

## LAMINATES (ARMOURED INSULATIONS)

### Description

Protective system consisting of thermo reactive resins and armoring materials (fabrics, glass fabrics of "C" glass, non-woven polyester fabrics)

### Designation:

Indoor corrosive protection of metal and concrete facilities - reservoirs, cisterns, appliances, walls, floors and other facilities.

### Components of the laminate:

#### **Ground coat**

Epoxide ground coat, vinyl-ester ground coat modified with rubber, vinyl-ester ground coat bisphenol and new varnish type.

#### **Resins**

Bisphenol polyester resin, bisphenol vinyl-ester resin, new varnish vinyl-ester resin, special new varnish vinyl-ester resin, polyurethane vinyl-ester resin.

### Armouring fabrics:

Glass wadding - 150 - 600 g/m<sup>2</sup>

Glass veil - 30 - 80 g/m<sup>2</sup>

Non-woven polyester fabric 100-300 g/m<sup>2</sup>

Glass fabric (mat) - 150 - 200 g/m<sup>2</sup>

Carbon flees - 15-50 g/m<sup>2</sup>

### Characteristics of the laminate:

Thickness of the laminate - 2-8 mm (depending on the designation)

Number of layers

4-8 layers resin

2-4 layers fabric

1-2 layers veil

### Characteristics of the laminate:

Density of the laminate g/m<sup>2</sup> - 1,2-1,7

Compressive strength MPa - > 200

Bending strength MPa - > 190

Tensile strength MPa - > 120

Adhesion, MPa

Steel - > 6

Concrete - > 5

Hardness on Barcole - 35

Ration of linear thermal expansion -  $2,5 \times 10^{-5} \text{ cm}^{-1}/\text{cm}^{-1} \text{ }^{\circ}\text{C}^{-1}$

Maximum temperature of exploitation:

Bisphenol polyester laminate - 70°C

Bisphenol vinyl-ester laminate - 80°C

New varnish vinyl-ester laminate - 100°C

Elastic polyester laminate - 60°C

### Chemical resistance and use:

Water - desalted water, technical water, waste water, sea water, sour water

Rarefied and concentrated non-organic acids - salt acid, sulphuric acid, phosphoric acid, nitric acid, formaldehyde, acetic acid.

Rarefied and concentrated bases - sodium, potassium, calcium hydroxide etc.

Salts - sulfates, chlorides, nitrates, ammonia solutions

Chlorine products - hypochlorite, chlorine dioxide etc.

Petroleum products - gas, crude oil, naphtha, diesel, mazut

Organic solvents - ethyl alcohol, xylol.