TECHNYL® SAFE
Food and water contact

DOMO
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TECHNICAL DATA SHEET

TECHNYL SAFE A 221FC NC

(Previously TECHNYL A 221 NATURAL FA)

TECHNYL SAFE A 221FC NC is a polyamide 66, unfilled, food contact approved for injection moulding with a special crystallizing agent for fast cycles. Designed to offer increased productivity associated with excellent dimensional stability and good rigidity of moulded parts requiring food contact compliance in industrial consumer good and appliance applications.

General

Feature	Food contact approved Good surface finish	Fast molding cycle
Polymer type	PA66 (Polyamide 66)	
Processing technology	Injection molding	
Certification	RoHS EC 1907/2006 (REACH) EC 1935/2004	UL-Yellow Card EU No 10/2011 EC 2023/2006
Applications	Small appliance Industrial Applications large appliance	Consumer good application building / construction
Colors available	Natural	
Forms	Pellets	

Product identification

ISO 1043 abbreviation	PA66

Physical properties

	Condition	Standard	Unit	Value
Density		ISO 1183	g/cm³	1.14
Water absorption	24 hr, 23°C	ISO 62	%	1.1
Molding shrinkage, parallel		ISO 294-4, 2577	%	1.2
Molding shrinkage, normal		ISO 294-4, 2577	%	1.4

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	Condition	Standard	Unit	Value
Mechanical properties				dam / cond.*
Tensile modulus	1 mm/min	ISO 527-1/-2	MPa	3500 / 1700
Stress at break		ISO 527-1/-2	MPa	90 / 45
Strain at break		ISO 527-1/-2	%	20 / 110
Flexural modulus, ISO 178	2 mm/min	ISO 178	MPa	3150 / 1400
Flexural modulus, ASTM D790	2 mm/min	ASTM D790	MPa	3200 / -
Flexural strength, ISO 178	2 mm/min	ISO 178	MPa	125 / 55
Flexural strength, ASTM D790	2 mm/min	ASTM D790	MPa	125 / -
Charpy notched impact strength, +23°C	+23°C	ISO 179/1eA	kJ/m²	4 / 12
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	90
Electrical properties				
Volume resistivity		IEC 62631-3-1	ohm.m	1E+013
Surface resistivity		IEC 62631-3-1	ohm	1E+015
Dielectric strength	1 mm	IEC 60243-1	kV/mm	22
Burning behaviour				
UL Yellow Card availability (UL)	Click here to have access to the UL Yellow Card → QMFZ2.E44716			
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	700

**: 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

Processing conditions

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.