

TECHNICAL DATA SHEET

TECHNYL A 205F NC

TECHNYL A 205F NC is an unreinforced polyamide 66 for injection moulding. This grade offers two main advantages: excellent filling qualities and UL 94 V2 under 0.4 mm. It is particularly suitable for the moulding of long parts with thin wall sections

General

Certifications	RoHS EC 1907/2006 (REACH)	UL listed product EN 45545
Polymer type	PA66	
Feature	fast molding cycle	
Applications	connectors electrical/electronic applications home & office furniture	consumer applications fasteners industrial applications
Colors available	black grey	natural white
Forms	pellets	
Processing technology	injection moulding	

Product identification

ISO 1043 abbreviation	PA66
ISO 16396 designation	PA66,M,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	%	1.2 - 1.3
Water absorption, saturation			%	8.3
Molding shrinkage, parallel		ISO 294-4, 2577	%	1.6 - 1.8
Molding shrinkage, normal		ISO 294-4, 2577	%	1.6 - 1.8

	Condition	Standard	Unit	Value
Mechanical properties				dam / cond.*
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	3100 / 1300
Stress at break		ISO 527-1/-2	MPa	60 / 40
Strain at break		ISO 527-1/-2	%	20 / 250
Yield stress		ISO 527-1/-2	MPa	80 / -
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	3000 / 1100
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	115 / 50
Charpy impact strength, +23°C	+23°C	ISO 179/1eU	kJ/m ²	45 / NB
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m ²	5 / 8
Izod notched impact strength, +23°C	+23°C	ISO 180/1A	kJ/m ²	4.5 / 8

*: conditioned according to ISO 1110

	Condition	Standard	Unit	Value
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	180
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	240
Thermal conductivity, through plane		ASTM E1461	W/m.K	0.25
Thermal conductivity, in plane		ASTM E1461	W/m.K	1.0

Condition	Standard	Unit	Value
-----------	----------	------	-------

Burning behaviour

UL Yellow Card availability 1	<u>Click here to have access to the UL Yellow Card availability 1 -> QMFZ2.E44716</u>			
Flammability, 0.40 mm	0.40 mm	UL 94		V2
Flammability, 0.75 mm	0.75 mm	UL 94		V2
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, 1.5 mm	1.5 mm	IEC 60695-2-12	°C	800
Oxygen index			%	28.0
Burning rate, FMVSS, Thickness 1 mm		FMVSS 302		< 100 mm/min

Condition	Standard	Unit	Value
-----------	----------	------	-------

Electrical properties

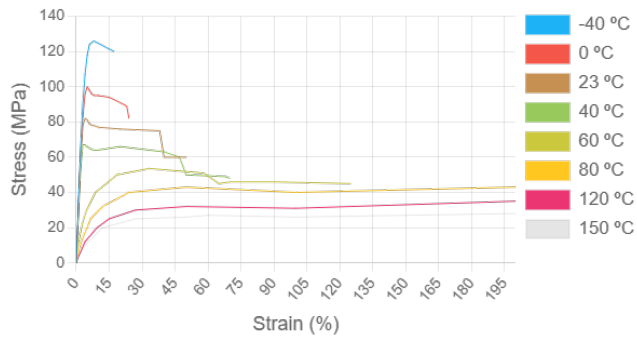
Volume resistivity		IEC 62631-3-1	ohm.m	1.0E15
Surface resistivity		IEC 62631-3-1	ohm	5.0E15
Comparative tracking index	Solution A	IEC 60112	V	600.0
CTI performance level category		Sol A		PLC 0
Dielectric strength	1 mm	IEC 60243-1	kV/mm	22.0

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

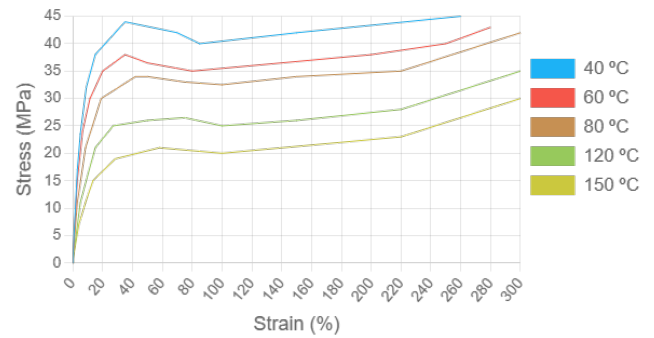
Stress-strain, dry

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.