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ABRASIVE, WEARING AND EROSION RESISTANT COVERS, PUTTIES, GROUND COATS, MATERIALS "GLASSFLAKE" ON THE BASE OF BASALT FLOUR, POLYESTER AND VINYL-ESTER RESIN

1. Materials of the type "Glassflake"

Description:
Materials representing compositions of resins (polyester, vinyl-ester) with additives, supplements, hardener and a special type glass flakes, which constitute during the forming of the cover a specific dense armouring of parallel orientated layers with grate and net structure, with minimum internal tension, which determines the high density, adhesion, gas and fume impenetrability, high corrosion resistance and strength indicators of the cover.

Basic indicators of the cover:

Density, g/cm^3 - 1,2 - 1,6
Hardness, not less than - 40
Ratio of linear thermal expansion - $2 \times 10^{-5} \times cm^{-1}/cm^{-1} \, °C^{-1}$
Abrasion on weight modification on Taber, % - 0,017
Water resistance on weight modification, % - 0,03 - 0,06
Diffusion ratio - 0,0160 g/m^2 x mm. Hg/24h
Theoretical consumption ration per thickness of 1 mm. - 1,2 - 1,6 kg/m^2
Thickness of cover in a single layer - 100 - 500 mcm
Advantages of the covers of "glassflake" systems
Stability to corrosion and erosion
Exploitation within a temperature range from -30 to +140°C
Ratio of alinear thermal expansion similar to the one of the metals
Way of applying - non air spraying, pallet, brush
Temperature and other conditions when applying the materials
Appropriate temperature range from +10 to +35°C
Surfaces for applying:
Metals - sand-spray processed
Concretes - with prepared surface and moisture up to 4 weigh percent
Materials of the type "glassflake" are used for internal and external covers of steel and concrete surfaces in the atomic power engineering, heat power engineering, metallurgy, chemical and petrochemical industry, cellulose and paper industry etc.
Technological lines and facilities:
- fundaments
- cisterns
- pipelines
- valves
- lining of reservoirs
- neutralization reservoirs
- capacitor boxes
- system for water procession
- ventilator hoods

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2. Putties and ground coatings on base of polyester, vinyl-ester resin and basalt flour

Description of materials:

Filled with basalt flour polyester and vinyl-ester resins in combination with additives, pigments and other supplements.
Ratio of filling 50 - 400 weight %
They combine the properties of the resins - high chemical resistance, high speed of jellying and hardness, high physical and mechanical indicators (shock, hardness, compression, abrasion, tensile, bending)

Basalt flour:

- exceptional resistance to abrasive wearing
- exceptional acid and alkaline resistance
- low ratio of linear thermal expansion
- resistance to low, middle and high temperature
- high resistance to UV rays
- resistance to ageing

Structure of the putty (ground coat)

Polyester (vinyl-ester) resin with additives, tixotropic additives, counter depositors.
Hardener - organic peroxide
Basalt flour

Ratio of mixing:

100 weight parts resin / 2 weight parts hardener / 50 - 400 weight parts basalt flour
Basic indicators of the putty (ground coat)
Density g/cm^3 - 16 - 2,4
Theoretical consumption ratio for thickness 1mm, kg/m^2 - 1,5 - 2,4
Thickness of the putty (ground coat) - 1 - 8 mm