester Epoxy novolac	Steel
Glass Flake 2912 N Type II	0.45	Polyamine Epoxy novolac	Steel
Glass Flake 2912 NG Type III	0.80	Polyamine Epoxy novolac	Steel

SPECIFICATION (25^0 C)

Specific gravity:	
Basecoat and topcoat / Glass Flake	1.21 g/cm^3
Basecoat / Glass Flake 3215	1.42 g/cm^3
Pot life:	30 - 45 min
Cure time:	
Tack free	2 - 3 hours
Full cure	7 dias
Delay time between coats :	
Minimum	4 hours
Maximum	24 hours
Solids content:	96 ± 1

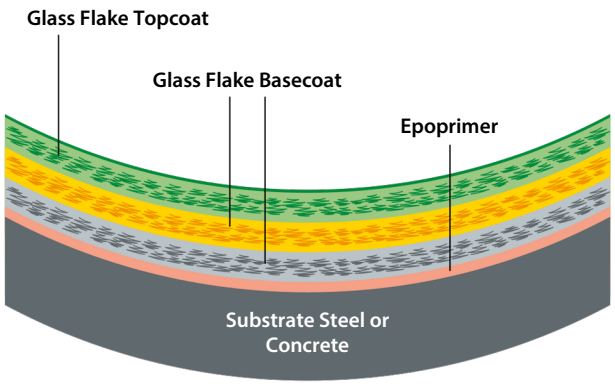
GLASS FLAKE 421	
Colour	Gray, white, green, blue
Tensile Strength	18.8 MPa (2,731 PSI)
Flexural Strength	35.8 MPa (5,195 PSI)
Barcol Hardness	30 - 35

GLASS FLAKE 3215	
Colour	Gray, white, green, blue
Tensile Strength	27.4 MPa (3,975 PSI)
Compressive Strength	41.3 MPa (6,000 PSI)
Barcol Hardness	30 - 35

TYPICAL LAY-UP SEQUENCE

Glass Flake system is composed of a primer (Epoprimer), one or two base layers (Glass Flake Base) and one or two layers of finish (Glass Flake Finish), formulated with thermoset resin filled with glass flakes.

The glass flakes come in two sizes, namely 1/64" (Glass Flake 421) and 1/8" (Glass Flake 3215).



INSTRUCTIONS FOR USE

SURFACE PREPARATION

Concrete:

y The concrete surface is grit blasted, followed by the removal of loose residuals by compressed air of vacuum, with the assistance of a hard bristle brush. As an alternative to grit blasting, the concrete can be brushed clean with the vigorous application of steel brushes. The cleaned surface is then primed with Epoprimer.

Steel:

y Steel substrates are grit blasted to a near white Sa 2 ½ condition in accordance with the standards SIS 05 5900-67, ISO 8501-1, or NACE 2.

y Following the blast cleaning, all loose material is removed by vacuum cleaning or compressed air, with the assistance of nylon brushes with hard bristles.

y The cleaned surface is then primed with Epoprimer indicated.

APPLICATION

y The resin (component A) should be thoroughly mixed with the catalyst (component B) with a propeller type mixer attached to a low speed driller. The mixture is complete when the material reaches a uniform color.

y In those systems requiring the use of aggregate inert fillers, the component C (aggregate) is slowly added after the components A and B have been mixed.

APPLICATION TECHNIQUES

GLASS FLAKE 421
Basecoat or topcoat: Brush, roller or airless spray gun

GLASS FLAKE 3215
Basecoat: Trowel or spatula
Topcoat: Brush, roller or airless spray gun

ENVIRONMENTAL CONDITIONS FOR APPLICATION

Minimum application temperature:	10º C
Maximum application temperature:	40º C
Maximum relative humidity:	85

CLEANING THE EQUIPMENT AND TOOLS

Following the application, andbefore theresin cures, all equipment and tools that have come in contact with the glass flake should be cleaned with solvent LP. The hardened material not removed by solvent cleaning should be burned off.

STORAGE

When stored in the unopened original containers at 25ºC the shelf life of all glass flake materials is 3 months.

SUPPLY

PACKAGING	
Glass Flake 421	Kits of 4, 20 and 200 kg
Glass Flake 3215	Kits of 4 and 20 kg

COVERAGE	
GLASS FLAKE 421	
Epoprimer 100 µm dry film	250 - 330 g/m^2
Basecoat / Topcoat 3 to 4 coats	380 g/m^2 per coat 125 - 200 µm dry film per coat
GLASS FLAKE 3215	
Epoprimer 1 coat 100 µm dry film	250 - 330 g/m^2
Basecoat 1 to 3 coats 760 µm dry film per coat	2.0 kg/m^2 per coat
Top Coating 1 or 2 coats 125 µm dry film per coat	380 g/m^2 per coat

See Technical Datasheet or the consumption of the Novolac Epoxy product.

SAFETY

HEALTH AND SAFETY AT WORK

Avoid all contact with skin or eye. The environment during the application should be well ventilated to reduce inhalation of vapors. Workers should wear adequate breathing apparatus in confined spaces. Open flames, welding operations and any other spark inducing activity are not permitted near the work area. Smoking should not be allowed.

Some people are sensitive to contact with resins, catalysts and solvents. To avoid discomfort all workers should wear gloves and goggles at all time when there is a possibility of spillage or any other contact with these products. The use of protective creams is encouraged as added protection. Over sensitive personnel showing any sign of discomfort should be removed from the work area.

Resin spillage / drippings on the skin can be removed with soap and water. In case of contact with the eye, wash thoroughly for 15 minutes with clean water and get medical help. Medical assistance is required in case of accidental ingestion. Do not induce vomiting.

ADDITIONAL INFORMATION

Oro produces and sells a large variety of products designed to protect steel or concrete substrates against corrosion. Our product line includes coatings and linings, special paints, and products used in surface treatment.

We also carry a complete line of auxiliary products like grouts, anchoring systems, carbon fibers and a complete system solution to the problem of the structural rehabilitation of steel or concrete structures.

Please call us for further information about our products, tutorial videos and technical brochures.

Av. Alfredo Ignácio Nogueira Penido, 255 – sala 1502
Ed. Le Classique – Jd. Aquarius – São José dos Campos – SP
CEP 12.246-900
Telefone: +55 11 4617-3393
Email: contacto@oro.eco.br
Web: oro.eco.br