#### Product Information

Common features of Delrin® acetal resins include mechanical and physical properties such as high mechanical strength and rigidity, excellent fatigue and impact resistance, as well as resistance to moisture, gasoline, lubricants, solvents, and many other neutral chemicals. Delrin® acetal resins also have excellent dimensional stability and good electrical insulating characteristics. They are naturally resilient, self-lubricating, and available in a variety of colors and speciality grades.

Delrin® acetal resin typically is used in demanding applications in the automotive, domestic appliances, sports, industrial engineering, electronics, and consumer goods industries.

### Delrin® 100AL is a high viscosity acetal homopolymer containing an advanced system of lubrication designed for low wear, low friction, and low noise against metals and plastics.

Product Information         Value         Unit         Test Standard           Pert Marking Code         POM-S         ISO 11469           Phendogical properties         Value         Diff. SO 1133           Melt mass-flow rate, Imperature         190         C         ISO 1133           Melt mass-flow rate, Imperature         190         C         ISO 1133           Melt mass-flow rate, Load         2.16         kg         ISO 1133           Molding shrinkage, parallel         2.0         %         ISO 2944, 2577           Molding shrinkage, parallel         2.0         %         ISO 2944, 2577           Molding shrinkage, normal         1.7         %         ISO 2944, 2577           Molding shrinkage, normal         1.7         %         ISO 2974, 2           Tensile Modulus         3000         MPa         ISO 527.1/-2           Yield stress         70         MPa         ISO 527.1/-2           Plexural Modulus         2800         MPa         ISO 180.178           Tensile creep modulus         ISO 180.178         ISO 180.178           Tensile creep modulus         ISO 179/1eU         73.5           1000h         1500         MPa         ISO 179/1eU           73.7         K 1/m² </th <th>and low hoise against metals and plastics.</th> <th></th> <th></th> <th></th>	and low hoise against metals and plastics.			
Part Marking Code         POMS         -         ISO 11469           Rehelogical properties         Value         Unit         Test Standard           Melt mass-flow rate         2.5         g/10min         ISO 1133           Mett mass-flow rate, Load         2.16         kg         ISO 1133           Mettin mass-flow rate, Load         2.16         kg         ISO 1133           Molding shrinkage, parallel         2.0         %         ISO 294.4, 2577           Molding shrinkage, parallel         2.0         %         ISO 294.4, 2577           Methanical properties         Value         Unit         Test Standard           Tensile Modulus         3000         MPa         ISO 257.1/-2           Yield stresin         18         %         ISO 527.1/-2           Nenhancal properties         70         MPa         ISO 527.1/-2           Nenhance         40         %         ISO 527.1/-2           Inminal strain at break         40         %         ISO 527.1/-2           Inminal strain at break         100         %         ISO 178           Tensile Modulus         1000         MPa         ISO 178           Tensile Creep modulus         1000         ISO 179         ISO 179/16U     <				
Photograft properties         Value         Unit         Test Standard           Melt mass-flow rate         2.5         g/10min         ISO 1133           Melt mass-flow rate, Temperature         190         °C         ISO 1133           Melt mass-flow rate, Load         2.16         kg         ISO 1133           Melt mass-flow rate, Load         2.16         kg         ISO 1133           Molding shrinkage, parallel         2.0         %         ISO 294-4, 2577           Molding shrinkage, parallel         2.0         %         ISO 294-4, 2577           Methantsoft for the parallel         1.7         %         ISO 294-4, 2577           Methantsoft for the parallel         1.7         %         ISO 294-4, 2577           Mechanical properties         Value         Unit         Test Standard           Tensile Modulus         3000         MPa         ISO 527-1/-2           Yield strain         18         %         ISO 257-1/-2           Plexural Modulus         2000         MPa         ISO 178           Tensile creep modulus         180         Test Standard           1000h         1500         MPa         ISO 179/1eU           73'F         20         kJ/m1         ISO 179/1eA				
Melt mass-flow rate         2.5         g/10min         ISO 1133           Melt mass-flow rate         190         °C         ISO 1133           Melt mass-flow rate, Load         2.16         kg         ISO 1133           Molding shrinkage, parallel         2.0         %         ISO 294-4, 2577           Molding shrinkage, parallel         2.0         %         ISO 294-4, 2577           Methanical properties         Value         Unit         Testis Modulus         Stop 294-4, 2577           Methanical properties         Value         Unit         Testist Modulus         Stop 274-1/-2           Tensile Modulus         3000         MPa         ISO 527-1/-2         ISO 527-1/-2           Yield stress         70         MPa         ISO 527-1/-2         ISO 527-1/-2           Nominal strain at break         40         %         ISO 527-1/-2         ISO 527-1/-2           Nominal strain at break         40         %         ISO 527-1/-2         ISO 778           Tensile Creep modulus         180         WPa         ISO 179         ISO 179/1eU         73'F           100h         1500         MPa         ISO 179/1eU         73'F         ISO 179/1eU         73'F         ISO 179/1eU         73'F         ISO 179/1eU				
Melt mass-flow rate, Temperature         190         *C         ISO 1133           Melt mass-flow rate, Load         2.16         Kg         ISO 1133           Molding shrinkage, parallel         2.0         %         ISO 294.4, 2577           Molding shrinkage, parallel         1.7         %         ISO 271.1-2           Yield stress         700         MPa         ISO 527.11-2           Plexural Modulus         2800         MPa         ISO 178           Ternsile creep modulus         150         ISO 179/1eU         73*           7         K         J/m²         ISO 179/1eU         73*           7.27         K <td>Rheological properties</td> <td></td> <td></td> <td>Test Standard</td>	Rheological properties			Test Standard
Meltimass-flow rate, Load         2.16         kg         ISO 1133           Molding shrinkage, parallel         2.0         %         ISO 294.4, 2577           Molding shrinkage, pormat         1.7         %         ISO 294.4, 2577           Mechanical properties         Value         Unit         Testisk Modulus         3000         MPa         ISO 527.1/-2           Yield stress         70         MPa         ISO 527.1/-2         1           Vield stress         70         MPa         ISO 527.1/-2         1           Vield strain         18         %         ISO 527.1/-2         1           Nominal strain at break         40         %         ISO 527.1/-2         1           Tensile recep modulus         100         Nea         ISO 527.1/-2         1           Tensile recep modulus         1000 MPa         ISO 178         1         1           Charpy impact strength         1500         MPa         1				
Molding shrinkage, parallel         2.0 %         ISO 294-4, 2577           Molding shrinkage, normal         1.7 %         ISO 294-4, 2577           Mechanical properties         Value         Unit         Test Standard           Tensile Modulus         3000         MPa         ISO 527-17-2           Yield stress         70         MPa         ISO 527-17-2           Yield stress         70         MPa         ISO 527-17-2           Yield stress         70         MPa         ISO 527-17-2           Yield strain at break         40 %         ISO 527-17-2           Plexural Modulus         2800         MPa         ISO 527-17-2           Flexural Modulus         2800         MPa         ISO 527-17-2           Tensile creep modulus         2800         MPa         ISO 178           Tensile creep modulus         2800         MPa         ISO 179/1eU           73'F         N         KJ/m²         ISO 179/1eU         73'F           -22'F         200         KJ/m²         ISO 197/1eA         ISO 179/1eA           73'F         10.5         KJ/m²         ISO 179/1eA         ISO 179/1eA           73'F         200         KJ/m²         ISO 180/1A         Hardens, Rockwell, M-scale	Melt mass-flow rate, Temperature	190	°C	ISO 1133
Moding shrinkage, normal         1.7         %         ISO 294-4, 2577           Mechanical properties         Value         Unit         Tests Exandard           Tensile Modulus         3000         MPa         ISO 527-17-2           Yield stress         70         MPa         ISO 527-17-2           Norminal strain at break         40         %         ISO 527-17-2           Norminal strain at break         40         %         ISO 527-17-2           Pied stress         70         MPa         ISO 527-17-2           Norminal strain at break         40         %         ISO 527-17-2           Piexural Modulus         2800         MPa         ISO 178           Tensile creep modulus         1000h         150         MPa           1000h         150         MPa         ISO 179/1eU           73'F         200         kJ/m²         ISO 179/1eA           73'F         10.5         kJ/m²         ISO 180/1A           Hardness, Rockwell, N-scale         90         -         ISO 2039-2           Identified inpact strength         73'F         ISO 180/1A         Mea           Hardness, Rockwell, R-scale         0.3         -         ISO 2039-2           Identched inpact s				
Metchanical properties         Value         Unit         Test Standard           Tensile Modulus         3000         MPa         ISO 527-1/-2           Yield strain         18         %         ISO 527-1/-2           Yield strain         18         %         ISO 527-1/-2           In         18         %         ISO 527-1/-2           Flexural Modulus         2800         MPa         ISO 178           Tensile creep modulus         1000h         1500         MPa           1000h         1500         MPa         ISO 179/1eU           73' F         200         kJ/m²         ISO 179/1eU           73' F         10.5         kJ/m²         ISO 179/1eU           73' F         10.5         kJ/m²         ISO 179/1eU           73' F         10.5         kJ/m²         ISO 179/1eU           73' F         8         kJ/m²         ISO 179/1eU           73' F         8         kJ/m²         ISO 179/1eU           73' F         10.5         kJ/m²         ISO 179/1eU           73' F         8         kJ/m²         ISO 180/1A           Hadness, Rockwell, M-scale         90         -         ISO 2039-2           Coefficient o	Molding shrinkage, parallel			ISO 294-4, 2577
Tensile Modulus       3000       MPa       ISO 527-1/-2         Yield strasin       18       %       ISO 527-1/-2         Nominal strain at break       40       %       ISO 527-1/-2         Plexural Modulus       2800       MPa       ISO 527-1/-2         Tensile creep modulus       100       1SO 178       ISO 178         Tensile creep modulus       1SO 179       ISO 179/1eU       ISO 179/1eU         73'F       N       kJ/m²       ISO 179/1eU       ISO 179/1eU         73'F       200       kJ/m²       ISO 179/1eU       ISO 179/1eU         73'F       200       kJ/m²       ISO 179/1eU       ISO 179/1eA         73'F       10.5       kJ/m²       ISO 179/1eA       ISO 179/1eA         73'F       10.5       kJ/m²       ISO 180/1A       ISO 180/1A         Hardness, Rockwell, M-scale       90       -       ISO 2039-2       ISO 180/1A         Hardness, Rockwell, R-scale       0.3       -       I				
Yield stress       70       MPa       ISO 527-1/-2         Yield strain       18       %       ISO 527-1/-2         Nominal strain at break       40       %       ISO 527-1/-2         Flexural Modulus       2800       MPa       ISO 899-1         Tensile creep modulus       ISO 899-1       ISO 899-1         1h       2700       MPa         1000h       1500       MPa         Charpy impact strength       ISO 179/1eU       73 'F         73 'F       22' F       200       kJ/m²         Charpy notched impact strength       ISO 179/1eA       73 'F         73 'F       10.5       kJ/m²       ISO 179/1eA         73 'F       10.5       kJ/m²       ISO 180/1A         Hardne		Value	Unit	
Yield strain         18         %         ISO 527-1/-2           Nominal strain at break         40         %         ISO 527-1/-2           Flexural Modulus         2800         MPa         ISO 178           Tensile creep modulus         ISO 899-1         ISO 178           1h         2700         MPa           1000h         1500         MPa           Charpy impact strength         ISO 179/1eU         73'F           -22 'F         200         kJ/m²           -22 'F         200         kJ/m²           -22 'F         10.5         kJ/m²           -22 'F         10.5         kJ/m²           -22 'F         200         kJ/m²           -22 'F         10.5         kJ/m²           -22 'F         10.5         kJ/m²           -22 'F         10.5         kJ/m²           -22 'F         10.5         kJ/m²           -12 do notched impact strength, 73 'F         8 kJ/m²         ISO 180/1A           Hardness, Rockwell, M-scale         90         -         ISO 2039-2           Coefficient of sliding friction         -         ASTM 1894         Th against itself           1h against itself         0.3         -         <	Tensile Modulus			ISO 527-1/-2
Nominal strain at break         40         %         ISO 527-1/-2           Flexural Modulus         2800         MPa         ISO 178           Tensile creep modulus         ISO 899-1         ISO 899-1           1h         2700         MPa           1000h         150         MPa           Charpy impact strength         ISO 179/1eU         ISO 179/1eU           73 'F         N         KJ/m²           -22 'F         200         KJ/m²           Charpy notched impact strength         ISO 179/1eA         ISO 179/1eA           73 'F         10.5         KJ/m²         ISO 180/1A           Hardness, Rockwell, M-scale         90         ISO 2039-2         ISO 2039-2           Coefficient of sliding friction         ASTM 1894         Ih against itself         0.3         Ih           1h against itself         0.3         Iso 75-1/-2         ISO 75-1/-2         ISO 75-1/-2           260 psi         97<'C	Yield stress			ISO 527-1/-2
Flexural Modulus         2800         MPa         ISO 178           Tensile creep modulus         ISO 899-1         ISO 899-1           1h         2700         MPa           1000h         1500         MPa           Charpy impact strength         ISO 179/1eU         73°F           73°F         N         KJ/m²           -22°F         200         KJ/m²           Charpy notched impact strength         ISO 179/1eA           73°F         7.5         KJ/m²           -22°F         20.6         KJ/m²           Izod notched impact strength, 73°F         8         KJ/m²           -22°F         7.5         KJ/m²           Izod notched impact strength, 73°F         8         KJ/m²           Izod notched impact strength, 73°F         8         KJ/m²           Izod notched impact strength         150         150 2039-2           Hardness, Rockwell, M-scale         102         ISO 2039-2           Hardness, Rockwell, M-scale         0.3         -           Hagainst tstelf         0.3         -           1h against steel         0.5         -           Metting temperature, 18°F/min         178<°C	Yield strain			ISO 527-1/-2
Tensile creep modulus         ISO 899-1           1h         2700         MPa           100h         1500         MPa           Charpy impact strength         ISO 179/1eU         73'F           73'F         N         kJ/m²           -22'F         200         kJ/m²           Charpy notched impact strength         ISO 179/1eA         73'F           73'F         10.5         kJ/m²           -22'F         7.5         kJ/m²           Izod notched impact strength, 73'F         8         kJ/m²           Hardness, Rockwell, M-scale         90         ISO 2039-2           Hardness, Rockwell, R-scale         122         ISO 2039-2           Coefficient of sliding friction         ASTM 1894         ASTM 1894           1h against istelf         0.3         -           1h against steel         0.5         -           Thermal properties         Value         Unit         Test Standard           Melting temperature, 18° F/min         178'C         ISO 11357-1/-3           Temp. of deflection under load         50 'C         -           65 psi         163 'C         -           Coeff. of linear therm. expansion, parallel         110 E-6/K         ISO 11359-1/-2	Nominal strain at break	40	%	ISO 527-1/-2
1h         2700         MPa           1000h         1500         MPa           Charpy impact strength         ISO 179/1eU           73 "F         N         kJ/m²           -22 "F         200         kJ/m²           Charpy notched impact strength         ISO 179/1eA           73 "F         10.5         kJ/m²           -22 "F         7.5         kJ/m²           -22 "F         7.5         kJ/m²           -10.5         kJ/m²         ISO 179/1eA           73 "F         10.5         kJ/m²           -22 "F         7.5         kJ/m²           Izdo notched impact strength, 73 "F         8         kJ/m²           Izdo notched impact strength, 73 "F         8         kJ/m²           Izdo notched impact strength         7.5         kJ/m²           Izdo notched impact strength         0.3         .50	Flexural Modulus	2800	MPa	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Tensile creep modulus			ISO 899-1
Charpy impact strength         ISO 179/1eU           73 'F         N         kJ/m²           -22 'F         200         kJ/m²           Charpy notched impact strength         ISO 179/1eA         50           73 'F         10.5         kJ/m²           -22 'F         7.5         kJ/m²           Izod notched impact strength, 73 'F         8         kJ/m²           Izod notched impact strength         150 180/14         150 2039-2           Coefficient of sliding friction         ASTM 1894         1           1h against itself         0.3         -           1hermal properties         Value         Unit         Test Standard           Melting temperature, 18 'F/min         178 'C         ISO 11357-1/-3	1h	2700	MPa	
$73^{\circ}F$ NkJ/m²-22°F200kJ/m²Charpy notched impact strengthISO 179/1eA $73^{\circ}F$ 10.5kJ/m²-22°F7.5kJ/m²Izod notched impact strength, 73°F8kJ/m²Hardness, Rockwell, M-scale90-ISO 2039-2Hardness, Rockwell, R-scale122-ISO 2039-2Coefficient of sliding frictionASTM 1894-1h against itself0.3-1h against steel0.5-Thermal propertiesValueUnitMetting temperature, 18°F/min178°CTemp, of deflection under load97°C260 psi97°C65 psi163°CCoeff. of linear therm. expansion, parallel110E-6/KISO 11359-1/-2RTI, electricalUL 746B30mil50°CRTI, impactUL 746B30mil50°CRTI, strengthUL 746B30mil50°C	1000h	1500	MPa	
-22 ° F         200         kJ/m²           Charpy notched impact strength         ISO 179/1eA           73 ° F         10.5         kJ/m²           -22 ° F         7.5         kJ/m²           Izod notched impact strength, 73 ° F         8         kJ/m²           Hardness, Rockwell, M-scale         90         -         ISO 2039-2           Hardness, Rockwell, R-scale         122         -         ISO 2039-2           Coefficient of sliding friction         ASTM 1894         -         -           1 h against itself         0.3         -         -           1 h against steel         0.5         -         -           Thermal properties         Value         Unit         Test Standard           Melting temperature, 18 °F/min         178<°C	Charpy impact strength			ISO 179/1eU
Charpy notched impact strength         ISO 179/1eA           73°F         10.5 kJ/m²           -22°F         7.5 kJ/m²           Izod notched impact strength, 73°F         8 kJ/m²           Hardness, Rockwell, M-scale         90 -         ISO 2039-2           Hardness, Rockwell, R-scale         122 -         ISO 2039-2           Coefficient of sliding friction         ASTM 1894           1h against itself         0.3 -           1h against steel         0.5 -           Thermal properties         Value         Unit           Melting temperature, 18°F/min         178°C         ISO 11357-1/-3           Temp. of deflection under load         97°C         65 psi           260 psi         97°C         7C           65 psi         163°C         Coeff. of linear therm. expansion, parallel         110           Coeff. of linear therm. expansion, normal         110         E-6/K         ISO 11359-1/-2           RTI, electrical         UL 746B         30mil         50°C           30mil         50°C         °C         2           RTI, impact         UL 746B         30mil         50°C           RTI, strength         UL 746B         30mil         50°C		N	kJ/m²	
73°F       10.5       kJ/m²         -22°F       7.5       kJ/m²         Izod notched impact strength, 73°F       8       kJ/m²       ISO 180/1A         Hardness, Rockwell, M-scale       90       -       ISO 2039-2         Hardness, Rockwell, R-scale       122       -       ISO 2039-2         Coefficient of sliding friction       ASTM 1894       -         1h against itself       0.3       -         1h against steel       0.5       -         Thermal properties         Value       Unit         Test Standard         Melting temperature, 18°F/min       178<°C	-22 ° F	200	kJ/m²	
-22 °F         7.5         kJ/m²           Izod notched impact strength, 73 °F         8         kJ/m²         ISO 180/1A           Hardness, Rockwell, M-scale         90         -         ISO 2039-2           Hardness, Rockwell, R-scale         122         -         ISO 2039-2           Coefficient of sliding friction         ASTM 1894         -         ASTM 1894           1h against steel         0.5         -         -           Thermal properties         Value         Unit         Test Standard           Melting temperature, 18° F/min         178         °C         ISO 11357-1/-3           Temp. of deflection under load         108         °C         -           260 psi         97         °C         -         -           260 psi         97         °C         -         -           Coeff. of linear therm. expansion, parallel         110         E-6/K         ISO 11359-1/-2         -           Coeff. of linear therm. expansion, normal         110         E-6/K         ISO 11359-1/-2         -           RTI, electrical         UL 7468         -         -         -         -           30mil         50         °C         -         -         -	Charpy notched impact strength			ISO 179/1eA
Izod notched impact strength, 73°F         8         kJ/m²         ISO 180/1A           Hardness, Rockwell, M-scale         90         -         ISO 2039-2           Hardness, Rockwell, R-scale         122         -         ISO 2039-2           Coefficient of sliding friction         ASTM 1894         -           1h against itself         0.3         -         -           1h against steel         0.5         -         -           Thermal properties         Value         Unit         Test Standard           Melting temperature, 18°F/min         178         °C         ISO 11357-1/-3           Temp. of deflection under load         97         °C         -           260 psi         97         °C         -           65 psi         163         °C         -           Coeff. of linear therm. expansion, parallel         110         E-6/K         ISO 11359-1/-2           Coeff. of linear therm. expansion, normal         110         E-6/K         ISO 11359-1/-2           Coeff. of linear therm. expansion, normal         110         E-6/K         ISO 11359-1/-2           RTI, electrical         UL 746B         -         -           30mil         50         °C         -         -	73°F	10.5	kJ/m²	
Hardness, Rockwell, M-scale         90         -         ISO 2039-2           Hardness, Rockwell, R-scale         122         -         ISO 2039-2           Coefficient of sliding friction         ASTM 1894         -         -           1h against itself         0.3         -         -         -           Thermal properties         Value         Unit         Test Standard           Melting temperature, 18°F/min         178         °C         ISO 11357-17-3           Temp. of deflection under load         ISO 75-17-2         -         -           260 psi         97         °C         -         -           65 psi         163         °C         -         -         -           Coeff. of linear therm. expansion, parallel         110         E-6/K         ISO 11359-17-2         -           Coeff. of linear therm. expansion, normal         110         E-6/K         ISO 11359-17-2         -           RTI, electrical         UL 746B         -         -         -         -           30mil         50         °C         -         -         -         -           30mil         50         °C         -         -         -         -         -	-22 ° F	7.5	kJ/m²	
Hardness, Rockwell, M-scale         90         ISO 2039-2           Hardness, Rockwell, R-scale         122         -         ISO 2039-2           Coefficient of sliding friction         ASTM 1894         -         -           1h against itself         0.3         -         -         -           Thermal properties         Value         Unit         Test Standard           Melting temperature, 18°F/min         178         °C         ISO 11357-17-3           Temp. of deflection under load         ISO 75-17-2         -         -           260 psi         97         °C         -         -           65 psi         163         °C         -         -         -           Coeff. of linear therm. expansion, parallel         110         E-6/K         ISO 11359-17-2         -           Coeff. of linear therm. expansion, normal         110         E-6/K         ISO 11359-17-2         -           RTI, electrical         UL 746B         -         -         -         -           30mil         50         °C         -         -         -         -           30mil         50         °C         -         -         -         -           30mil         50		8	kJ/m <sup>2</sup>	ISO 180/1A
Hardness, Rockwell, R-scale         122         ISO 2039-2           Coefficient of sliding friction         ASTM 1894         1           1h against itself         0.3         -           1h against steel         0.5         -           Thermal properties         Value         Unit         Test Standard           Melting temperature, 18°F/min         178         °C         ISO 75-1/-3           Temp. of deflection under load         ISO 75-1/-2         260 psi         97         °C           65 psi         163         °C         -         -         -           Coeff. of linear therm. expansion, parallel         110         E-6/K         ISO 11359-1/-2         -           Coeff. of linear therm. expansion, normal         110         E-6/K         ISO 11359-1/-2         -           RTI, electrical         UL 746B         30mil         50         °C         -           30mil         50         °C         -         -         -         -           RTI, impact         UL 746B         -         -         -         -         -           30mil         50         °C         -         -         -         -         -           30mil         50		90	-	ISO 2039-2
Coefficient of sliding frictionASTM 18941h against itself0.3-1h against steel0.5-Thermal propertiesValueUnitTest StandardMelting temperature, 18° F/min178°CISO 11357-1/-3Temp. of deflection under load97°C65 psi260 psi97°C65 psiCoeff. of linear therm. expansion, parallel110E-6/KISO 11359-1/-2Coeff. of linear therm. expansion, normal110E-6/KISO 11359-1/-2RTI, electricalUL 746B30mil50°C30mil50°C120mil50°CRTI, strengthUL 746B50°C12746B30mil50°C120mil50°CRTI, strengthUL 746B50°C12746B30mil50°C120mil50°CRTI, strengthUL 746B50°C12746B30mil50°C12746B12746B30mil50°C12746B12746B30mil50°C12746B12746B30mil50°C12746B12746B30mil50°C12746B12746B30mil50°C12746B12746B30mil50°C12746B12746B30mil50°C12746B12746B30mil50°C12746B12746B30mil50°C12746B<		122	-	ISO 2039-2
1h against itself       0.3       -         1h against steel       0.5       -         Thermal properties         Welting temperature, 18° F/min       178       °C       ISO 11357-1/-3         Temp. of deflection under load       ISO 75-1/-2       260 psi       97       °C         260 psi       97       °C       -       -       -         260 psi       97       °C       -       -       -         260 psi       97       °C       -       -       -       -         260 psi       97       °C       -				ASTM 1894
1h against steel0.5-Thermal propertiesValueUnitTest StandardMelting temperature, 18°F/min178°CISO 11357-1/-3Temp. of deflection under loadISO 75-1/-2ISO 75-1/-2260 psi97°C65 psi163°CCoeff. of linear therm. expansion, parallel110E-6/KE-6/KISO 11359-1/-2UL 746B30mil50°CRTI, impactUL 746B30mil50°CRTI, strengthUL 746B30mil50°CRTI, strengthUL 746B30mil50°C	1h against itself	0.3	-	
Thermal properties         Value         Unit         Test Standard           Melting temperature, 18°F/min         178         °C         ISO 11357-1/-3           Temp. of deflection under load         ISO 75-1/-2         ISO 75-1/-2           260 psi         97         °C           65 psi         163         °C           Coeff. of linear therm. expansion, parallel         110         E-6/K         ISO 11359-1/-2           Coeff. of linear therm. expansion, normal         110         E-6/K         ISO 11359-1/-2           RTI, electrical         UL 746B         UL 746B           30mil         50         °C           120mil         50         °C           RTI, impact         UL 746B         UL 746B           30mil         50         °C           120mil         50         °C           RTI, strength         UL 746B           30mil         50         °C		0.5	-	
Temp. of deflection under load         ISO 75-1/-2           260 psi         97         °C           65 psi         163         °C           Coeff. of linear therm. expansion, parallel         110         E-6/K         ISO 11359-1/-2           Coeff. of linear therm. expansion, normal         110         E-6/K         ISO 11359-1/-2           Coeff. of linear therm. expansion, normal         110         E-6/K         ISO 11359-1/-2           RTI, electrical         UL 746B         UL 746B           30mil         50         °C           RTI, impact         UL 746B         UL 746B           30mil         50         °C           RTI, strength         UL 746B         UL 746B           30mil         50         °C		Value	Unit	Test Standard
Temp. of deflection under load         ISO 75-1/-2           260 psi         97         °C           65 psi         163         °C           Coeff. of linear therm. expansion, parallel         110         E-6/K         ISO 11359-1/-2           Coeff. of linear therm. expansion, normal         110         E-6/K         ISO 11359-1/-2           Coeff. of linear therm. expansion, normal         110         E-6/K         ISO 11359-1/-2           RTI, electrical         UL 746B         UL 746B           30mil         50         °C           RTI, impact         UL 746B         UL 746B           30mil         50         °C           RTI, strength         UL 746B         UL 746B           30mil         50         °C	Melting temperature, 18°F/min	178	°C	ISO 11357-1/-3
65 psi         163         °C           Coeff. of linear therm. expansion, parallel         110         E-6/K         ISO 11359-1/-2           Coeff. of linear therm. expansion, normal         110         E-6/K         ISO 11359-1/-2           RTI, electrical         UL 746B           30mil         50         °C           120mil         50         °C           RTI, impact         UL 746B           30mil         50         °C           120mil         50         °C           RTI, strength         UL 746B           30mil         50         °C				ISO 75-1/-2
65 psi         163         °C           Coeff. of linear therm. expansion, parallel         110         E-6/K         ISO 11359-1/-2           Coeff. of linear therm. expansion, normal         110         E-6/K         ISO 11359-1/-2           RTI, electrical         UL 746B           30mil         50         °C           120mil         50         °C           RTI, impact         UL 746B           30mil         50         °C           120mil         50         °C           RTI, strength         UL 746B           30mil         50         °C	260 psi	97	°C	
Coeff. of linear therm. expansion, normal         110         E-6/K         ISO 11359-1/-2           RTI, electrical         UL 746B           30mil         50         °C           120mil         50         °C           RTI, impact         UL 746B           30mil         50         °C           120mil         50         °C           RTI, strength         UL 746B           30mil         50         °C		163	°C	
RTI, electrical     UL 746B       30mil     50 °C       120mil     50 °C       RTI, impact     UL 746B       30mil     50 °C       120mil     50 °C       RTI, strength     UL 746B       30mil     50 °C	Coeff. of linear therm. expansion, parallel	110	E-6/K	ISO 11359-1/-2
30mil     50     °C       120mil     50     °C       RTI, impact     UL 746B       30mil     50     °C       120mil     50     °C       RTI, strength     UL 746B       30mil     50     °C		110	E-6/K	ISO 11359-1/-2
120mil         50         °C           RTI, impact         UL 746B           30mil         50         °C           120mil         50         °C           RTI, strength         UL 746B           30mil         50         °C				UL 746B
RTI, impact     UL 746B       30mil     50 °C       120mil     50 °C       RTI, strength     UL 746B       30mil     50 °C	30mil	50	°C	
RTI, impact     UL 746B       30mil     50 °C       120mil     50 °C       RTI, strength     UL 746B       30mil     50 °C				
30mil     50 °C       120mil     50 °C       RTI, strength     UL 746B       30mil     50 °C	RTI, impact			UL 746B
120mil         50 °C           RTI, strength         UL 746B           30mil         50 °C		50	°C	
RTI, strength UL 746B 30mil 50 °C				
30mil 50 °C			-	UL 746B
		50	°C	

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Flammability	Value		Test Standard
Burning Behav. at 60mil nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	1.5	mm	IEC 60695-11-10
UL recognition	yes	-	UL 94
Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	0.8	mm	IEC 60695-11-10
UL recognition	yes	-	UL 94
FMVSS Class	В	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	26	mm/min	ISO 3795 (FMVSS 302)
Other properties	Value	Unit	Test Standard
Density	1400	kg/m³	ISO 1183
VDA Properties	Value	Unit	Test Standard
Emissions	<8 <sup>[1]</sup>	mg/kg	VDA 275
1: <5			
Injection	Value	Unit	Test Standard
Drying Recommended	yes		-
Drying Temperature	≥80	°C	-
Drying Time, Dehumidified Dryer	2 - 4	h	-
Processing Moisture Content	≤0.2	%	-
Melt Temperature Optimum	215	°C	-
Min. melt temperature	210	°C	-
Max. melt temperature	220	°C	-
Mold Temperature Optimum	90	°C	-
Min. mold temperature	80	°C	-
Max. mold temperature	100	°C	-
Hold pressure range	90 - 110	MPa	-
Hold pressure time	8	s/mm	-
Annealing time, optional	30	min/mm	-
Annealing temperature	160	°C	-
Extrusion	Value	Unit	Test Standard
Drying Temperature	75 - 85	°C	-
Drying Time, Dehumidified Dryer	2 - 4	h	-
Processing Moisture Content	≤0.2	%	-
Melt Temperature Optimum	200	°C	-
Melt Temperature Range	195 - 205	°C	-

<ul> <li>Injection Molding</li> </ul>	<ul> <li>Sheet Extrusion</li> </ul>		
<ul> <li>Profile Extrusion</li> </ul>	Other Extrusion		
<ul> <li>Pellets</li> </ul>			
<ul> <li>Lubricants</li> </ul>	Release agent		
<ul> <li>North America</li> </ul>	Asia Pacific	<ul> <li>Near East/Africa</li> </ul>	
<ul> <li>Europe</li> </ul>	<ul> <li>South and Central America</li> </ul>	<ul> <li>Global</li> </ul>	
	Profile Extrusion     Pellets     Lubricants     North America	Profile Extrusion     Other Extrusion     Pellets     Lubricants     North America     Asia Pacific	

#### Processing Texts

#### Injection molding

Drying is recommended, but not necessary for newly opened packaging stored in a dry location.

Follow the drying guidelines above in the following cases:

 $\cdot$  If moisture is above the Processing Moisture Content recommendation,

 $\cdot$  When a resin container is damaged,

 $\cdot$  When the material is not properly stored in a dry place at room temperature, or

 $\cdot$  When packaging stays open for a significant time.

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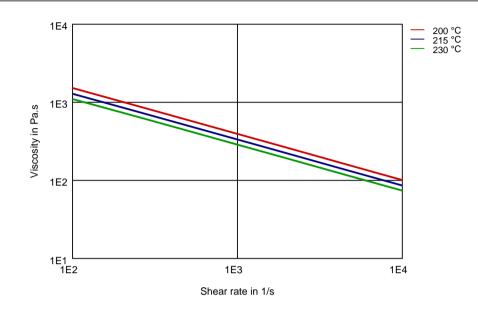
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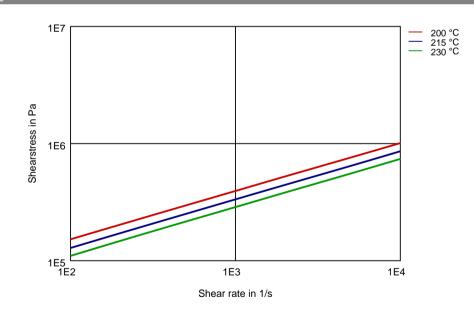
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Diagrams

Viscosity-shear rate



Shearstress-shear rate



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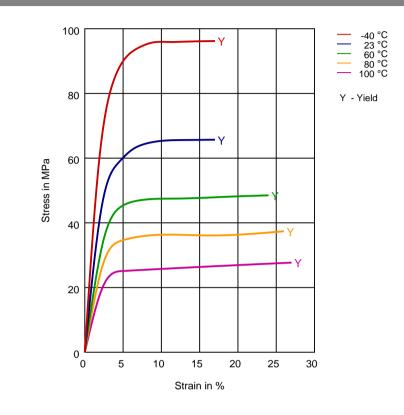
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Stress-strain



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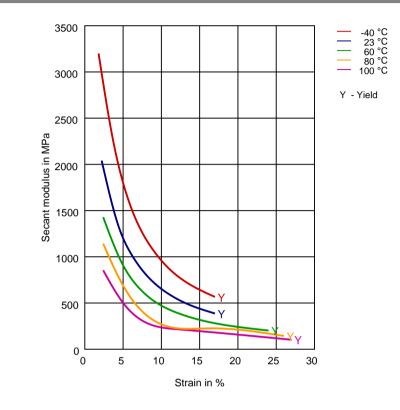
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Secant modulus-strain



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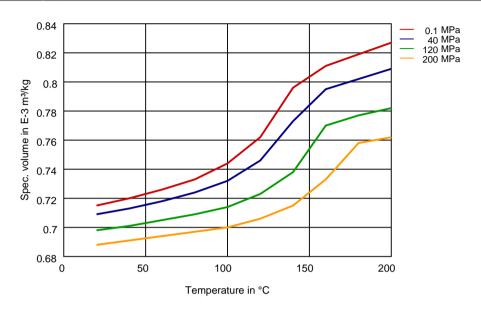
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#### Specific volume-temperature (pvT)



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Chemi	cal Media Resistance
Acids	
1	Acetic Acid (5% by mass) (23°C)
	Citric Acid solution (10% by mass) (23°C)
X I	Lactic Acid (10% by mass) (23°C)
X	Hydrochloric Acid (36% by mass) (23°C)
X	Nitric Acid (40% by mass) (23°C)
X	Sulfuric Acid (38% by mass) (23°C)
X	Sulfuric Acid (5% by mass) (23°C)
****	Chromic Acid solution (40% by mass) (23°C)
Bases	
X	Sodium Hydroxide solution (35% by mass) (23°C)
X	Sodium Hydroxide solution (1% by mass) (23°C)
X	Ammonium Hydroxide solution (10% by mass) (23°C)
Alcoho	ols
<b>\</b>	Isopropyl alcohol (23°C)
$\checkmark$	Methanol (23°C)
$\checkmark$	Ethanol (23°C)
Hydroo	carbons
$\checkmark$	n-Hexane (23°C)
$\checkmark$	Toluene (23°C)
$\checkmark$	iso-Octane (23°C)
Ketone	25
$\checkmark$	Acetone (23°C)
Ethers	
$\checkmark$	Diethyl ether (23°C)
Minera	al oils
$\checkmark$	SAE 10W40 multigrade motor oil (23°C)
X	SAE 10W40 multigrade motor oil (130°C)
X	SAE 80/90 hypoid-gear oil (130°C)
<b>_</b>	Insulating Oil (23°C)
X	Motor oil OS206 304 Ref.Eng.Oil, ISP (135°C)
X	Automatic hypoid-gear oil Shell Donax TX (135°C)
X	Hydraulic oil Pentosin CHF 202 (125°C)
Standa	ard Fuels
$\checkmark$	ISO 1817 Liquid 1 - E5 (60°C)
$\checkmark$	ISO 1817 Liquid 2 - M15E4 (60°C)
$\checkmark$	ISO 1817 Liquid 3 - M3E7 (60°C)

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ISO 1817 Liquid 4 - M15 (60°C)

- Standard fuel without alcohol (pref. ISO 1817 Liquid C) (23°C)
- Standard fuel with alcohol (pref. ISO 1817 Liquid 4) (23°C)
- Diesel fuel (pref. ISO 1817 Liquid F) (23°C)
- Diesel fuel (pref. ISO 1817 Liquid F) (90°C)
  - Diesel fuel (pref. ISO 1817 Liquid F) (>90°C)

#### Salt solutions

Sodium Chloride solution (10% by mass) (23°C)

- Sodium Hypochlorite solution (10% by mass) (23°C)
- Sodium Carbonate solution (20% by mass) (23°C)
- Sodium Carbonate solution (2% by mass) (23°C)
- Zinc Chloride solution (50% by mass) (23°C)

#### Other

	Ethyl Acetate (23°C)
X	Hydrogen peroxide (23°C)
X	DOT No. 4 Brake fluid (130°C)
X	Ethylene Glycol (50% by mass) in water (108°C)
1	1% nonylphenoxy-polyethyleneoxy ethanol in water (23 $^{\circ}$ C)
$\checkmark$	50% Oleic acid + 50% Olive Oil (23°C)

Water (23°C)

- Water (90°C)
  - Phenol solution (5% by mass)  $(23^{\circ}C)$

#### Symbols used:

#### possibly resistant

Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).

### Xnot recommended - see explanation

Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc. ISO Mechanical properties measured at 160 mil (Hytrel® measured at 80 mil), IEC Electrical properties measured at 80 mil, all ASTM properties measured at 120 mil, and test temperatures are 73°F unless otherwise stated.

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