

Technical Data Sheet

Ceranium® CH

PolymerCeramic with a high chemical resistance
and wear resistance



MultiMetal
the MetalExistenceCompany®

Technical Data Sheet

Ceramium® CH

Product description



Ceramium CH is a wear resistant Polymer-Ceramic with excellent resistance against chemicals.

Applications Ceramium CH / Hardener CH1:
Inorganic acids (mineral acids) – also in concentrated form
– bases and oxidising salt solutions.

Applications Ceramium CH / Hardener CH2:
Halogenated and aromatic hydrocarbons, ester, ketone, alcohols as well as organic acids (carboxylic acid) – even in high concentrations.

More information about the chemical resistance of Ceramium CH and further products from MultiMetall can be found in our separate obtainable chemical resistance list.

Technical data

Application consistency:	(soft) pasty or brushable
Colour after curing:	grey-green
Compressive strength (DIN ISO 604):	180 MPa (26100 psi)
Brinell hardness (DIN 50351):	30
Temperature resistance:	-150 °C to +270 °C
Corrosion:	none
Electrochemical corrosion (DIN 50900):	none
<u>Machinability:</u>	with SiC-grinding plates or Diamond tools by dry cut
Cutting speed:	$v_c = 60 - 125 \text{ m/min}$
Cutting depth:	$a_p = 0,5 - 1 \text{ mm}$
Feed:	$f = 0,1 - 0,2 \text{ mm/r}$
Roughness grade after use of diamond-equipped tools:	3,4 μm
Density (mixed components):	
Ceramium CH + Hard. CH1, pst.:	1,94 g/cm ³
Ceramium CH + Hard. CH1, liq.:	1,96 g/cm ³
Ceramium CH + Hard. CH2, pst.:	1,93 g/cm ³
Ceramium CH + Hard. CH2, liq.:	1,95 g/cm ³

Surface preparation

- 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 at least with a good grease dissolver (ethyl acetate, acetone,...); don't use alcohol, benzene or paint thinner

- Apply a thin layer of MM-Release agent on the surfaces, that should not bond with the material and polish after a short drying period

Processing data for use with Hardener CH1

Mixing ratio by:	Weight	
Ceramium CH	100	
Hardener CH1, <u>pasty</u>	7,5	
Application consistency	(soft) pasty	
Ceramium CH	100	
Hardener CH1, <u>liquid</u>	6,5	
Application consistency	brushable	
Temperature	Pot life	Curing
20 °C	30 min	24 h
30 - 35 °C	approx. 30 min	24 h

Processing data for use with Hardener CH2

Mixing ratio by:	Weight	
Ceramium CH	100	
Hardener CH2, <u>pasty</u>	8	
Application consistency	(soft) pasty	
Ceramium CH	100	
Hardener CH2, <u>liquid</u>	7	
Application consistency	brushable	
Temperature	Pot life	Curing
20 °C	30 min	24 h
30 - 35 °C	approx. 20 min	24 h

Independent from the Hardener component mechanical load is possible after above mentioned curing. Full chemical load should not take place until further curing has been carried out in addition to the usual 24 h curing time. The chemical resistance will increase after longer curing times and higher curing temperatures:

Curing (Time / Temperature)	Further Curing (Time / Temperature)	Chemical Resistance
24 h / RT	+ 8 days / RT	+
24 h / RT	+ 20 h / 30 – 40 °C	++
24 h / RT	+ 2 h / 65 °C	++
24 h / RT	+ 3 h / 130 °C	+++

From curing below room temperature (= RT ~ 18 - 20 °C) should be refrained.

Application instruction

Before mixing the components the work piece should be prepared in accordance with the surface preparation. 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.

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

The mixture can be applied with a spatula, brush or any other suitable tool.

When using a spatula, a brush et cetera, first thoroughly apply a thin layer of the material with pressure onto the work piece to avoid air bubbles in the interface between

metal and the material ensuring a good surface contact. Immediately afterwards apply the required layer thickness.

All used tools should be cleaned straight after use.

Multiple coating

Application of a successive layer on
Ceranium CH / Hardener CH1

A surface preparation is imperatively necessary after partly curing of the previous coating (preferably by careful light blasting followed by cleaning).

Application of a successive layer on
Ceranium CH / Hardener CH2

The layer, onto which will be applied, must still be soft, but already sufficiently firm (stable), so that during the application the shape of the lower layer is preserved.

Work piece temperature	Waiting time f. successive layer
approx. 15 - 17 °C	approx. 3 h 30 min
approx. 20 - 22 °C	approx. 90 min
approx. 28 - 30 °C	approx. 80 min

The waiting time for the successive layer is calculated from the point when the mixing of the material for the previous coating started.

If the previous coating is already partly cured, a new surface preparation is necessary (preferably by careful light blasting followed by cleaning).

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

Product	Temperature commendation	Shelf life
Ceranium CH	~ 22 °C	min. 5 years
Hardener CH1	~ 22 °C	min. 5 years
Hardener CH2	~ 22 °C	min. 5 years

If the containers (especially Hardener CH1) are tightly closed again immediately after usage, even after repeated openings of the containers the high quality performance is preserved.

Order information

No.	Product	Unit
622	Ceranium CH, pasty	1000 g
623	Hardener CH1, pasty	75 g
624	Hardener CH1, liquid	65 g
625	Hardener CH2, pasty	80 g
626	Hardener CH2, liquid	70 g

Economicalness	Used quantity	Area	Volume
Ceranium CH	1000 g	1075 g	0,554 m ² 554 cm ³
Hardener CH1, pst.	75 g		
Ceranium CH	930 g	1000 g	0,515 m ² 515 cm ³
Hardener CH1, pst.	70 g		
Ceranium CH	1807 g	1942 g	1 m ² 1000 cm ³
Hardener CH1, pst.	135 g		

Economicalness	Used quantity	Area	Volume
Ceranium CH	1000 g	1065 g	0,544 m ² 544 cm ³
Hardener CH1, liq.	65 g		
Ceranium CH	939 g	1000 g	0,511 m ² 511 cm ³
Hardener CH1, liq.	61 g		
Ceranium CH	1838 g	1958 g	1 m ² 1000 cm ³
Hardener CH1, liq.	120 g		

Economicalness	Used quantity	Area	Volume
Ceranium CH	1000 g	1080 g	0,558 m ² 558 cm ³
Hardener CH2, pst.	80 g		
Ceranium CH	926 g	1000 g	0,517 m ² 517 cm ³
Hardener CH2, pst.	74 g		
Ceranium CH	1791 g	1934 g	1 m ² 1000 cm ³
Hardener CH2, pst.	143 g		

Economicalness	Used quantity	Area	Volume
Ceranium CH	1000 g	1070 g	0,549 m ² 549 cm ³
Hardener CH2, liq.	70 g		
Ceranium CH	935 g	1000 g	0,513 m ² 513 cm ³
Hardener CH2, liq.	65 g		
Ceranium CH	1822 g	1950 g	1 m ² 1000 cm ³
Hardener CH2, liq.	128 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
14	MM-Release agent, liquid	100 ml
33	Mixing plate (synthetic material)	20 x 12 cm
16	Mixing stick (stainless steel)	pc
15	Mixing cup (synthetic material)	pc

Availability

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

Note

The product information and instructions provided in this leaflet were prepared to the best of our knowledge and 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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Data Sheet Version 12.1 dd. 23.10.2013

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