Ticona
Engineering Polymers

VANDAR® AB700 | TPC | Unfilled

Description

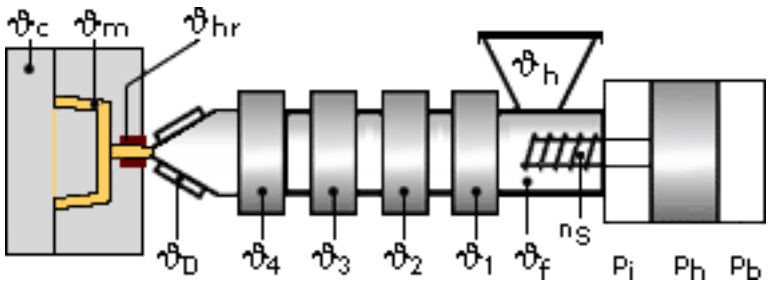
Vandar AB700 is a high modulus polyester alloy which exhibits excellent toughness and impact strength. It is typically used for passenger and side airbag covers.

Physical properties	Value	Unit	Test Standard
Density	**1170**	kg/m³	ISO 1183
Mold shrinkage - parallel	**1.5-2.2**	%	ISO 294-4
Mold shrinkage - normal	**1.5-2.2**	%	ISO 294-4

Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	**780**	MPa	ISO 527-2/1A
Tensile stress at 50% strain (50mm/min)	**21**	MPa	ISO 527-2/1A
Tensile stress at break (50mm/min)	**28**	MPa	ISO 527-2/1A
Tensile strain at break (50mm/min)	**300**	%	ISO 527-2/1A
Flexural modulus (23°C)	**730**	MPa	ISO 178
Flexural strength (23°C)	**21**	MPa	ISO 178
Charpy notched impact strength @ 23°C	**94**	kJ/m²	ISO 179/1eA
Notched impact strength (Izod) @ 23°C	**70**	kJ/m²	ISO 180/1A
Notched impact strength (Izod) @-30°C	**93**	kJ/m²	ISO 180/1A
Shore hardness D scale 15 sec value	**61**	-	ISO 868

Thermal properties	Value	Unit	Test Standard
Melting temperature (10°C/min)	**225**	°C	ISO 11357-1,-2,-3
DTUL @ 1.8 MPa	**45**	°C	ISO 75-1/-2
DTUL @ 0.45 MPa	**57**	°C	ISO 75-1/-2
Vicat softening temperature B50 (50°C/h 50N)	**158**	°C	ISO 306
Coeff.of linear therm. expansion (parallel)	**1.2**	E-4/°C	ISO 11359-2
Coeff.of linear therm. expansion (normal)	**1.4**	E-4/°C	ISO 11359-2

Typical injection moulding processing conditions



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Maximum residual moisture content: 0.0200%

Processing Temperatures:

	ϑ Cavity	ϑ Melt	ϑ Hot Runner	ϑ Die	ϑ 4	ϑ 3	ϑ 2	ϑ 1	ϑ Feeding	ϑ Hopper
min (°C)	25	235	235	240	240	235	235	230	230	20
max (°C)	55	260	260	260	260	250	250	240	240	50

Processing Pressures:

No info

Injection speed: medium - fast

Screw speed:

Screw diameter (mm)	40	55	75
Screw speed (rpm)	50	35	25

Pre-drying conditions:

To avoid hydrolytic degradation during processing, Vandar resins have to be dried to a moisture level equal to or less than 0.02%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40°F (-40°C) at 155-225°F (70-110°C) for 4 hrs

For subsequent storage of the material in the dryer until processed (<= 60 h) it is necessary to lower the temperature to 100° C.

Drying time: 4 h

Drying temperature: 70 - 110 °C

Special information:

Heating the hopper may be advantageous.

Injection Molding

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Rear Temperature    450-460(230-235) deg F (deg C)
Center Temperature  460-480(235-250) deg F (deg C)
Front Temperature   470-490(240-255) deg F (deg C)
Nozzle Temperature  480-500(250-260) deg F (deg C)
Melt Temperature    460-500(235-260) deg F (deg C)
Mold Temperature     85-125(25-55)   deg F (deg C)
Back Pressure       0-200           psi
Screw Speed         Match Cycle
Injection Speed     Fast
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Injection speed, injection pressure and holding pressure have to be optimized to the individual article geometry. To avoid material degradation during processing low back pressure and minimum screw speed have to be used.