

# DSM Engineering Plastics - Property Data

## Xantar® 18 R

PC-unfilled

Extremely Low Viscosity, Molding Release

Properties	Typical Data	Unit	Test Method
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### RHEOLOGICAL PROPERTIES

Melt volume-flow rate	23	cm <sup>3</sup> /10min	ISO 1133
Temperature	300	°C	ISO 1133
Load	1.2	kg	ISO 1133
Molding shrinkage (parallel)	0.6	%	ISO 294-4

### MECHANICAL PROPERTIES

Tensile modulus	2300	MPa	ISO 527-1/-2
Yield stress	60	MPa	ISO 527-1/-2
Yield strain	6	%	ISO 527-1/-2
Nominal strain at break	>50	%	ISO 527-1/-2
Flexural modulus	2400	MPa	ISO 178
Flexural strength	90	MPa	ISO 178
Izod notched impact strength (23°C)	60	kJ/m <sup>2</sup>	ISO 180/4A
Rockwell hardness, M scale	70	-	ISO 2039-2

### THERMAL PROPERTIES

Temp. of deflection under load (1.80 MPa)	130	°C	ISO 75-1/-2
Vicat softening temperature (50°C/h 50N)	145	°C	ISO 306
Coeff. of linear therm. expansion (parallel)	0.65	E-4/°C	ISO 11359-1/-2
Burning Behav. at 1.6 mm nom. thickn.	V-2	class	IEC 60695-11-10
Thickness tested	1.5	mm	IEC 60695-11-10
Burning Behav. at thickness h	V-2	class	IEC 60695-11-10
Thickness tested	0.75	mm	IEC 60695-11-10
Oxygen index	26	%	ISO 4589-1/-2
Ball pressure temperature	125	°C	IEC 60695-10-2
Glow Wire Flammability Index GWFI	800	°C	IEC 60695-2-12
GWFI (Thickness (1) tested)	1.5	mm	IEC 60695-2-12
Glow Wire Flammability Index GWFI	960	°C	IEC 60695-2-12
GWFI (Thickness (2) tested)	3	mm	IEC 60695-2-12
Glow Wire Ignition Temperature GWIT	825	°C	IEC 60695-2-13
GWIT (Thickness (1) tested)	1.5	mm	IEC 60695-2-12
Glow Wire Ignition Temperature GWIT	875	°C	IEC 60695-2-13
GWIT (Thickness (2) tested)	3	mm	IEC 60695-2-12
Relative Temperature Index - electrical	130	°C	UL746B
RTI electrical (Thickness (1) tested)	0.75	mm	UL746B
Relative Temperature Index - electrical	130	°C	UL746B
RTI electrical (Thickness (2) tested)	3	mm	UL746B
Relative Temperature Index - with impact	125	°C	UL746B
RTI with impact (Thickness (1) tested)	0.75	mm	UL746B
Relative Temperature Index - with impact	130	°C	UL746B
RTI with impact (Thickness (2) tested)	3	mm	UL746B

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Relative Temperature Index - without impact	<b>125</b>	°C	UL746B
RTI without impact (Thickness (1) tested)	<b>0.75</b>	mm	UL746B
Relative Temperature Index - without impact	<b>130</b>	°C	UL746B
RTI without impact (Thickness (2) tested)	<b>3</b>	mm	UL746B

### ELECTRICAL PROPERTIES

Relative permittivity (100Hz)	<b>3</b>	-	IEC 60250
Relative permittivity (1 MHz)	<b>2.9</b>	-	IEC 60250
Dissipation factor (100 Hz)	<b>6.6</b>	E-4	IEC 60250
Dissipation factor (1 MHz)	<b>92</b>	E-4	IEC 60250
Volume resistivity	<b>&gt;1E13</b>	Ohm*m	IEC 60093
Surface resistivity	<b>&gt;1E15</b>	Ohm	IEC 60093
Electric strength	<b>29</b>	kV/mm	IEC 60243-1
Comparative tracking index	<b>225</b>	-	IEC 60112
Comparative tracking index (PLC)	<b>2</b>	class	UL 746A

### OTHER PROPERTIES

Water absorption	<b>0.35</b>	%	Sim. to ISO 62
Density	<b>1200</b>	kg/m³	ISO 1183
Light transmittance	<b>89</b>	%	ASTM D1003

### MATERIAL SPECIFIC PROPERTIES

Limiting Viscosity Number	<b>43</b>	cm³/g	ISO 1628-4
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### RHEOLOGICAL CALCULATION PROPERTIES

Thermal conductivity of melt	<b>0.24</b>	W/(m K)	-
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