

TECHNICAL DATA SHEET

TECHNYL C 216 RD 3221 BL

DOMAMID 6 RD33221BL

TECHNYL C 216 RD 3221 BL is an unfilled polyamide 6, for injection moulding.

General

Polymer type	PA6
Certifications	RoHS EC 1907/2006 (REACH) UL listed product
Feature	UL 94 V2
Colors available	black grey red natural blue
Forms	pellets
Processing technology	injection moulding

Product identification

ISO 1043 abbreviation	PA6
ISO 16396 designation	PA6,M,S14-030

Condition	Standard	Unit	Value
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Physical properties

Condition	Standard	Unit	Value
Density	ISO 1183	g/cm ³	1.14
Humidity absorption	T=23°C, 50% RH (equivalent ISO 1110)	%	3.3
Water absorption	24 hr, 23°C, immersion in water, thickness 2mm	%	1.9
Water absorption, saturation		%	9.1
Molding shrinkage, parallel	ISO 294-4, 2577	%	0.8 - 1.0
Molding shrinkage, normal	ISO 294-4, 2577	%	0.9 - 1.1
Melt volume-flow rate, MVR, 5.0 kg	275°C, 5kg	cm ³ /10 min	165.0
Viscosity number	96% H2SO4	cm ³ /g	145.0

Condition	Standard	Unit	Value
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Mechanical properties

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Condition	Standard	Unit	Value	
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	3200 / 1000
Strain at break		ISO 527-1/-2	%	20 / 50
Yield stress		ISO 527-1/-2	MPa	80 / 40
Yield strain		ISO 527-1/-2	%	4 / 20
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	2800 / 900
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	105 / 35
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m ²	NB
Charpy impact strength, -30°C	-30°C	ISO 179/1eU	kJ/m ²	150 / NB
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m ²	4.5 / 20
Izod impact strength, +23°C	+23°C	ISO 180/1U	kJ/m ²	NB
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m ²	4.5 / 19
Rockwell hardness		ISO 2039/2	ScaleR	120 / -

*: **conditioned according to ISO 1110**

Condition	Standard	Unit	Value
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Thermal properties

Melting temperature, 10°C/min		ISO 11357-1	°C	221
Temp. of deflection under load, 0.45 MPa	0.45 MPa	ISO 75	°C	175
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	65
Vicat softening temperature	50°C/h - 50N	ISO 306	°C	200

Condition	Standard	Unit	Value
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Burning behaviour

UL Yellow Card availability 1	Click here to have access to the UL Yellow Card availability 1 -> YC E44716			
Flammability, 0.75 mm	0.75 mm	UL 94		V2
Glow-wire flammability index, GWFI, 1.5 mm	1.5 mm	IEC 60695-2-12	°C	750
Glow-wire flammability index, GWFI, 3.0 mm			°C	850
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		< 100mm/min

Condition	Standard	Unit	Value
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Electrical properties

Volume resistivity		IEC 62631-3-1	ohm.m	1.0E16
Surface resistivity		IEC 62631-3-1	ohm	1.0E14
Comparative tracking index	Solution A	IEC 60112	V	600.0
CTI performance level category		Sol A		PLC 0

Processing conditions

Drying temperature/time	75-85°C / 2-4h (with dew point of dried air < -30 °C)			
Recommended melt temperature	230 - 250 °C			
Recommended mould temperature	60 - 90 °C			

Injection notes

DOMO Engineering Plastics

Injection notes

The material is supplied in airtight bags, ready for use. In case that the virgin material has absorbed moisture, it must be dried with a dehumidified air drying equipment, dew point minimum -20°C. Recommended time 2-4h.

Injection advice

For unfilled polyamides, Domo recommends the use of high alloy steel with a low chromium content. For example: X38CrMoV5-1 (EN Norm) - 1.2367 / 1.2343 (DIN Norm). In the case of high requirements on surface quality a mould temperature of up to 120°C can be considered. The processing parameters like processing temperatures are a recommendation and can be adjusted in function of injection machine size, part geometry / design.