Metallisation

Thermal spray equipment and consumables

Capillary-Active Permeation



Metallisation Sprayseal Product Range
Technical Data

PRODUCT RANGE OVERVIEW

Product Description

Metallisation Sprayseal is a range of high-performance sealers for thermal spray coatings. They are easy to use and can be applied by brushing, rolling, spraying or dipping. The Sprayseal range is specially formulated to give full permeation into all porosity, voids and cracks in any thermal sprayed coating. The polymeric material is resistant to physical, thermal and chemical stress.

Product Benefits

- Easy to apply:
  - Brush
  - Roller
  - Spray
  - Dipping
- Quick drying time.
- Transparent, clear.
- Enhanced surface finish.
- Food and drinking water approved.
- High pressure resistance.

Shelf Life

Min. 12 months in the closed can, store cool and dry.

Package Size

- 100 millilitre
- 500 millilitre (Aerosol)
- 1 litre
- 5 litre

Product Range

SPRAYSEAL-F

Penetrating sealer for **fine** porosity.

Pore sizes from 0 up to 0.1 mm.

Temperature resistance up to 300°C.

Touch dry in 6 minutes.

SPRAYSEAL-C

Penetrating sealer for **coarse** porosity.

Pore sizes from 0.1 up to 0.5 mm.

Temperature resistance up to 300°C.

Touch dry in 8 minutes.

SPRAYSEAL-HT

Penetrating sealer for **high temperature service**.

Pore sizes from 0 up to 0.1 mm.

Temperature resistance up to 500°C.

Must be cured 1 hour after application at 250°C for 3 hours.

SPRAYSEAL-E

Penetrating thermal spray epoxy sealer for **excellent chemical resistance**.

Pore sizes up to 0.5 mm.
Can be applied to hot surfaces (up to 120°C)

Temperature resistance up to 200°C

SPRAYSEAL-T

Thinner for SPRAYSEAL F / C.

To adjust the viscosity.

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			SPRAY SEAL-F	SPRAY SEAL-F-SP	SPRAY SEAL-C	SPRAY SEAL-C-SP	SPRAY SEAL-HT	SPRAY SEAL-E
			Fine porosity	Fine porosity aerosol spray	Coarse porosity	Coarse porosity aerosol spray	High-temperature resistance	Epoxy for maximum corrosion and solvent resistance
Method of Application	Brush		✔	-	✔	-	✔	✔
	Roller		✔	-	✔	-	✔	✔
	Spray		✔	✔	✔	✔	✔	✔
	Dip		✔	-	✔	-	✔	✔
Gap Fill	(mm)		0 – 0.1	0 – 0.1	0.1 – 0.5	0.1 – 0.5	0 – 0.1	0 – 0.5
Temperature Resistance °C	Continuous		-40/+300	-40/+300	-40/+300	-40/+300	-40/+500	-40/+200
	Short-Term		-40/+450	-40/+450	-40/+450	-40/+450	-40/+550	-40/+220
Max Application Temperature	**(°C)**		30	30	30	30	30	120
Cure Time	Touch Dry	20° C	6 min	6 min	8 min	8 min	Requires curing one hour after application at 250° C for 3 hours	20 hours
	Machinable	20° C	90 min	90 min	2 hours	2 hours		36 hours
	Fully Cured	20° C	36 hours	36 hours	48 hours	48 hours		192 hours
	Touch Dry	40° C	3 min	3 min	4 min	4 min		12 hours
	Machinable	40° C	60 min	60 min	80 min	80 min		20 hours
	Fully Cured	40° C	24 hours	24 hours	32 hours	32 hours		120 hours
	Touch Dry	80° C	-	-	-	-		1 hour
	Machinable	80° C	-	-	-	-		90 min
	Fully Cured	80° C	-	-	-	-		60 hours
Viscosity	DIN 53211 (23°C)		13	13	17	17	12	22
Surface Layer Thickness	µm		3	3	10	10	4	20

Versatility

Spraying:
Spray 3-4 times in one minute intervals on the surface to guarantee the best possible permeation.

Brushing:
Brush 3-4 times in one minute intervals on the surface to guarantee the best possible permeation.

Dipping:
Submerge components in the Sprayseal for approximately 5 minutes. Ensure remaining Sprayseal is poured back into the container for reuse and keep tightly closed ready for next use.



SPRAYSEAL F & C

Product Description

Metallisation Sprayseal F and Sprayseal C are ready to use 1-component, air curing, permeation sealers based on a special polymeric formulation. They can be applied by brushing, spraying, rolling or dipping to permeate throughout the coating thickness.

Sprayseal F fills **fine** cavities and pores of up to 0.1 mm whilst Sprayseal C fills **coarse** cavities and pores from 0.1 mm to 0.5 mm.

Sealing throughout the coating is guaranteed by the extremely searching capillary properties of the formulation. Coating compressive strength is increased by sealing.

Application Methods

- Brush.
- Spray.
- Roller.
- Dipping.

Properties

- Capillary-active permeation of micropores, voids and cracks up to ~0.5 mm.
- Application without vacuum or pressure.
- Excellent coverage and paintability.
- Improved corrosion protection.
- Approvals for use with food and drinking water.
- Fast drying at room temperature.
- High pressure resistance

Shelf Life

12 months in sealed container; store cool and dry.

PROCESSING

PREPARATION

The spray surface must be clean and free of contamination and dust.

APPLICATION

Apply directly to the as sprayed coating before machining.

The component temperature should not exceed 30°C to guarantee complete permeation of the sealers.

SPRAY, BRUSH OR ROLLER

Apply Sprayseal F / C in up to 4 passes 1 minute intervals.

DIPPING

Place Sprayseal F / C in a clean container. Submerge components in the sealer for approximately 5 minutes. Remaining sealer can be poured back into the container for storage and reuse.

CURING

Sprayseal F / C cures at room temperature (approximately 1 hour per millimetre of coating thickness) by the evaporation of the volatile components of the sealer. Because of their quick drying properties, components are touch dry and usable in around 10 minutes.

METALLISATION guarantees product characteristics, as long as Sprayseal is stored according to the instructions detailed in this data sheet. METALLISATION is not responsible for the processing and handling of the material. If you have further questions, please contact our technical team.

Please read the information clearly before using the product



Package Size

- 500 millilitre (Aerosol)
- 1 litre
- 5 litre

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SPRAYSEAL E

Product Description

Metallisation Sprayseal E is a specially formulated 2-component permeation system with excellent chemical and solvent resistance.

Metallisation Sprayseal E can be applied to components with a surface temperature up to 120°C. Sprayseal E fills cavities and pores of up to 0.5 mm.

Movement and expansions can be accommodated due to the flexibility of Metallisation Sprayseal E. Sealing throughout the coating is guaranteed by the extremely searching capillary properties of the formulation. Coating compressive strength is increased by sealing.

Application Methods

- Brush.
- Spray.
- Roller.
- Dipping.

Properties

- Capillary-active permeation of micropores, voids and cracks up to ~0.5 mm.
- Application without vacuum or pressure.
- Dimensionally stable.
- Resistant to aggressive solvents.
- Resistant to acids and bases.
- Applicable on hot surfaces (up to 120°C).
- Long pot life.
- High pressure resistance.

Shelf Life

12 months in sealed containers; store cool and dry.

PROCESSING

PREPARATION

The spray surface must be clean and free of contamination and dust.

APPLICATION

Apply directly to the as sprayed coating before machining.

Can be applied to surfaces of up to 120°C.

SPRAY, BRUSH, ROLLER, DIPPING.

MIXING RATIO

Resin to hardener, 3:1 weight.

CURING

Sprayseal E cures chemically starting at a temperature of 5°C and a relative air humidity of 35 to 85%.

METALLISATION guarantees product characteristics, as long as Sprayseal E is stored according to the instructions detailed in this data sheet.

METALLISATION is not responsible for the processing and handling of the material. If you have further questions, please contact our technicians

Please read the information clearly before using the product



Package Size

- 100 millilitre
- 1 litre

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SPRAYSEAL HT

Product Description

Metallisation Sprayseal HT is a high temperature polymer system that can with stand continuous temperatures up to 500°C.

Sprayseal HT fills cavities and pores of up to 0.1 mm.

Sealing throughout the coating is guaranteed by the extremely searching capillary properties of the formulation. Coating compressive strength is increased by sealing.

Application Methods

- Brush.
- Spray.
- Roller.
- Dipping.

Properties

- Heat resistant up to 500°C.
- Capillary-active permeation of micropores, voids and cracks up to ~0.1 mm.
- Application without vacuum or pressure.
- Improved corrosion protection.
- High pressure resistance.

Shelf Life

5 years in sealed containers; store cool and dry.

PROCESSING

PREPARATION

The spray surface must be clean and free of contamination and dust.

APPLICATION

The component temperature should not exceed 30°C, to guarantee complete permeation of the sealers.

SPRAYING, BRUSH OR ROLLER

Apply Sprayseal HT in up to 4 passes at 1 minute intervals.

CURING

After pre-drying of 1 hour at room temperature, Sprayseal HT needs to cure 3 h at a temperature of 250°C.

METALLISATION guarantees product characteristics, as long as Sprayseal HT is stored according to the instructions detailed in this data sheet.

METALLISATION is not responsible for the processing and handling of the material. If you have further questions, please contact our technicians.

Please read the information clearly before using the product



Package Size

- 1 litre
- 5 litre

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List of Resistance

Chemicals	Conc.	Sprayseal	
	%	F & C	HT
sewage		x	x
acetone		—	o
aluminium chloride		x	x
aluminium sulphate		x	x
formic acid		o	o
ammonia water, hs	< 10	x	x
ammonia water, hs	10-20	x	x
ammonia water, hs	> 20	x	x
ammonium carbonate		x	x
ammonium chloride		x	x
ammonium nitrate		x	x
ammonium phosphate		x	x
ammonium sulphate		x	x
pentanol		x	x
apple juice		x	x
arsenic acid		x	x
asphalt emulsion		x	x
asphalt liquid		x	x
acetylene		x	x
barium carbonate		x	x
barium chloride		x	x
barium hydroxide		x	x
petrol		x	x
bencoic acid		x	x
benzene		o	o
beer		x	x
brake oil		x	x
butane		x	x
butylacetate		—	o
butter		x	x
buttermilk		x	x
butyric acid		x	x
chlorine gas		o	x
chloroform		x	x
cyclohexane		x	x
destilled water		x	x
diacetone alcohol		o	o
phthalat		o	x
diesel fuels		x	x
diethyl ether		—	o
Dimethylsufoxid DMSO		—	o
dioctylphthalat		o	x
dioctylsebacate		o	x
iron(III)chloride, hs		x	x
iron nitrate		x	x
iron(II)sulfate, hs		x	x
natural gas		x	x
acetic acid		x	x
ethane		x	x
ethanol,denaturated,hs		x	x
ethyl chloride		o	o
ethylene glycol		x	x
fish oils		x	x
chlorofluorocarbon ((Wz) Frigen 113)		o	o
hydrofluoric acid		—	o
water → + 60 °C		x	x
fruit juice		x	x
tannic acid		x	x

Chemicals	Conc.	Sprayseal	
	%	F & C	HT
transmission oil		x	x
glycol		x	x
fuel oil		x	x
hexanol		x	x
hydraulic fluid		x	x
isopropylether		—	o
potassium aluminate		x	x
potassium bromide, hs		x	x
potassium carbonate, hs		x	x
potassium chlorate		x	x
potassium chloride, hs		x	x
potassium cyanide		x	x
potassium hydroxide	< 10	x	x
potassium hydroxide	< 20	x	x
potassium hydroxide	> 20	x	x
potassium iodide, hs		x	x
potassium nitrate, hs		x	x
potassium phosphate		x	x
potassium sulfate, hs		x	x
potassium sulfite		x	x
calcium carbonate		x	x
calcium chloride		x	x
calcium hydroxide		x	x
calcium sulfite		x	x
carbolic acid (phenol)		x	x
kerosene		x	x
carbon dioxide		x	x
carbonic acid		x	x
coke gas		x	x
coconut oil		x	x
copper nitrate		x	x
copper(II)sulphate, hs		x	x
copper sulfide		x	x
Magnesium chloride, hs		x	x
magnesium disulfide		x	x
magnesiumhydroxide		x	x
magnesium sulfate, hs		x	x
corn oil		x	x
machine oil		x	x
molasse		x	x
methane		x	x
methanol		x	o
methylacetate		—	o
methylamylketone		—	o
methylbutylketone		—	o
methyl chloride		—	o
methylene chloride		—	o
methylethylketone		—	o
milk		x	x
lactic acid		x	x
mineral water		x	x
naphtha		x	x
sodium acetate, hs		x	x
sodium aluminate		x	x
sodium bromide, hs		x	x
sodium chlorate, hs		x	x
sodium chloride, hs		x	x
sodium chloride	10	x	x

Chemicals	Conc.	Sprayseal	
	%	F & C	HT
sodium hydrogen-carbonate		x	x
sodiumhydroxide, hs	< 10	x	x
sodiumhydroxide, hs	10-20	x	x
sodiumhydroxide, hs	> 20	x	x
sodium nitrate, hs		x	x
sodium phosphate, hs		x	x
sodium silicate		x	x
sodium sulphate, hs		x	x
sodium sulphide, hs		x	x
nicke(II)chloride, hs		x	x
nickel nitrate		x	x
nickel(II)sulfate, hs		x	x
octane		x	x
olive oil		x	x
ozone		—	—
perchlorethylene		o	o
kerosene		x	x
phosphoric acid	< 10	o	x
phosphoric acid		x	x
phthalic acid		x	x
propane		x	x
propanol		x	x
propylene glycol		x	x
refining oil		x	x
resorcinol		x	x
castor oil		x	x
crude oil		x	x
salad oil		x	x
salicylic acid		x	x
nitric acid	< 10	x	x
nitric acid	> 10	x	x
hydrochloric acid	< 20	—	o
hydrochloric acid	> 20	—	o
lubricating oil		x	x
cutting oil		x	x
sulphur		x	x
sulphur dioxide		x	x
sulphuric acid, conc.		x	x
sulphuric acid	< 20	x	x
sulphuric acid	> 20	x	x
sulphur trioxide		x	x
sea-water		x	x
silver nitrate		x	x
silver cyanide		x	x
silicone oil		x	x
soy oil		x	x
production gas		x	x
stearic acid		x	x
nitrogen		x	x
tar		x	x
toluene		o	o
tomato juice		x	x
hydrogen		x	x
wine		x	x
whisky		x	x
zinc chloride		x	x
zinc sulfate, hs		x	x

Abbreviations
hs = aqueous solution
conc = concentration

Symbols	
x = resistant	— = unstable
o = limited resistant	

The measurements were conducted at a temperature of 25°C

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