

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

Certifications	RoHS EC 1907/2006 (REACH)	UL listed product
Polymer type	PA66	
Feature	not heat stabilized	
Applications	connectors industrial applications	consumer applications
Colors available	black grey	natural red
Forms	pellets	
Processing technology	injection moulding	

### Product identification

ISO 1043 abbreviation	PA66
ISO 16396 designation	PA66,M,S14-030

Condition	Standard	Unit	Value
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### Physical properties

Condition	Standard	Unit	Value	
Density	ISO 1183	g/cm <sup>3</sup>	1.14	
Humidity absorption	T=23°C, 50% RH	ISO 62	%	3.1 - 3.2
Water absorption	24 hr, 23°C	ISO 62	%	1.2 - 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
<b>Mechanical properties</b>				<b>dam / cond.*</b>
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 <sup>2</sup>	4.5 / 10
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m <sup>2</sup>	5 / 11

\*: **conditioned according to ISO 1110**

	Condition	Standard	Unit	Value
<b>Thermal properties</b>				
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

	Condition	Standard	Unit	Value
<b>Burning behaviour</b>				
UL Yellow Card availability 1	<b><u><a href="#">Click here to have access to the UL Yellow Card availability 1 -&gt; QMFZ2.E44716</a></u></b>			
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 mm/min

Condition	Standard	Unit	Value
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## Electrical properties

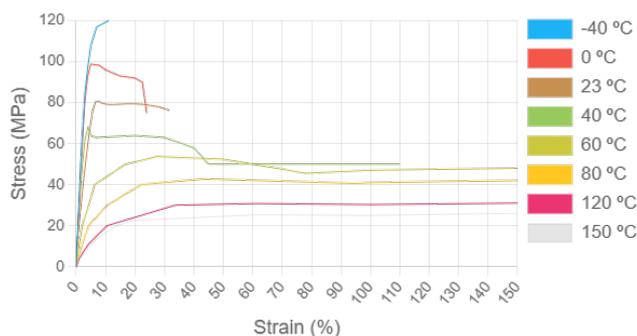
Volume resistivity		IEC 62631-3-1	ohm.m	1.0E13
Surface resistivity		IEC 62631-3-1	ohm	1.0E15
Comparative tracking index	Solution A	IEC 60112	V	600.0
Dielectric strength	1 mm	IEC 60243-1	kV/mm	22.0

## 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

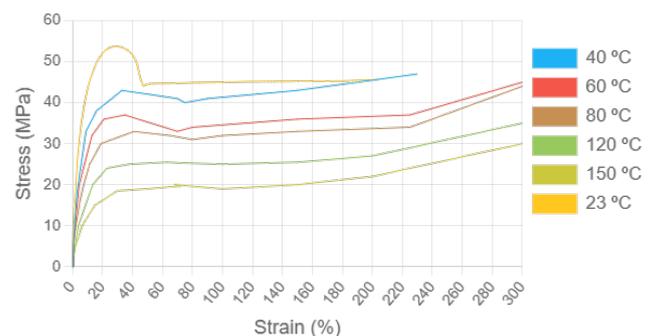
**Stress-strain, dry**

Temperature (°C)



**Stress-strain, conditioned**

Temperature (°C)



## 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.