

VANDAR® AB700 | TPC | Unfilled

Description

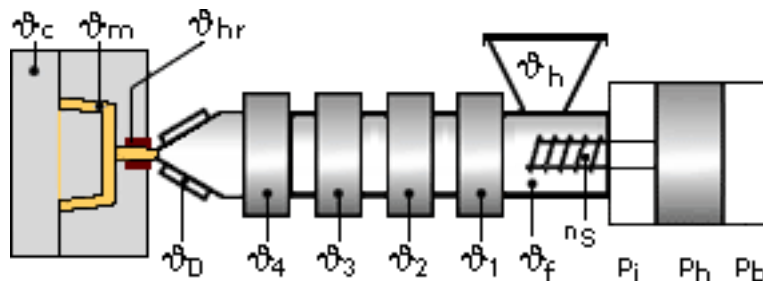
Vandar AB700 is a high modulus polyester alloy which exhibits excellent toughness and impact strength. It is typically used for passenger and side airbag covers.

Physical properties	Value	Unit	Test Standard
Density	1170	kg/m ³	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/m ²	ISO 179/1eA
Notched impact strength (Izod) @ 23°C	70	kJ/m ²	ISO 180/1A
Notched impact strength (Izod) @ -30°C	93	kJ/m ²	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:

	ϕ _{Cavity}	ϕ _{Melt}	ϕ _{Hot Runner}	ϕ _{Die}	ϕ ₄	ϕ ₃	ϕ ₂	ϕ ₁	ϕ _{Feeding}	ϕ _{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

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	

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.