

TEKNOPOX AQUA –EPOXY SYSTEM

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Intended to be used in nuclear power stations as a protective coating system for concrete walls. The system consists of chemically curing water-borne two-pack epoxy paints. The system comes up to the specifications of STUK-YTO-TR 210 (Research Report VTT-CR-01514-20 by the Technical Research Centre of Finland).

TEKNOPOX FILL A	Filling of cavities
TEKNOPOX AQUA PRIMER 5901 A	1 x 60 - 100 µm
TEKNOPOX AQUA FILL 5900 A	partial smoothing
TEKNOPOX AQUA PRIMER 5901 A	1 x 60 - 100 µm
TEKNOPOX AQUA 5902 A	1 x 60 - 100 µm

USAGE

For protection of concrete walls in nuclear power stations in controlled indoor areas that are exposed to radiation and decontamination.

Surface preparation

Remove from the surfaces any contaminants that might be detrimental to surface preparation and painting. Remove also water-soluble salts by using appropriate methods. The surfaces are prepared according to the different materials as follows:

New concrete surface: The concrete must be at least 4 weeks old, well-hardened and solid. The water content of the top layer must not exceed 4% by weight. Dense laitance is removed from steel-trowelled concrete by mechanical surface grinding or sweep-blasting. Brittle and powdery top layers are treated so that the solid concrete containing mineral aggregates is exposed. Thereafter all cement dust is removed by vacuum cleaner or brush.

On the surface of the concrete must not be anything which prevents the adhesion.

Old concrete surface: Uncoated, greasy surfaces are cleaned by emulsifying washing liquid and rinsed well. If necessary, the surfaces are sweep-blasted.

Brick surfaces: Remove with care lime and dust by brushing and vacuum cleaning.

Previously painted surfaces: Check that the old, overcoatable paint has got good adhesion to the surface. Remove loose or flaking paint. It is recommended that old painted surfaces are to be roughened by sanding. Finally wash and rinse the surface.

The technical data of the paints are given in the table below and in the product data sheets.

PTO

Maintenance Repair, maintenance and renewal painting is done according to separate instructions given for the nuclear power plant, observing valid local orders issued by the authorities.

Technical Data

Paint	TEKNOPOX FILL A Epoxy Stopper		TEKNOPOX AQUA PRIMER 5901 A		TEKNOPOX AQUA FILL 5900 A		TEKNOPOX AQUA 5902 A	
Data Sheet No.	2412		2414		2413		2422	
Paint Type	two-pack solvent-free stopper		two-pack water-borne epoxy paint		two-pack water-borne epoxy stopper		two-pack water-borne epoxy paint	
Colours	light grey		off-white		light grey		by agreement	
Finish	matt		matt		matt		gloss	
Thinner	clean up: TEKNOSOLV 9506		water		water		water	
Methods of application	steel trowel		airless spray, brush, roller		spatula		airless spray, brush, roller	
Airless spray nozzle	-		0.017 – 0.021"		-		0.015 – 0.018"	
Application conditions								
- min. temperature °C	+10		+10		+10		+10	
- max. relative humidity %	80		90		80		90	
Safety markings	See Safety Data Sheet		See Safety Data Sheet		See Safety Data Sheet		See Safety Data Sheet	
Volume solids %	100		50 ±2		60 ±2		52 ±2	
Total mass of solids g/l	abt. 1000		870		abt. 1200		abt. 850	
Volatile organic compound (VOC) g/l	abt. 0		40		abt. 10		abt. 40	
Recommended film thickness								
- wet µm	-		120 – 200		-		115 – 192	
- dry µm	-		60 – 100		-		60 – 100	
Theoretical spreading rate m ² /l	-		5 – 8.3		-		5.2 – 8.7	
Drying time, +23°C / 50 % RH								
- dust free (ISO 9117-3:2010)	(dry film 60 µm) after 6 h		after 8 h		after 1 h 30 min		after 8 h	
- touch dry (ISO 9117-5:2012)	after 10 h		after 12 h		after 2 h		after 12 h	
Overcoatable, 50% RH	by itself or with TEKNOPOX AQUA PRIMER 5901 A:		by itself, with TEKNOPOX AQUA 5902 A or with TEKNOPOX AQUA FILL 5900 A:		by itself, with TEKNOPOX AQUA PRIMER 5901 A or with TEKNOPOX AQUA 5902 A:		by itself:	
	min.	max.*	min.	max.*	min.	max.*	min.	max.*
+10°C	as soon as the stopper is set	after 2 d	after 2 d	after 1 month	after 2 d	after 1 month	after 2 d	after 1 month
+23°C	as soon as the stopper is set	after 24 h	after 16 h	after 1 month	after 16 h	after 1 month	after 1 d	after 1 month

*Maximum overcoating interval without roughening.