

Self-leveling flooring systems:

- Epoxy
- Polyester
- Vinylester
- Acrylic
- Anti-slipping
- Anti-static
- Antibacterial



Anticorrosion coatings and systems for metal and concrete

Paints, Primers, Lacquers



2234 Petarch - Bulgaria
Tel.: +3597116 2048

office@emailchim.com
www.emailchim.com

SELF-LEVELLING FLOORING, ANTI-CORROSION COATINGS AND SYSTEMS FOR METAL AND CONCRETE SURFACES

CONTENTS

- ◆ Primers
- ◆ Lacquers and coatings
- ◆ Industrial flooring systems

Origin of the raw materials used for production of anti-corrosion coatings and flooring systems:
USA - Ashland, Cardolite Corp.; **Germany** - BASF, BAYER, Leuna Harze, Byk Chemie; **Nederland** - AKZO;
Japan - Nippon Sheet Glass Limited



PRIMERS

1. Epoxy primer

USAGE

Priming of metal surfaces

DESCRIPTION

Two-component primer based on a liquid epoxy resin in combination with solvents, pigments, additives, and a special type of curing agent which is added at the time of application.

CHARACTERISTICS:

Very good adhesion to ferrous metals, possible tinting in different colors, good anti-corrosion properties and chemical resistance.

Suitable basis for applying of coatings based on epoxy, polyurethane, polyester and vinylester resins.

Application – airless spraying, roller, brush

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 0 to +35 °C	65 – 70 %	1,40 – 1,55	180 – 220 g/m ²
Relative humidity up to 95%			

* Depends on the conditions, the method of application and the form of the details

2. Epoxy primer for moist concrete

USAGE

Priming of concrete and cement surfaces

DESCRIPTION

Two-component primer based on a liquid epoxy resin in combination with reactive diluent, additives, and a special type of curing agent which is added at the time of application.

CHARACTERISTICS:

Very good adhesion to concrete and cement. Can be applied over concrete with moisture content up to 12%
Suitable basis for applying of coatings based on epoxy, polyurethane, polyester and vinylester resins

Application – airless spraying, roller, brush

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 0 to +35 °C	98 %	1,00 – 1,15	300 – 400 g/m ²
Relative humidity up to 95%			
Moisture content of the concrete up to 12%			

* Depends on the surface and application method

3. Water base epoxy primer

USAGE

For priming of concrete and cement surfaces with moisture content up to 8%. Provides good adhesion to concrete and cement.

DESCRIPTION

Two-component primer based on a liquid epoxy resin in combination with pigment additives and water-soluble hardener which is added at the time of application.

Suitable basis for applying of coatings based on epoxy, polyurethane, and polyester resins.

Application – airless spraying, roller, brush

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 15 to +35 °C	50 - 60 %	1,00 – 1,15	300 – 350 g/m ²
Relative humidity up to 85%			
Moisture content of the concrete up to 8%			

* Depends on the surface and application method

4. ZincEpoxy primer

USAGE

Priming of metal structures, machinery, pipes, tanks, tanks in the petrochemical, chemical industry, power plants, metallurgy, water treatment plants, shipbuilding and ship repair, ship structures, floating platforms, civil and industrial facilities located on the sea coast.

Suitable basis for applying of coatings based on epoxy, polyurethane, polyester, vinylester and acrylic resins

DESCRIPTION

Thermo-reactive primer of three components

The first component - liquid epoxy resin bisphenol A

Second component - finely dispersed zinc powder

Third component - liquid hardener cycloaliphatic polyamine epoxy adduct

The three components are mixed at time of use

CHARACTERISTICS:

Quick drying primer with very good adhesion to ferrous and non-ferrous metals, including galvanized surface, high abrasion and weather resistance, compatibility with other materials (epoxy, polyurethane, vinyl, acrylic, polyester and vinylester) involved in the composition of the protective systems with different operational purposes. The primer provides electro chemical (cathodic) protection of metal surfaces

Application – airless spraying, brush

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 5 to 50 °C	92 %	2,8 – 3,5	300 - 350 g/m ²
Relative humidity up to 80%			
Temperature of surface from 5 to 60 °C			

* Depends on the conditions, the method of application and the form of the details

5. ZincPhosphate epoxy primer

USAGE

Priming of galvanized steel and metal surfaces. Compatible with protective system based on epoxy, polyurethane and vinyl ester materials.

Suitable basis for applying of lacquers based on epoxy, polyester, vinylester, polyurethane and acrylic resins

DESCRIPTION

Primer based on two components. The first component is a liquid suspension composition, based on a bisphenol A epoxy resin in combination with different ingredients (pigments, filler, zinc phosphate, thixotropic and rheological additives and mixture of organic solvents).

The second component is liquid hardener modified cycloaliphatic polyamine epoxy adduct, which is added at the time of use

CHARACTERISTICS:

The primer has very good adhesion to ferrous metals and galvanized surface, very good anti-corrosion properties and good chemical resistance.

Application – airless spraying, roller, brush

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 10 to 35 °C	65 - 70 %	1,48	180 - 220 g/m ²
Relative humidity up to 80%			
Temperature of surface from 5 to 60 °C			

* Depends on the conditions, the method of application and the form of the details

6. Silicate primer

USAGE

Primer for the formation of acid resistant flooring with ceramic, carbon and basalt tiles and bricks with a binding silicate mastic.

Good compatibility with epoxy, polyester, vinylester, polyurethane, acrylic and phenolic materials

DESCRIPTION

Primer is a two component based on potassium water glass module 42,5Be and a mixture of a liquid binder and a powdered filler which is added at time of use. Chlorine-free

CHARACTERISTICS:

The primer has a high resistance to a variety of thinners and concentrated inorganic acids (sulfuric, nitric, hydrochloric, phosphoric, perchloric, etc.) In a temperature range up to +900°C

Application – airless spraying, brush

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 10 to 35 °C	100 %	1,50	500 - 1000 g/m ²
Relative humidity up to 80%			
Moisture content of the concrete up to 4%			

* Depends on the surface and application method

7. VinylEester primer, modified with rubber.

USAGE

Priming of metal and concrete surfaces

DESCRIPTION

Vinylester primer modified with rubber is a two component composition, one component is based on chemically modified with an elastomer (rubber), epoxy vinylester resin in combination with other ingredients (fillers, pigments, additives, anti-foaming agent). The second component is a liquid hardener (organic peroxide methyl ethyl ketone peroxide), which is added at time of application.

CHARACTERISTICS:

The primer has very good adhesion, chemical resistance, physical and mechanical properties (bending elasticity, tensile, impact, abrasion, linear coefficient of thermal expansion). this enables the coating to be subjected to various deformation and mechanical stresses.

Suitable basis for applying of lacquers based on epoxy, polyester, vinylester, polyurethane and acrylic resins

Application – airless spraying, roller, brush

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 10 to 35 °C	95 - 98 %	1,05 – 1,10	150 - 200 g/m ²
Relative humidity up to 80%			
Moisture content of the concrete up to 4%			

* Depends on the conditions, the method of application and the form of the details

8. Aluminium containing silicone primer

USAGE

Used as a primer or as a finish coat on the cleaned metal surfaces.
It is characterized with very good adhesion and high speed drying.

DESCRIPTION

One-component air-drying primer on the basis of silicone resins in combination with additives, fillers, pigments, aluminum paste.

CHARACTERISTICS:

The coating has high weather resistance, cold and heat resistance (from -50 up to +500 ° C).
Suitable for external coating of gas ducts / chimney / machinery and equipment working at a temperature up to 500°C.
Suitable basis for applying of silicone based coatings.

Application – airless spraying, roller, brush

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 10 to 35 °C	50 - 52 %	1,10	120 - 160 g/m ²
Relative humidity up to 80%			

* Depends on the conditions, the method of application and the form of the details

9. Vinyl primer

USAGE

Priming of metal and concrete surfaces

DESCRIPTION

One-component air-drying primer based on a vinyl resin in combination with solvents, pigments, fillers, additives, thixotropic additives.
Suitable basis for applying of lacquers based on epoxy, polyester, vinylester, polyurethane and acrylic resins.

CHARACTERISTICS:

The primer has good adhesion to ferrous and non-ferrous metals, concrete, wood, some plastics (PVC), ceramics. Quick drying, possible to apply and drying at low temperatures (below 10 °C.)

Application – airless spraying, roller, brush

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 10 to 35 °C	30 - 32 %	1,0 - 1,10	150 - 200 g/m ²
Relative humidity up to 80%			

* Depends on the conditions, the method of application and the form of the details

10. ZincPhosphate vinyl primer

One component air drying Zinc Phosphate vinyl primer.

The primer has very good anti-corrosion characteristics, possibility for applying over not well cleaned of rust steel and galvanized surfaces.

Good chemical resistance, flexibility, high weather resistance, low aging, difficult combustible.

Suitable basis for applying of lacquers based on epoxy, polyester, vinylester, polyurethane and acrylic resins

Application – airless spraying, roller, brush

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 10 to 35 °C	38 %	1,10 – 1,15	200 – 250 g/m ²
Relative humidity up to 80%			

* Depends on the conditions, the method of application and the form of the details

11. Aluminium containing vinyl primer

One component air drying vinyl primer with high aluminium content.

Combines the qualities of vinyl primer and in addition has a high UV resistance, chemical resistance and good physical and mechanical properties. Fast drying.

Suitable basis for applying of lacquers based on epoxy, polyester, vinylester, polyurethane and acrylic resins

Application – airless spraying, roller, brush

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 10 to 35 °C	30 %	1,10 – 1,15	200 g/m ²
Relative humidity up to 80%			

* Depends on the conditions, the method of application and the form of the details

12. Rust conversion primer

DESCRIPTION

The primer is a two-component composition, one component is a liquid homogeneous suspension based on polyvinylbutyral resin in combination with various ingredients.

The second component is an acid component (an alcoholic solution of phosphoric acid), which is added at a time of application.

Suitable basis for applying of lacquers based on epoxy, polyester, vinylester, polyurethane and acrylic resins

USAGE

For priming of not well cleaned of rust and contaminates surfaces. Converting rust into an insoluble phosphate layer.

Not suitable for application on galvanized surfaces and non-ferrous metals.

Appropriate basis for any kind of paint finishes.

Application – airless spraying, roller, brush

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 10 to 35 °C	28 %	0,95 - 1,0	200 - 250 g/m ²
Relative humidity up to 80%			

* Depends on the conditions, the method of application and the form of the details

LACQUERS, ENAMELS, PAINTS

1. Epoxy paints

DESCRIPTION

Two-component composition on the basis of various kinds of epoxy resins with additives, fillers, pigments, hardeners (polyamines, amides, adducts, phenylkamide.).

USAGE

Used as an intermediate coating for outdoor use and finishing for indoor use of various metal and concrete structures. Suitable for use at low temperature and high humidity.

Compatible with protective system based on epoxy, polyurethane and vinyl ester materials..

Good chemical resistance and high durability.

Application – airless spraying, roller, brush

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 0 to 35 °C	70 - 75 %	1,30 - 1,50	200 - 250 g/m ²
Relative humidity up to 95%			

* Depends on the conditions, the method of application and the form of the details

2. Vinyl Lacquers

USAGE

As a coat on previously primed surface.

In protective systems in combination with other materials.

Used for protection of ferrous and non-ferrous metals including galvanized steel some plastics (PVC).

DESCRIPTION

One component air drying lacquer based on vinyl resin. (a solution of a copolymer of vinyl chloride in organic solvents) in combination with other ingredients and components (inorganic fillers including aluminium, inorganic and organic pigments, plasticizers, thixotropic and rheological additive).

Coating of Vinyl lacquer is characterized by high resistance to various climatic and weather conditions (UV, moisture, water, sea atmosphere, harsh environments, gases, emissions from evaporation of acids and alkalis, petroleum products) in the temperature range from -30 to +50 °C

Excellent compatibility with alkyd, silicone, polyester, vinylester, acrylic, polyurethane varnishes and paints .

Advantages of a vinyl lacquer:

- Hardly combustible
- High plasticity
- Low level of aging
- High speed physical drying

Application – airless spraying, roller, brush

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 5 to 35 °C	35 - 45 %	1,0 - 1,40	180 - 200 g/m ²
Relative humidity up to 80%			

* Depends on the conditions, the method of application and the form of the details

3. Epoxy MIOX coating

USAGE

Used as an intermediate layer in the protection system including primer and finishing coat.

DESCRIPTION

Lacquer based on two components. The first component is a liquid suspension composition, based on a bisphenol A epoxy resin in combination with organic and inorganic components – a special type of iron oxide filler, pigment and other additives.

The second component is a liquid hardener modified cycloaliphatic polyamine epoxy adduct, which is added at the time of use/

CHARACTERISTICS

high dry matter concentration that guarantees excellent covering capacity, density, maximum thickness in a single application, exceptional physical and mechanical properties.

Application – airless spraying, brush

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 5 to 35 °C	75 - 80 %	1,50	240 g/m ²
Relative humidity up to 80%			

* Depends on the conditions, the method of application and the form of the details

4. Heat-resistant silicone lacquers

USAGE

Used as a finishing anti corrosion coating of metal gas ducts / chimneys / and equipment operating at temperatures range from -50 up to +500 °C

DESCRIPTION

One component air-drying lacquers based on synthetic silicone, alkyl/phenyl polysiloxane resins in combination with various additives and ingredients.

Available in different colours.

Application – airless spraying, roller, brush

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 10 to 35 °C	50 - 52 %	1,0 - 1,10	100 - 150 g/m ²
Relative humidity up to 80%			

* Depends on the conditions, the method of application and the form of the details

5. Vinylester lacquer type A

USAGE

Used as intermediate and finishing protective coating of concrete / floor and wall surfaces / metal structures and equipment working in aggressive environments:

(pH from 0,1 to 14) at temperature range from -30 to +100°C

DESCRIPTION

Two-component composition based on **Bisphenol A** epoxy vinylester resins in combination with pigments, fillers, additives and hardeners - organic peroxides.

Has a high chemical resistance to diluted and some concentrated inorganic and organic acids, diluted and concentrated alkalis, petroleum products, water, salts, gases, oxides

Protective coating of vinyl ester lacquer has high physical and mechanical properties (pressure, impact, bending strength)

Application – airless spraying, roller, brush

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 10 to 35 °C	100 %	1,2 - 1,40	metal 200 - 300 g/m ² concrete 300 - 400 g/m ²
Relative humidity up to 80%			

* Depends on the conditions, the method of application and the form of the details

6. Vinylester lacquer type B

USAGE

Suitable material for internal and external protective coating of metal constructions of desulphurization plants, gas ducts, coolers, absorbers, etc.

DESCRIPTION

Two-component composition based on **Novolac** epoxy vinylester resins in combination with pigments, fillers, additives and hardeners - organic peroxides.

Protective coatings and other protection systems on its basis are characterized by a very high chemical resistance - resistance in dilute and concentrated acids and alkalis (pH 0.1 to 14), oxidizing agents, hypochloride and organic solvents in a wide temperature range – from -30 to +160°C

Application – airless spraying, roller, brush

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 10 to 35°C	100 %	1,2 - 1,40	metal 200 - 300 g/m ² concrete 300 - 400 g/m ²
Relative humidity up to 80%			

* Depends on the conditions, the method of application and the form of the details

7. Aliphatic polyurethane top coat

USAGE

Two-component lacquer used as a top coat at various protective systems (epoxy, polyester, vinylester, alkyd, etc.) designed for corrosion protection of various metal constructions (structures, tanks, pipelines, machinery and equipment, vehicles, ships etc.) located outdoors and indoors

DESCRIPTION

The coating is characterized by high physical and mechanical properties - elasticity, abrasion resistance, high UV and weather resistance in the temperature range from -50 to + 70 ° C.

Chemical resistance to sea water, slightly acidic solutions, petroleum products, and alkaline detergents, high dielectric performance.

Application – airless spraying, brush

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 10 to 35°C	55 - 75 %	1,1 - 1,80	120 - 150 g/m ²
Relative humidity up to 80%			

* Depends on the conditions, the method of application and the form of the details

8. Modified phenolic lacquer 2K

USAGE

Corrosion protective coatings and insulation of metal and concrete surfaces. Resistant to various corrosive environments - diluted and concentrated inorganic and organic acids. Alkalis, salts, oxides, organic solvents and petroleum products.

Chemical resistance:

H₂SO₄ 98% up to 60°C

HCl 37% up to 60°C

H₃PO₄ 100% up to 60°C

Application - airless, trowel.

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 10 to 30 °C	100 %	1,4	1400 g/m ² thickness 1 mm
Relative humidity up to 70%			

* Depends on the application method and the surface

9. Coatings type Glass flake

USAGE

For internal and external protective coatings of metal and concrete surfaces in energy, metallurgy, chemical and petrochemical industry.

DESCRIPTION

Protective coatings and systems from vinylester Glass flake are characterized by high chemical resistance to various aggressive environments (acids, alkalis, salts, gases, solvents, petroleum products and others). Coatings made from Vinylester Glass flake has extremely high physical and mechanical properties (adhesion, densit, gas, steam and water impenetrability, high corrosion and abrasion resistance).

Application - airless, brush, trowel.

Application conditions	Dry matter content	Density g/cm ³	Consumption rate *
Air temperature from 10 to 35 °C	94 - 98 %	1,3 - 1,4	700 g/m ² thickness 0,5 mm
Relative humidity up to 80%			

* **Depends on the application method and the surface**

COMPONENTS AND MATERIALS FOR SELF LEVELLING FLOORING

Ground coats:

- polyester ground coat
- vinyl-ester ground coat modified with rubber
- epoxide ground coat
- epoxide ground coat for moist concrete (moisture more than 4%)
- vinyl ground coat
- epoxide vinyl ground coat

Resins:

- polyester
- vinyl-ester
- vinyl
- epoxide
- polyurethane-vinyl-ester
- acrylic
- water dispersion on epoxide base

Fillers:

Quartz sand with size of the particles - 0,1-1,00 mm

Use:

Indoor and outdoor floors, galvanic workshops of battery plants, boiler-baths and oval surfaces of workshops for acids and bases of steam-power plants, nuclear power plants, chemical and fertilizer plants, petrochemical and petro-processing plants, metallurgical factories, pharmaceutical and machinery construction factories, textile storehouses, terminals, loading stations, unloading sites.