

TECHNICAL DATA SHEET

TECHNYL A 216 NC

TECHNYL A 216 NC is an unreinforced polyamide 66, standard viscosity, for injection moulding. This grade offers all of the primary properties of unreinforced polyamide 66: thermal and mechanical properties, chemical resistance, impact and abrasion resistance.

General

Polymer type	PA66 (Polyamide 66)	
Processing technology	Injection molding	
Certification	RoHS EC 1907/2006 (REACH)	UL-Yellow Card
Applications	Connectors Industrial Applications	Consumer good application
Colors available	Black Grey	Natural Red
Forms	Pellets	

Product identification

ISO 1043 abbreviation	PA66
ISO 16396 designation	PA66,00,M1,S14-030

	Condition	Standard	Unit	Value
Physical properties				
Density		ISO 1183	g/cm ³	1.14
Humidity absorption	T=23°C, 50% RH	ISO 62	%	3.1 - 3.2
Water absorption	24 hr, 23°C	ISO 62	%	1.3
Water absorption, saturation			%	8.3
Molding shrinkage, parallel		ISO 294-4, 2577	%	1.6 - 1.7
Molding shrinkage, normal		ISO 294-4, 2577	%	1.6 - 1.7

	Condition	Standard	Unit	Value
Mechanical properties				dam / cond.*
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	3200 / 1300
Stress at break		ISO 527-1/-2	MPa	80 / 45
Strain at break		ISO 527-1/-2	%	30 / 150
Yield stress		ISO 527-1/-2	MPa	80 / 55
Yield strain		ISO 527-1/-2	%	6 / 25
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	3300 / 1300
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	120 / 70
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m ²	4.5 / 10
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m ²	5 / 11


Thermal properties

Melting temperature, 10°C/min		ISO 11357-1	°C	263
Temp. of deflection under load, 0.45 MPa	0.45 MPa	ISO 75	°C	200
Temp. of deflection under load, 1.80 MPa	1.80 MPa	ISO 75	°C	75

Electrical properties

Volume resistivity		IEC 62631-3-1	ohm.m	1E+013
Surface resistivity		IEC 62631-3-1	ohm	1E+015
Comparative tracking index	Solution A	IEC 60112	V	600
Dielectric strength	1 mm	IEC 60243-1	kV/mm	22

Burning behaviour

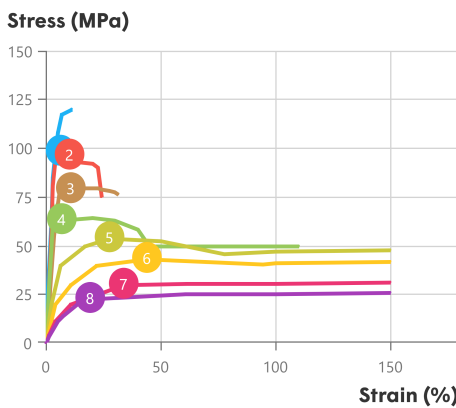
UL Yellow Card availability 	Click here to have access to the UL Yellow Card → QMFZ2.E44716			
Flammability, 1.5 mm	1.5 mm	UL 94		V2
Flammability, 3.0 mm	3.0 mm	UL 94		V2
Glow-wire flammability index, GWFI, 0.75 mm	0.75 mm	IEC 60695-2-12	°C	650
Glow-wire ignition temperature, GWIT, 1.5 mm	1.5 mm	IEC 60695-2-13	°C	650
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		<100

*: conditioned according to ISO 1110

Processing conditions

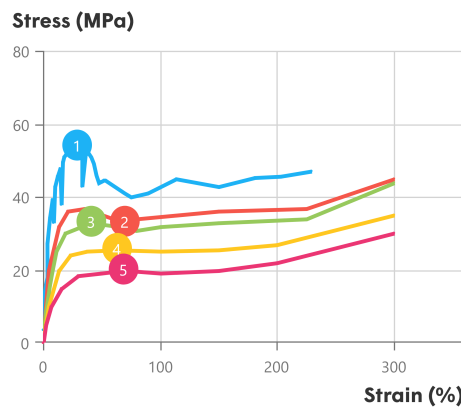
Drying temperature/time	80 °C
Suggested max moisture	0.2 %
Rear temperature	265 - 275 °C
Middle temperature	270 - 280 °C
Front temperature	280 - 285 °C
Recommended mould temperature	60 - 80 °C

Stress-strain, dry



Temperature (°C)	
1	Spannung 1
2	Spannung 2
3	Spannung 3
4	Spannung 4
5	Spannung 5
6	Spannung 6

Stress-strain, conditioned



Temperature (°C)	
1	Spannung 5
2	Spannung 6
3	Spannung 8
4	Spannung 9
5	Spannung 10

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.

Disclaimer

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