

Metal Protection Systems - Protection Against Aggressive Chemicals



Coating Of An Exhaust Duct Using A 2K-Airless-Unit

The interior of an exhaust duct has been coated with **pro chem 1931** against aggressive chemicals.



Typical Applications

- Tanks, tubes, pipes and pumps in the chemical and oil industry as well as refineries and exhaust systems.

Product Description

pro chem 1931 is a liquid, cold curing generic epoxy formulation with an excellent chemical resistance. The outstanding chemical resistance is achieved by using high performance resins and hardeners as well as additives and inert fillers. **pro chem 1931** is especially suited for protection against mixtures of different aggressive chemicals.

Properties

- pro chem 1931** is unique in its ability to protect against most inorganic acids as well as aggressive organic chemicals.
- pro chem 1931** is also resistant against aggressive solvents.

Material Selection Criteria

pro chem 1931 is a cold curing epoxy formulation. It cures completely during 7 days at room temperature and is chemically full resistant after that time.

Range Of Products

product name	product number	con-sistency	colour
pro chem 1931	#1931	liquid	grey

Shelf Life

12 month

Package Sizes (cpl.)

100g
250g
500g
1.000g

Preparation

Roughening of the adhesion area by grinding or sand blasting, cleaning with **DIAMANT Cleaner**.

Processing

Mixing

Mix resin and hardener thoroughly in the proper mix ratio.

Application

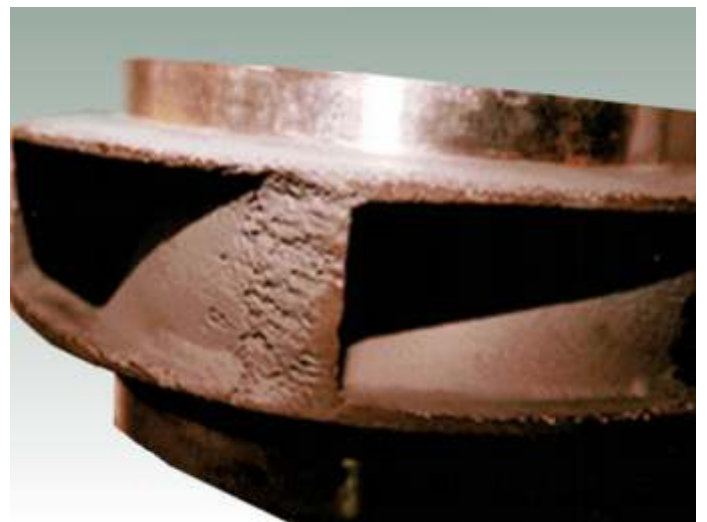
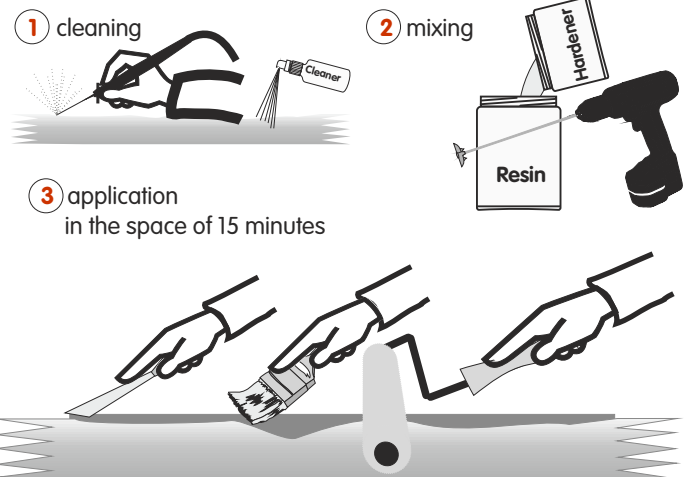
pro chem 1931 can be applied with a brush, a spatula or a roll. It can basically also be sprayed. However, the corresponding parameters have to be found out individually in the course of preliminary tests (temperature is mostly about 50°C). Minimum thickness is 0,35 mm.

An optional second layer should be applied on the still sticky surface of the first layer in order to improve the molecular bonding.

If the item is subject to strong vibrations, the thickness should not exceed 1 mm.

Curing

pro chem 1931 is fully chemical resistant after 7 days at room temperature. The curing can be accelerated by moderate heating up to a maximum temperature of 50°C for 24 h.

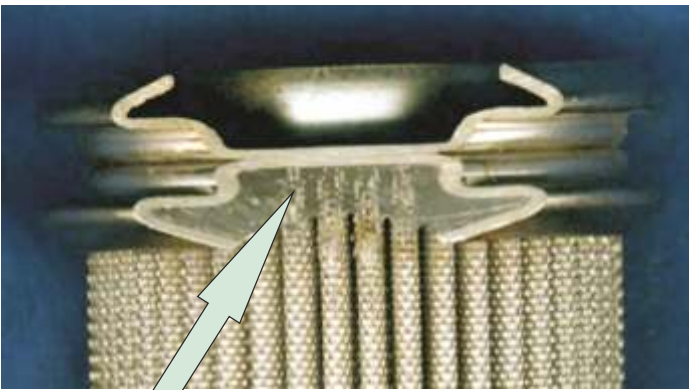


Material Data Sheet

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Technical Data	
pot life (+20°C) [min]	40
curing (+20°C) [h]	24
completely cured /chemically full resistant (+20°C) [days]	7
specific weight [g/cm ³]	1,3
E-Modulus DIN 53457 [N/mm ²]	5200
compressive strength [N/mm ²]	120
tensile strength [N/mm ²]	48
tensile shear strength [N/mm ²]	18
hardness (after 48 h) [Shore D]	> 80
temperature resistance [°C]	-20 up to + 170
specific surface resistance [Ωcm]	1,2 x 10 ¹⁴
mixing ratio resin / hardener [by volume]	2 : 1
[by weight]	2,1 : 1
amount for 1m ² (layer thickness: 0,35mm) [g]	~500
min. working temperature [°C]	+15
min. layer thickness [mm]	0,35
max. air humidity during processing [%]	75

Chemical Resistances		
Organic Chemicals		
acetone	1-2	bulking
methanol	1-2	
methylene chloride	2	bulking
phenol (diluted)	1 - 2	
Acids		
acetic acid (10%)	1 - 2	
acetic acid (50%)	3	
lactic acid	1	
phosphoric acid (85%)	1	
nitric acid (10%)	1 - 2	
nitric acid (60%)	3	
hydrochloric acid (37%)	2	
sulphuric acid (96%)	1 - 2	mat surface
Bases		
ammonium hydroxide (20%)	1	
potassium hydroxide (20%)	1	
sodium hydroxide (20%)	1	



All material values are average values and vary due to mixing ratio, material quantity and environmental conditions. The mentioned material values are based on normal conditions (STP) of 20°C (63°F) and 1013mbar (1013hPa).

