

CAMPUS® Datasheet

Ultramid® A3X2G5 - PA66-GF25 FR(52)
BASF



Product Texts

Glass fibre reinforced injection moulding grade with improved flame retardance based on red phosphorus, giving outstanding mechanical and electrical properties for components requiring high stiffness.

The products can also be offered as BMBcert™ and/or Ccycled™. Due to the Massbalance approach the product properties do not change

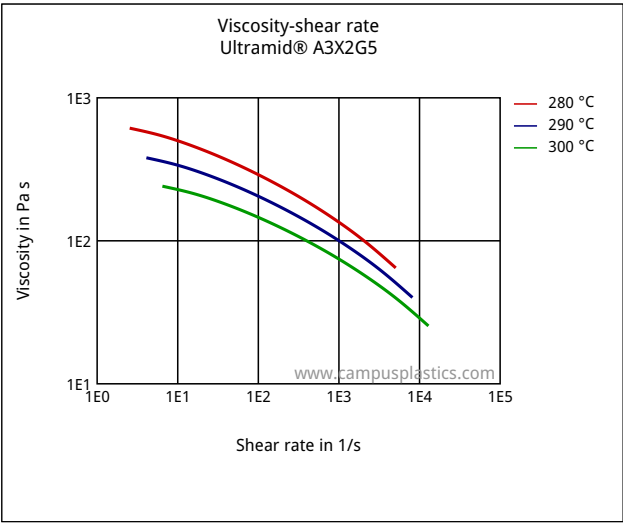
Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	30 / *	cm³/10min	ISO 1133
Temperature	275 / *	°C	ISO 1133
Load	5 / *	kg	ISO 1133
Molding shrinkage, parallel	0.5 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	1.1 / *	%	ISO 294-4, 2577
Mechanical properties	dry / cond	Unit	Test Standard
Tensile modulus	8000 / 6000	MPa	ISO 527-1/-2
Stress at break	140 / 100	MPa	ISO 527-1/-2
Strain at break	3.5 / 7	%	ISO 527-1/-2
Tensile creep modulus, 1000h	* / 3500	MPa	ISO 899-1
Charpy impact strength, +23°C	65 / 70	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	60 / 65	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C	13 / 17	kJ/m²	ISO 179/1eA
Thermal properties	dry / cond	Unit	Test Standard
Melting temperature, 10°C/min	260 / *	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.80 MPa	240 / *	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	250 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	30 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	102 / *	E-6/K	ISO 11359-1/-2
Burning behavior at 1.5 mm nominal thickness	V-0 / *	class	IEC 60695-11-10
Thickness tested (1.5)	1.6 / *	mm	IEC 60695-11-10
Yellow Card available	Yes / *	-	-
Burning behavior at thickness h	V-0 / *	class	IEC 60695-11-10
Thickness tested (h)	0.8 / *	mm	IEC 60695-11-10
Yellow Card available	Yes / *	-	-
Burning behavior 5V at thickness h	5VA / *	class	IEC 60695-11-20
Thickness tested	3.0 / *	mm	IEC 60695-11-20
Yellow Card available	Yes / *	-	-
Burning rate, thickness 1 mm	0	mm/min	ISO 3795 (FMVSS 302)
Oxygen index	27 / *	%	ISO 4589-1/-2
Electrical properties	dry / cond	Unit	Test Standard
Relative permittivity, 1MHz	3.7 / 5	-	IEC 62631-2-1
Dissipation factor, 1MHz	200 / 1000	E-4	IEC 62631-2-1
Volume resistivity	1E13 / 1E10	Ohm*m	IEC 62631-3-1
Surface resistivity	* / 1E13	Ohm	IEC 62631-3-2
Electric strength	33 / 30	kV/mm	IEC 60243-1
Comparative tracking index	- / 550	-	IEC 60112
Other properties	dry / cond	Unit	Test Standard
Water absorption	6 / *	%	Sim. to ISO 62

Ultramid® A3X2G5 - PA66-GF25 FR(52)
BASF

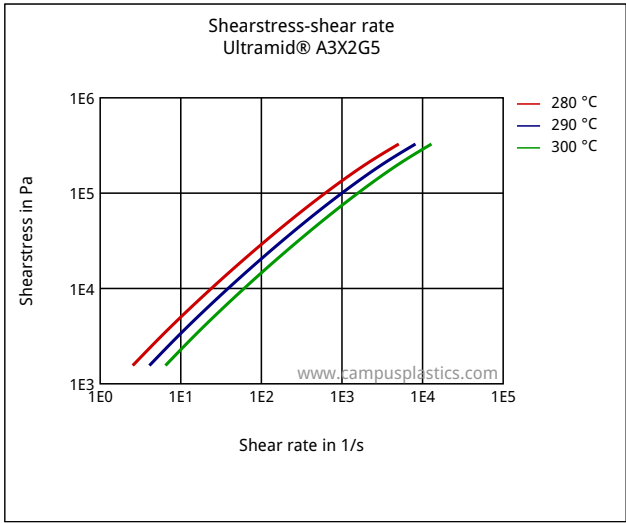
Humidity absorption	1.55 / *	%	Sim. to ISO 62
Density	1370 / -	kg/m³	ISO 1183
Material specific properties	dry / cond	Unit	Test Standard
Viscosity number	140 / *	cm³/g	ISO 307, 1157, 1628
Rheological calculation properties	Value	Unit	Test Standard
Ejection temperature	195	°C	-
Test specimen production	Value	Unit	Test Standard
Injection molding, melt temperature	290	°C	ISO 294
Injection molding, mold temperature	80	°C	ISO 294
Injection molding, injection velocity	200	mm/s	ISO 294

Diagrams

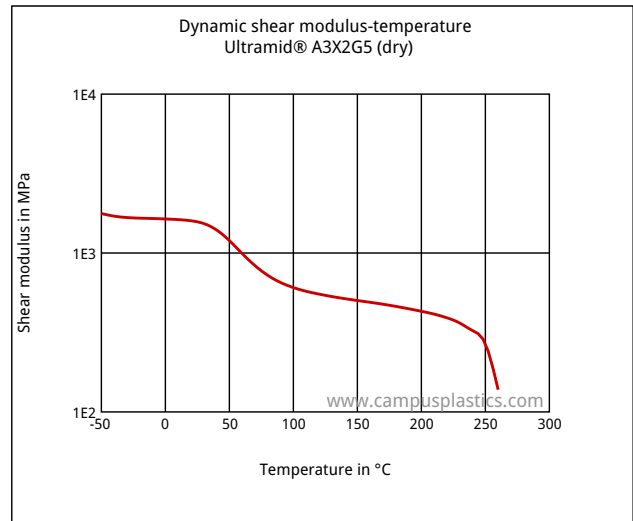
Viscosity-shear rate



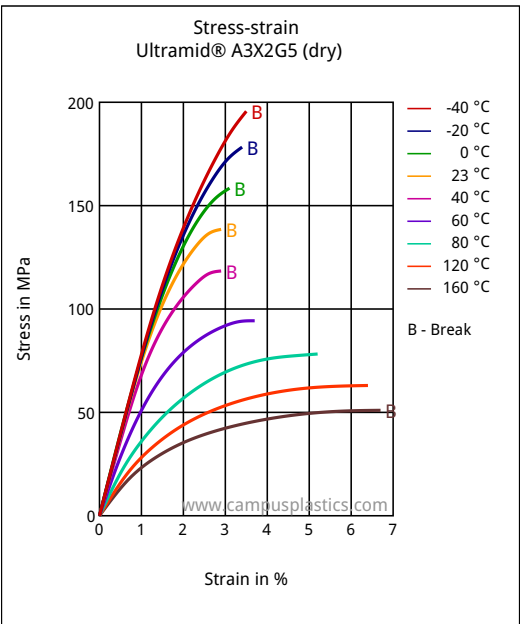
Shearstress-shear rate



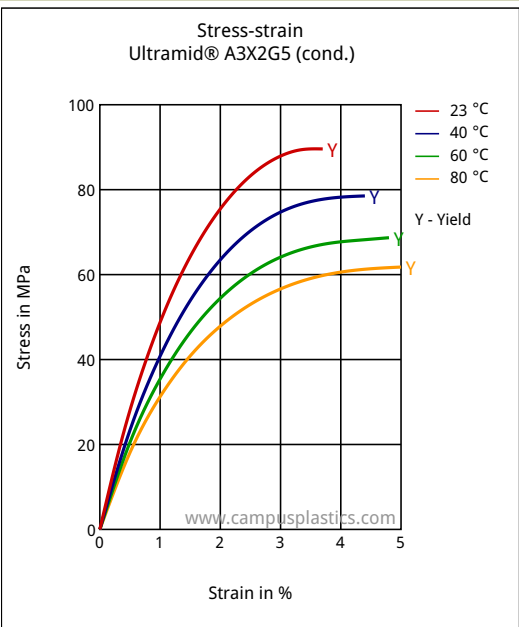
Dynamic shear modulus-temperature



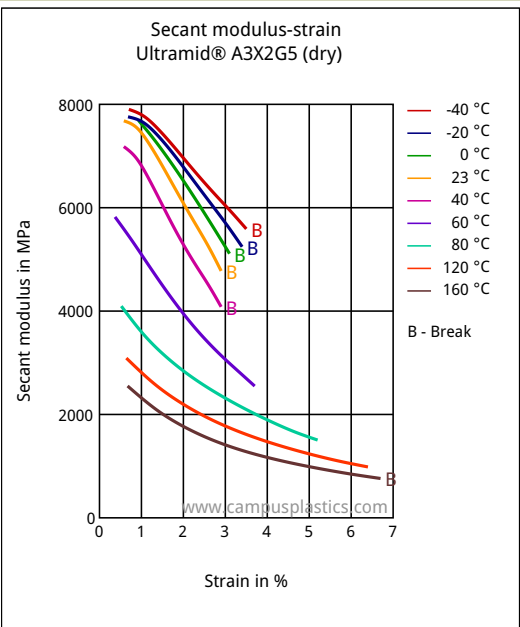
Stress-strain



Stress-strain

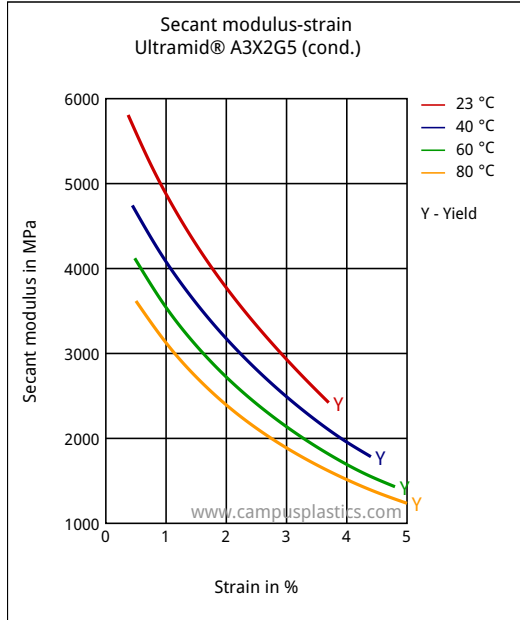


Secant modulus-strain

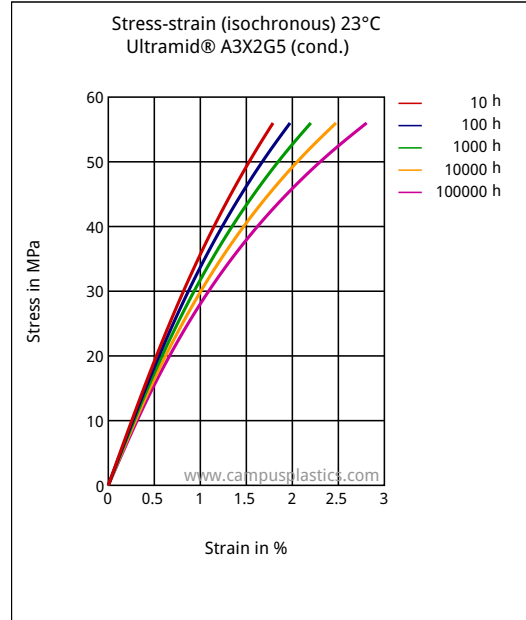


Ultramid® A3X2G5 - PA66-GF25 FR(52)
BASF

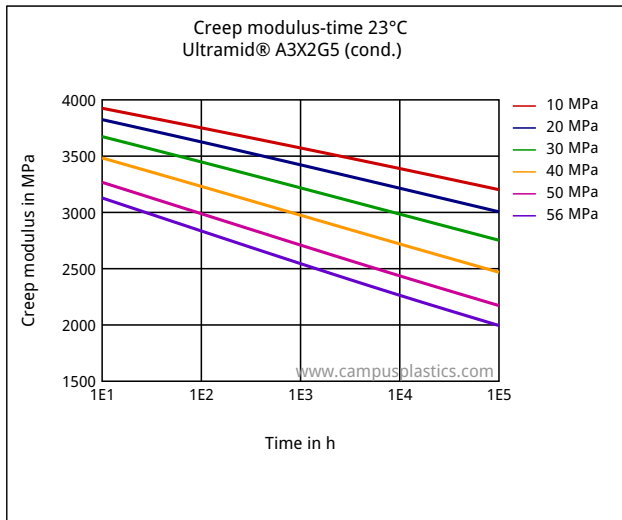
Secant modulus-strain



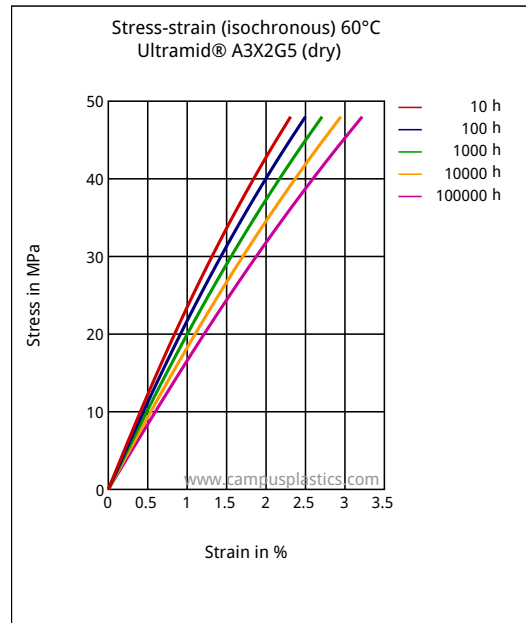
Stress-strain (isochronous) 23°C



Creep modulus-time 23°C

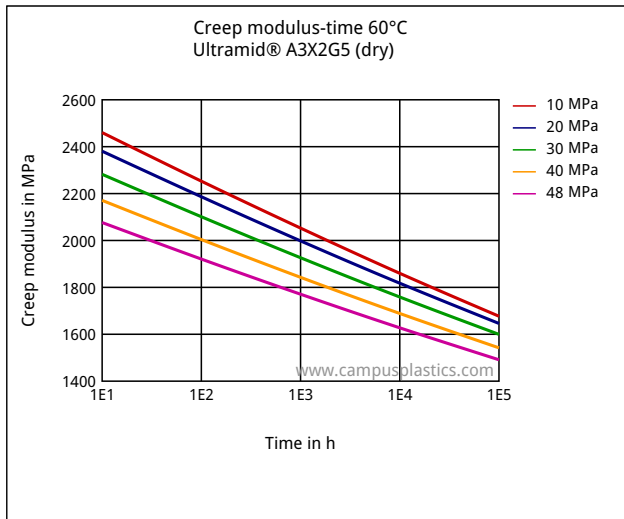


Stress-strain (isochronous) 60°C

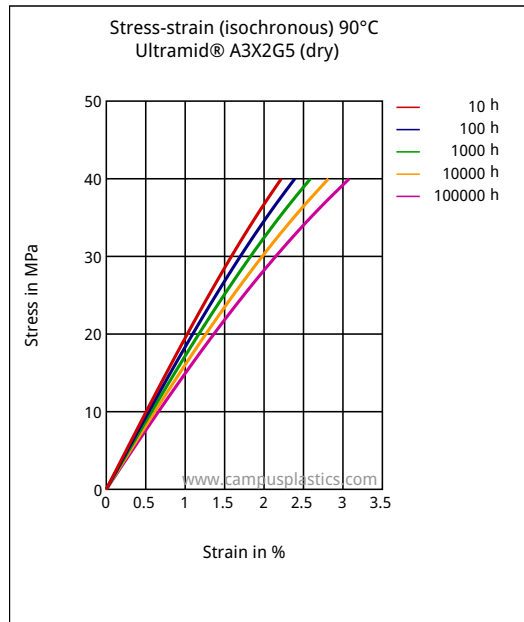


Ultramid® A3X2G5 - PA66-GF25 FR(52)
BASF

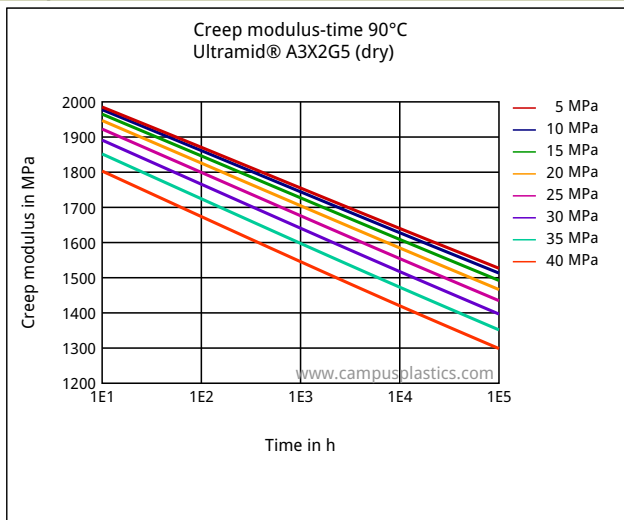
Creep modulus-time 60°C



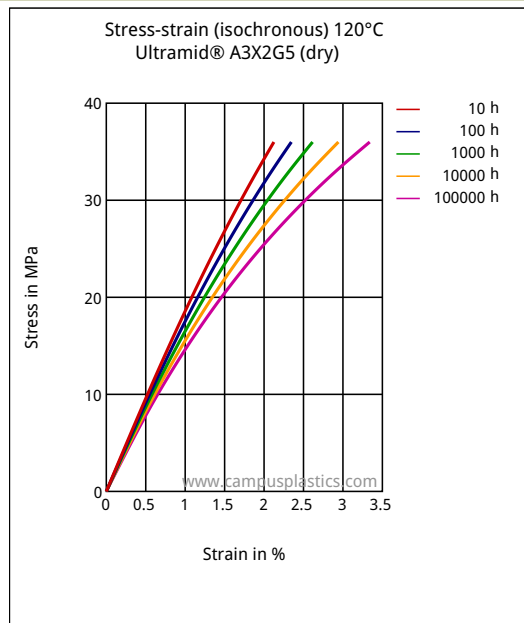
Stress-strain (isochronous) 90°C



Creep modulus-time 90°C

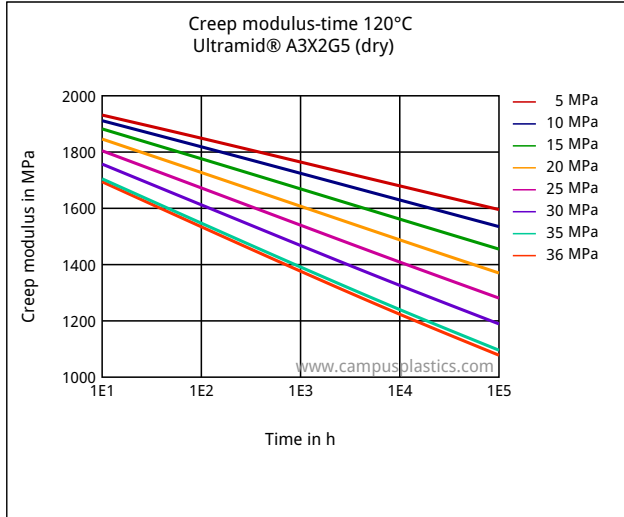


Stress-strain (isochronous) 120°C

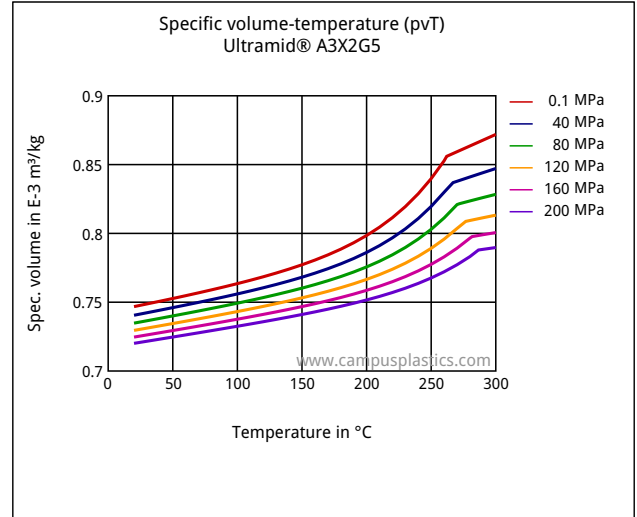


Ultramid® A3X2G5 - PA66-GF25 FR(52) **BASF**

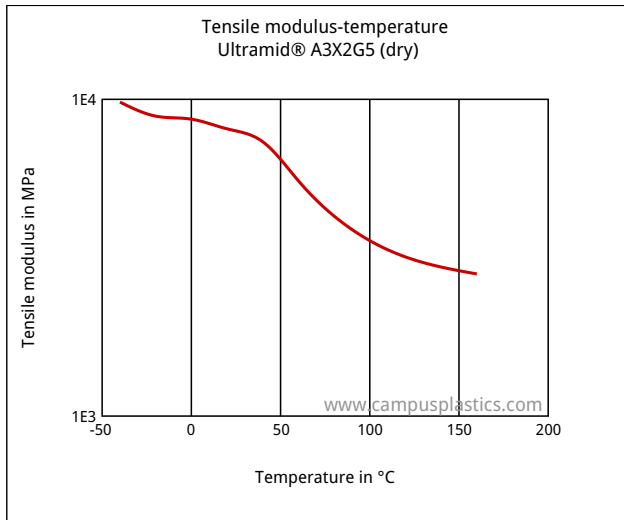
Creep modulus-time 120°C



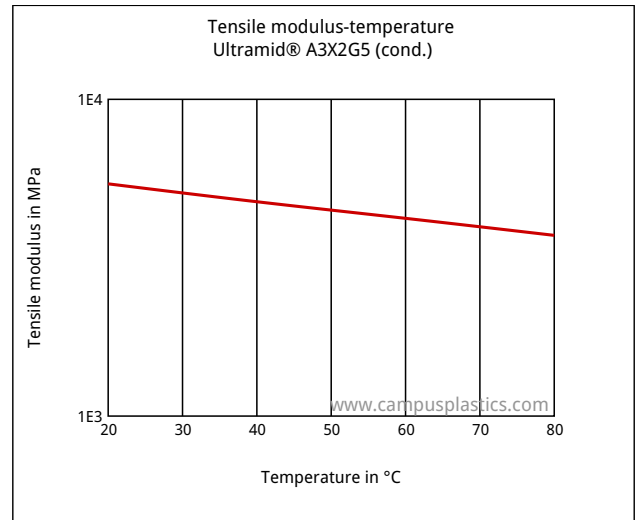
Specific volume-temperature (pvT)



Tensile modulus-temperature



Tensile modulus-temperature



Characteristics

Processing

Injection Molding

Delivery form

Pellets

Additives

Release agent

Other text information

Injection molding

PREPROCESSING

Pre/Post-processing, max. allowed water content: .15 %

Pre/Post-processing, Pre-drying, Temperature: 80 - 100 °C

Pre/Post-processing, Pre-drying, Time: 4 h

Special Characteristics

Heat stabilized or stable to heat

Regional Availability

North America, Europe, Asia Pacific, South and Central America, Near East/Africa

Ultramid® A3X2G5 - PA66-GF25 FR(52)

BASF

PROCESSING

injection molding, Melt temperature, range: 280 - 300 °C
injection molding, Melt temperature, recommended: 290 °C
injection molding, Mold temperature, range: 60 - 90 °C
injection molding, Mold temperature, recommended: 80 °C
injection molding, Dwell time, thermoplastics: 10 min

Chemical Media Resistance

Acids



Acetic Acid (5% by mass) (23°C)

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS.

In order to check the availability of products please contact us or our sales agency.

For more information about our products contact your local BASF representative or

BASF SE
Dept. PM/K
Fax: 0621-60-49497
e-mail: [e-mail](#)

CAMPUS® is a registered trademark of CWFG (Chemie Wirtschaftsfoerderungsgesellschaft GmbH, Frankfurt)