

Technical Data Sheet

VP 10-017

VP 10-017 is a viscoplastic polymer-ceramic with high impact and cavitation resistance

(Data Sheet Version 11.0 dd. 01.04.2009)



MultiMetal
the MetalExistenceCompany™

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Technical Data Sheet

VP 10-017

Product description

VP 10-017 is a viscoplastic polymer-ceramic with high impact and cavitation resistance. Due to its low viscosity, VP 10-017 can be processed either with brush or roll coating. This extremely smooth surface protection provides very high resistance against chemicals and has a high mechanical-physical load capacity. Also at plants stressed by wear and corrosion VP 10-017 finds its place of application. Furthermore it can be used at high atmospheric humidity.

VP 10-017 is a two-component-product. There are available two hardeners which are only different in their colour. These colours determine the end-colour of the polymer-ceramic.

Technical data

Application consistency:	liquid
Colour after curing:	red in case of use of Hardener VP 10-017 red grey in case of use of Hardener VP 10-017 grey
Viscosity at 20 °C	2200 mPas
Tensile strength:	14 MPa (1890 psi)
Impact strength:	110 kJ/m ²
Breaking elongation:	40 %
Shore D hardness (DIN 53505):	72
Specific passage resistance:	1 x 10 ¹⁵ Ωcm
Passage resistance:	1,8 x 10 ¹¹ Ω
Linear expansion coefficient at 25-45 °C:	60 x 10 ⁻⁶ K
Temperature resistance:	-150 °C to +100 °C
Corrosion:	none
Electrochemical corrosion (DIN 50900):	none
Density (mixed components):	1,4 g/cm ³

Chemical resistance

Already after curing a very good resistance is existent; highest resistance is effected after curing for approx. 6 days at approx. 21°C (alternatively for approx. 4 h at approx. 21°C followed by approx. 15 h at 35 - 40°C). The resistance to chemical stress like acids, caustic solutions, solvents, salts, gases, etc. depends on the concentration, temperature and duration of the exposure. Further details can be given on request.

Surface preparation

- Immoderate quantities of salt accumulations in pitting may require wet blasting followed by dry blasting. Alternatively, dry blasting followed by high pressure fresh water cleaning, drying and finally, dry blasting again is possible.
- Mechanically rough up the surface by blasting (it is recommended for blasting to use angular grit material; surface finish approx. 75 µm; purity level approx. Sa 2½ according to Swedish standard SIS 055900 / ISO 8501-1), cutting, grinding...

- Clean by sweeping, blowing off or exhausting
- Thoroughly degrease with MM-Degreaser Z or MM-Degreaser C or at least a good grease dissolver (ethyl acetate, acetone,...); don't use alcohol, benzine or paint thinner

Processing data

Mixing ratio by:	Weight	Volume
VP 10-017	2	2
Hardener VP 10-017	1	1
Tool		Measuring cup

Temperature	Pot life	Curing
5 °C	120 min	8 days
10 °C	60 min	3 days
15 °C	50 min	2 days
20 °C	40 min	24 h
30 °C	15 min	18 h

The processing shouldn't be carried out below + 5 °C.

Application instruction

Before mixing the components the work piece should be prepared in accordance with the surface preparation. VP 10-017 and Hardener VP 10-017 should be stirred very well before taking them out of the tins. Always use clean tools for the removal of the components to avoid a reaction within the tins. We recommend mixing only the quantity of material which can be processed within the pot life.

The available measuring cups can be used to measure the required volume parts of the components. The measuring cup with the big filling amount is for the use of VP 10-017, the cup with the small filling amount is for Hardener VP 10-017. Measuring cups must be filled to marking.

Under consideration of the mixing ratio the components must be mixed very thoroughly.

VP 10-017 can be applied either with a brush or a roller. In one go a layer with a thickness of 0,3 mm can be applied - even at vertical surfaces or in over head situations.

All used tools should be cleaned straight after use.

Multiple coating

At work piece temperature	apply successive layer after
approx. 15 - 17 °C	approx. 5 h 30 min
approx. 20 - 22 °C	approx. 120 min
approx. 28 - 30 °C	approx. 120 min

At a work piece temperature of 29 °C for example a successive layer should be applied approx. 120 min after mixing the material for the previous layer.

If the previous coating is already partly cured, it is obligatory to do a surface preparation again by roughening (preferably by careful light blasting) the previous coating before applying the next coating.

Working security

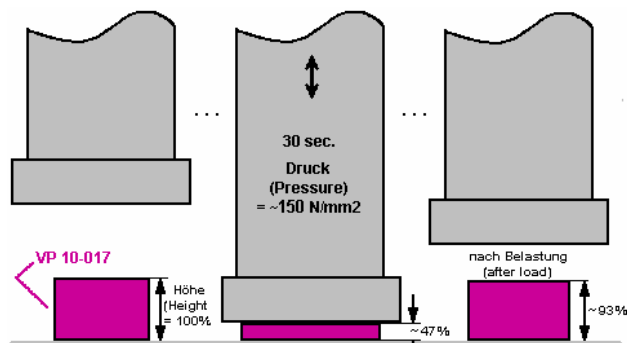
Avoid eye and skin contact. In case of skin contact, wash thoroughly with soap and water. In case of eye contact, rinse thoroughly with water.

Storage

Both components (VP 10-017 + Hardener VP 10-017) can be stored for at least 5 years, if kept at temperatures below 25 °C. The materials do not lose their high quality performance after repeated openings of the containers.

Test compressive set

Several test pieces of cured VP 10-017 with Hardener VP 10-017 have been pressed for 30 sec. at a pressure of approx. 150 MPa. The test pieces were compressed up to approx. 47% of their original height. After cessation of the pressure they regained approx. 93% of their original height.



This is an evidence for the extraordinary positive compressive set of the VP 10-017. In addition to that the samples of the VP 10-017 did not show any cracks even at that high impact and pressure load.

serve information purposes only. We recommend that appropriate tests are carried out prior to application in order to ensure that the products and methods fulfil the purpose desired by the user. In this procedure, the given data may serve as a basis. Application and processing of the products lie outside our possible control and are therefore the sole responsibility of the user.

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Order information

No.	Product	Unit
705	VP 10-017, liquid	800 g
706	Hardener VP 10-017 red, liquid	400 g
707	Hardener VP 10-017 grey, liquid	400 g

Economicalness	Used quantity	Area	Volume
VP 10-017	800 g	1200 g 0,857 m ²	857 cm ³
Hard. VP 10-017	400 g		
VP 10-017	666 g	1000 g 0,714 m ²	714 cm ³
Hard. VP 10-017	334 g		
VP 10-017	933 g	1400 g 1 m ²	1000 cm ³
Hard. VP 10-017	467 g		

The areas were achieved at a layer thickness of 1 mm.

No.	Accessories	Unit
10	MM-Degreaser Z, liquid	1000 ml
11	MM-Degreaser Z, liquid	250 ml
24	MM-Degreaser C, liquid	250 ml

Availability

Technical data sheets are generally available in German or English language. VP 10-017 is only produced in Germany and delivered worldwide within short time by MultiMetal. In addition to that our products are internationally available from many MultiMetal-partners. Ask for further products from MultiMetal.

Note

The product information and instructions provided in this leaflet were prepared to the best of our knowledge and