

# LEXANTM VISUALFXTM RESIN FXD1413T

## **REGION AMERICAS**

### DESCRIPTION

Clear PC-siloxane copolymer with excellent processability, in special light diffusion colors. Medium flow. Improved toughness compared to medium flow standard PC in same color. Color package may affect performance.

## TYPICAL PROPERTY VALUES

MECHANCAL***VTensile Stress, yid, Type I, 50 mm/min60MPaATIM D638Tensile Stress, jud, Type I, 50 mm/min60%aASTIM D638Tensile Strain, jud, Type I, 50 mm/min60%aASTIM D638Tensile Strain, bid, Type I, 50 mm/min2270MPaASTIM D638Tensile Strain, bid, Type I, 50 mm/min2270MPaASTIM D638Plexaral Medulus, 50 mm/min874MPaASTIM D638Plexaral Medulus, 1.3 mm/min, 50 mm span2270MPaMSaTensile Strain, jedd, 50 mm/min57MPaMSaTensile Strain, jedd, 50 mm/min5.6%aMSo 527Tensile Strain, jedd, 50 mm/min5.6%aMSo 527Tensile Strain, jedd, 50 mm/min2310MPaMSaTensile Strain, jedd, 50 mm/min210MPaMSaPlexaral Modulus, 1 mm/min91MSaS0 178Tensile Strain, Jedd, 20 mm/min210MPaS0 178Tensile Strain, jedd, 20 mm/min91MSaMSIDecaral Modulus, 2 mm/min81MSaS0 178Tensile Strain, Jedd, 20 mm/min610MPaS0 178Tensile Strain, Jedd, 20 mm/min81MSaS0 178Tensile Strain, jedd, 20 mm/min81S0 180MSaTensile Strain, jedd, 20 mm	PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Tensile Stress, birk, Type L, 50 mm/min66MPaASTM D638Tensile Strain, birk, Type L, 50 mm/min6%ASTM D638Tensile Strain, birk, Type L, 50 mm/min130%ASTM D638Tensile Strain, birk, Type L, 50 mm/min130%ASTM D638Flexural Stress, yid, 1.3 mm/min, 50 mm span87MPaASTM D790Flexural Modulus, 1.3 mm/min, 50 mm span2700MPaASTM D790Tensile Stress, yield, 50 mm/min57MPaK05 27Tensile Stress, beak, 50 mm/min5.6%K05 27Tensile Stress, beak, 50 mm/min5.6%K05 27Tensile Stress, beak, 50 mm/min116%K05 27Tensile Stress, beak, 50 mm/min2100MPaK05 27Tensile Stress, beak, 50 mm/min2100MPaK05 27Tensile Modulus, 2 mm/min116%K05 27Tensile Modulus, 2 mm/min2100MPaK01 78Tensile Modulus, 2 mm/min1200MPaK01 78Lod Impact, notched, 30°C82J/mASIM 0256Itzd Impact, notched, 33°C82J/mASIM 0256Itzd Impact, notched 60°103 +23°C82J/mMS1 801/10Itzd Impact, notched 80°103 3.9555K/mK/m2Itzd Impact, notched 80°103 3.9555K/mK/m2Itzd Impact, notched 80°103 3.9560K/m2K0180/14Itzd Impact, notched 80°103 3.9555K/m2K/m2Itzd Impact, notched 80°103 3.95KK/m2 </td <td>MECHANICAL<sup>(1)</sup></td> <td></td> <td></td> <td></td>	MECHANICAL <sup>(1)</sup>			
Tensile Strain, yid. Type I. 50 mm/min6%ASTM D638Tensile Strain, brk, Type I. 50 mm/min130%ASTM D638Tensile Modulus, 50 mm/min2270MPaASTM D638Flexural Moltus, 50 mm/min, 50 mm span270MPaASTM D790Tensile Stress, yield, 50 mm/min57MPaS0 527Tensile Stress, break, 50 mm/min58MPaS0 527Tensile Stress, break, 50 mm/min56%S0 527Tensile Stress, break, 50 mm/min16%S0 527Tensile Stress, break, 50 mm/min16%S0 527Tensile Modulus, 1 mm/min16%S0 527Tensile Modulus, 1 mm/min116%S0 527Tensile Modulus, 2 mm/min910MPaS0 178Tensile Modulus, 2 mm/min910MPaS0 178Tensile Modulus, 2 mm/min910MPaS0 178Tensile Modulus, 2 mm/min910MPaS0 180Tensile Modulus, 2 mm/min910MPaS0 180Tensile Modulus, 2 mm/min920MPaS0 178Tensile Modulus, 2 mm/min910MPaS0 178Tensile Modulus, 2 mm/min910MPaS0 178 <tr<< td=""><td>Tensile Stress, yld, Type I, 50 mm/min</td><td>60</td><td>MPa</td><td>ASTM D638</td></tr<<>	Tensile Stress, yld, Type I, 50 mm/min	60	MPa	ASTM D638
Inertiel Strain, brk, Type I, 50 mm/min130%ASTM D638Tensile Modulus, 50 mm/min2270MPaASTM D638Flexural Modulus, 13 mm/min, 50 mm span87MPaASTM D790Tensile Stress, yield, 50 mm/min57MPaASTM D790Tensile Stress, yield, 50 mm/min56%MPaS0 527Tensile Stress, break, 50 mm/min56%%S0 527Tensile Stress, break, 50 mm/min56%%S0 527Tensile Stress, break, 50 mm/min16%S0 527Tensile Stress, break, 50 mm/min2310MPaS0 527Tensile Stress, yield, 2 mm/min910MPaS0 527Tensile Modulus, 1 mm/min910MPaS0 178Hexard Modulus, 2 mm/min910MPaS0 178MPACT <sup>(1)</sup> S0 178S0 178Lod Impact, notched, 30°C795J/mASTM D256Instrumeted Dart Impact Total Energy, 23°C88J/m2S0 180 110Izod Impact, unotched 80°10°3 -30°CN8M/m2S0 180 110Izod Impact, unotched 80°10°3 -30°C80M/m2S0 180 114Izod Impact, unotched 80°10°3 -30°C88M/m2S0 180 114Izod Impact, Notche Edgew 80°10°3 -962mmN8M/m2S0 180 114	Tensile Stress, brk, Type I, 50 mm/min	66	MPa	ASTM D638
Tensile Modules, 7.0 mm/min2270MPaASTM D638Flexural Stress, yild, 1.3 mm/min, 50 mm span87MPaASTM 0790Flexural Modules, 1.3 mm/min, 50 mm span2270MPaASTM 0790Tensile Stress, yild, 50 mm/min57MPaB0 527Tensile Stress, preak, 50 mm/min56%S0 527Tensile Stress, break, 50 mm/min16%B0 527Tensile Stress, break, 50 mm/min2310MPaB0 527Tensile Stress, vield, 2 mm/min2100MPaB0 527Flexural Modulus, 1 mm/min2100MPaB0 178Flexural Modulus, 2 mm/min2100MPaB0 178Flexural Motalus, 2 mm/min91MFaS0 178Flexural Motalus, 2 mm/min91MFaMSTM 0256Instrumented Data Impact, notched, 30°C795J/mASTM 0256Izod Impact, notched, 30°C95J/mMSTM 0256Izod Impact, notched 80°10°3 +23°C80M/m <sup>2</sup> B0 180/110Izod Impact, notched 80°10°3 +23°C10MIm <sup>2</sup> B0 180/14Izod Impact, notched 80°10°3 +23°C60M/m <sup>2</sup> B0 180/14Izod Impact, notched 80°10°3 +23°C10MIm <sup>2</sup> B0 180/14Izod Impact, notched 80°10°3 +23°C10MIm <sup>2</sup> B0 180/14Izod Impact, notched 80°10°3 +26°C10MIm <sup>2</sup> B0 180/14Izod Impact, notched 80°10°3 +26°C10MIm <sup>2</sup> B0 179/144Izod Impact, notched 80°10°3 +26°C10S0 180/14S0 179/144Izod I	Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D638
Hexaral Stress, yield, 1.3 mm/min, 50 mm span87MPaASTM 0790Hexaral Modulus, 1.3 mm/min, 50 mm span2270MPaASTM 0790Tensile Stress, yield, 50 mm/min57MPa150 527Tensile Stress, break, 50 mm/min5.6%505 277Tensile Stress, yield, 50 mm/min116%505 277Tensile Stress, yield, 2 mm/min2310MPa150 527Tensile Modulus, 1 mm/min91MPa150 527Tensile Modulus, 2 mm/min91MPa150 527Tensile Stress, yield, 2 mm/min91MPa150 527Tensile Ktresk, yield, 2 mm/min91MPa150 178Hexaral Modulus, 2 mm/min91MPa150 178Hexaral Modulus, 2 mm/min91MPa150 178Itod Impact, notched, 30°C82JASTM 0256Itod Impact, notched, 30°C95J/mASTM 0266Itod Impact, unotched 80°10°3 42°CNBM/m <sup>2</sup> 150 180/14Itod Impact, unotched 80°10°3 42°C55M/m <sup>2</sup> 150 180/14Itod Impact, unotched 80°10°3 42°C55M/m <sup>2</sup> 150 180/14Itod Impact, unotched 80°10°3 42°C66M/m <sup>2</sup> 150 180/14Itod Impact, unotched 80°10°3 42°C80M/m <sup>2</sup> 150 180/14Itod Impact, unotched 80°10°3 ep=62mm60M/m <sup>2</sup> 150 189/14Charpy 30°C, vhotch Edgew 80°10°3 ep=62mmNBM/m <sup>2</sup> 150 179/1eUCharpy 30°C, vhotch Edgew 80°10°3 ep=62mmNBM/m <sup>2</sup> 150 179/1eUChar	Tensile Strain, brk, Type I, 50 mm/min	130	%	ASTM D638
Heural Modulus, 1.3 mm/min, 50 mm yan     2270     MPa     ASTM D790       Tensile Stress, yield, 50 mm/min     57     MPa     150 527       Tensile Strain, yield, 50 mm/min     56     %     150 527       Tensile Strain, yield, 50 mm/min     56     %     150 527       Tensile Strain, yield, 50 mm/min     16     %     150 527       Tensile Strain, yield, 50 mm/min     16     %     150 527       Tensile Strain, yield, 2 mm/min     2310     MPa     150 527       Tensile Strain, yield, 2 mm/min     91     MPa     150 178       Tensile Strain, yield, 2 mm/min     91     MPa     150 178       Ideating tent notell, 20°C     795     1/m     ASTM D256       Istort montched 80°10°3 -23°C     82     1     ASTM D256       Ized Impact, unotched 80°10°3 -23°C     82     1     ASTM D256       Ized Impact, unotched 80°10°3 -30°C     82     1     ASTM D256       Ized Impact, unotched 80°10°3 -30°C     80     1/m <sup>2</sup> 150 180/14       Ized Impact, unotched 80°10°3 -30°C     55     1/m <sup>2</sup> 150 180/14	Tensile Modulus, 50 mm/min	2270	MPa	ASTM D638
Tensile Stress, yield, 50 mm/min57MPaIS0 527Tensile Strain, yield, 50 mm/min5.6%IS0 527Tensile Strain, yield, 50 mm/min16%IS0 527Tensile Strain, break, 50 mm/min130MPaIS0 527Tensile Strain, break, 50 mm/min2100MPaIS0 527Tensile Modulus, 1 mm/min910MPaIS0 178Flexural Stress, yield, 2 mm/min2190MPaIS0 178Ibeural Stress, yield, 2 mm/min8901/mASTM 0256Izod Impact, notched, 30°C7951/mASTM 0256Istrumeted Dart Impact Total Energy, 23°C821/mS0 180/10Izod Impact, unotched 80°10°3 +23°CNBkl/m²IS0 180/10Izod Impact, unotched 80°10°3 +23°C65kl/m²IS0 180/10Izod Impact, unotched 80°10°3 -962mm70kl/m²IS0 180/10Izod Impact, unotched 80°10°3 -962mmNBkl/m²IS0 180/10Izod Impact, unotched 80°10°3 -962mmNBkl/m²IS0 180/14Izod Impact, unotche Edgew 80°10°3 sp=62mmNBkl/m²IS0 179/1eACharpy 30°C, Vnotch Edgew 80°10°3 sp=62mmNBkl/m²IS0 179/1eACharpy 30°C, Unotch Edgew 80°10°3 sp=62mmNBkl/m²IS0 179/1eAChargy 30°C, Unotch E	Flexural Stress, yld, 1.3 mm/min, 50 mm span	87	MPa	ASTM D790
Tensile Streak, 50 mm/min     58     MPa     ISO 527       Tensile Strain, yield, 50 mm/min     5.6     %     ISO 527       Tensile Strain, break, 50 mm/min     116     %     ISO 527       Tensile Modulus, 1 mm/min     2310     MPa     ISO 527       Flexural Modulus, 2 mm/min     2190     MPa     ISO 178       Flexural Modulus, 2 mm/min     2190     MPa     S0 178       Izod Impact, notched, 30°C     890     J/m     ASTM 0256       Izod Impact, notched, 30°C     890     J/m     ASTM 0256       Isotumented Dart Impact Total Energy, 23°C     82     J     ASTM 0256       Izod Impact, unotched 80°10°3 +23°C     82     J     ASTM 0256       Izod Impact, unotched 80°10°3 +23°C     82     J     ASTM 0256       Izod Impact, unotched 80°10°3 +23°C     82     J     ASTM 0256       Izod Impact, unotched 80°10°3 +23°C     80     K/m²     S0 180/14       Izod Impact, unotched 80°10°3 +23°C     80     K/m²     S0 180/14       Izod Impact, unotched 80°10°3 +23°C     80     K/m²     S0 180/14	Flexural Modulus, 1.3 mm/min, 50 mm span	2270	MPa	ASTM D790
Tensile Strain, yield, 50 mm/min5.6%100 527Tensile Strain, break, 50 mm/min116%150 527Tensile Modulus, 1 mm/min2310MPa150 527Flexural Stress, yield, 2 mm/min91MPa150 178Flexural Modulus, 2 mm/min2190MPa150 178IMPACT <sup>11</sup> Stress, Yield, 2 mm/minStores, Yield, 2 mm/minLood Impact, notched, 23°C82JASTM D256Isol Impact, notched, 30°C795JJmASTM D256Instrumented Dart Impact Total Energy, 23°C82JASTM D3763Izod Impact, notched 80°10°3 +23°CNBKJm²ISO 180/10Izod Impact, notched 80°10°3 +23°C65KJm²ISO 180/10Izod Impact, notched 80°10°3 +23°C65KJm²ISO 180/14Izod Impact, notched 80°10°3 +23°C60KJm²ISO 180/14Izod Impact, notched 80°10°3 +23°C86KJm²ISO 180/14Izod Impact, notched 80°10°3 +23°C86KJm²ISO 180/14Izod Impact, notched 80°10°3 +23°C86KJm²ISO 180/14Izod Impact, notched 80°10°3 sp=62mmNBKJm²ISO 179/1eACharpy 23°C, Unnotch Edgew 80°10°3 sp=62mmNBKJm²ISO 179/1eACharpy 30°C, Unnotch Edgew 80°10°3 sp=62mmNBKJm²ISO 179/1eATHERMAL <sup>11</sup> CASTM D525Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mmNBKJm²ISO 179/1eACharpy 30°C, Unnotch Edgew 80°10°3 sp=62mmNBKJm² <td< td=""><td>Tensile Stress, yield, 50 mm/min</td><td>57</td><td>MPa</td><td>ISO 527</td></td<>	Tensile Stress, yield, 50 mm/min	57	MPa	ISO 527
Tensile Strain, break, 50 m/min116%150 527Tensile Modulus, 1 mm/min2310MPa150 527Flexural Stress, yield, 2 mm/min91MPa150 178Flexural Modulus, 2 mm/min2190MPa150 178IMPACT <sup>(1)</sup> </th <th>Tensile Stress, break, 50 mm/min</th> <th>58</th> <th>MPa</th> <th>ISO 527</th>	Tensile Stress, break, 50 mm/min	58	MPa	ISO 527
Tensile Modulus, 1 mm/min2310MPaISO 527Hexural Stress, yield, 2 mm/min91MPaISO 178Hexural Modulus, 2 mm/min2190MPaISO 178IMPACT <sup>(1)</sup> So 178Izod Impact, notched, 30°C890J/mASTM D256Instruented Dart Impact Total Energy, 23°C82JASTM D256Izod Impact, notched 80°10'3 +23°CNBKl/m²ISO 180/1UIzod Impact, notched 80°10'3 +23°C65Kl/m²ISO 180/1UIzod Impact, notched 80°10'3 -30°C55Kl/m²ISO 180/1AIzod Impact, notched 80°10'3 sp=62mm60Kl/m²ISO 180/1ACharpy 23°C, Vnotch Edgew 80°10'3 sp=62mm60Kl/m²ISO 179/1eACharpy 30°C, Unotch Edgew 80°10'3 sp=62mmNBKl/m²ISO 179/1eACharpy 30°C, Unotch Edgew 80°10'3 sp=62mm14°CSo 179/1eATHERMALI <sup>(1)</sup> So 179/1eASo 179/1eACharpy 30°C, Unotch Edgew 80°10'3 sp=62mm14°CSo 179/1eACharpy 30°C, Unotch Edgew 80°10'3 sp=62mm14<	Tensile Strain, yield, 50 mm/min	5.6	%	ISO 527
Hexural Stress, yield, 2 m/min91MPaIso 178Hexural Modulus, 2 mm/min2190MPaIso 178IMPACT <sup>(1)</sup> So 178So 178Izod Impact, notched, 23°C890J/mASTM D256Izod Impact, notched, 30°C795J/mASTM D256Instrumented Dart Impact Total Energy, 23°C82JASTM D3763Izod Impact, unnotched 80°10°3 +23°CNBK/m²Iso 180/10Izod Impact, notched 80°10°3 spe3cm70K/m²Iso 180/14Ico Impact, Notche Edgew 80°10°3 spe3cm60K/m²Iso 179/1eACharpy 30°C, Vnotch Edgew 80°10°3 spe3cmRBk/m²Iso 179/1eACharpy 30°C, Unnotch Edgew 80°10°3 spe3cmNBk/m²Iso 179/1eACharpy 30°C, Unnotch Edgew 80°10°3 spe3cmRBk/m²Iso 179/1eACharpy 30°C, Unnotch Edgew 80°10°3 spe3cmREK/m²Iso 179/1eACharpy 30°C, Unnotch Edgew 80°10°3 spe3cmREK/m²Iso 179/1eACharpy 30°C, Inform, Rate A/5	Tensile Strain, break, 50 mm/min	116	%	ISO 527
Hexard Modulus, 2 mm/min2190MPaIso 178IPeacul Modulus, 2 mm/min2190MPaIso 178IPMACT <sup>(1)</sup> Iso 178Iso 178Izod Impact, notched, 23°C890J/mASTM D256Instrumented Dart Impact Total Energy, 23°C82JASTM D3763Izod Impact, unotched 80°10°3 +23°CNBKl/m²Iso 180/10Izod Impact, notched 80°10°3 +23°CNBKl/m²Iso 180/10Izod Impact, notched 80°10°3 +23°CS5Kl/m²Iso 180/14Izod Impact, notched 80°10°3 -962mm65Kl/m²Iso 180/1AIzod Impact, notched 80°10°3 spe62mm60Kl/m²Iso 179/1eACharpy 30°C, Unnotch Edgew 80°10°3 spe62mmRaKl/m²Iso 179/1eACharpy 30°C, Unnotch Edgew 80°10°3 spe62mmNBKl/m²Iso 179/1eACharpy 30°C, Unnotch Edgew 80°10°3 spe62mmNBKl/m²Iso 179/1eACharpy 30°C, Unnotch Edgew 80°10°3 spe62mmRaKl/m²Iso 179/1eACharpy 30°C, Unnotch Edgew 80°10°3 spe62mmNBKl/m²Iso 179/1eATHERML <sup>(1)</sup> TTTTStVicat Softening Temp, Rate A/50141°CStStHDT, 1.52 MPa, 3.2mm, unannealed124°CStStCTE, 40°C to 95°C, rdow7.93E-051/°CStStCTE, 40°C to 95°C, rdow7.93E-051/°CStStCTE, 43°C to 80°C, flow7.93E-051/°CStStCTE, 43°C to 80°C, rdow7.93E-051/°C <td>Tensile Modulus, 1 mm/min</td> <td>2310</td> <td>MPa</td> <td>ISO 527</td>	Tensile Modulus, 1 mm/min	2310	MPa	ISO 527
IMPACT <sup>11</sup> Impact. notched, 23°C     890     J/m     ASTM D256       Izod impact, notched, -30°C     795     J/m     ASTM D256       Instrumented Dart impact Total Energy, 23°C     82     J     ASTM D3763       Izod impact, unotched 80°10°3 + 23°C     NB     KJ/m <sup>2</sup> ISO 180/10       Izod impact, unotched 80°10°3 + 23°C     NB     KJ/m <sup>2</sup> ISO 180/10       Izod impact, notched 80°10°3 + 23°C     65     KJ/m <sup>2</sup> ISO 180/1A       Izod impact, notched 80°10°3 + 23°C     55     KJ/m <sup>2</sup> ISO 180/1A       Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm     60     KJ/m <sup>2</sup> ISO 179/1eA       Charpy 23°C, Unnotch Edgew 80°10°3 sp=62mm     NB     KJ/m <sup>2</sup> ISO 179/1eA       Charpy 23°C, Unnotch Edgew 80°10°3 sp=62mm     NB     KJ/m <sup>2</sup> ISO 179/1eA       Charpy 23°C, Unnotch Edgew 80°10°3 sp=62mm     NB     KJ/m <sup>2</sup> ISO 179/1eA       Charpy 23°C, Unnotch Edgew 80°10°3 sp=62mm     NB     KJ/m <sup>2</sup> ISO 179/1eA       Charpy 23°C, Unnotch Edgew 80°10°3 sp=62mm     NB     KJ/m <sup>2</sup> ISO 179/1eA       Charpy 23°C, Unnotch Edgew 80°10°3 sp=62mm     NB     KJ/m <sup>2</sup> <	Flexural Stress, yield, 2 mm/min	91	MPa	ISO 178
Izod Impact, notchel, 23°C990J/mASTM D256Izod Impact, notchel, 30°C950J/mASTM D256Isot Impact, unnotched 80°10°3 +23°CNBKJ M <sup>2</sup> S0 180/10Izod Impact, unnotched 80°10°3 +23°CNBKJ M <sup>2</sup> S0 180/10Izod Impact, notched 80°10°3 +23°C55KJ M <sup>2</sup> S0 180/1AIzod Impact, notched 80°10°3 +23°C55KJ M <sup>2</sup> S0 180/1AIzod Impact, notched 80°10°3 sp=62mm70KJ M <sup>2</sup> ISO 179/1eACharpy 23°C, V-notch Edgew 80°10°3 sp=62mmNBKJ M <sup>2</sup> ISO 179/1eACharpy 30°C, Unnotch Edgew 80°10°3 sp=62mmNBKJ M <sup>2</sup> ISO 179/1eACharpy 30°C, Unnotch Edgew 80°10°3 sp=62mmNBKJ M <sup>2</sup> S0 179/1eATHERMAL <sup>10</sup> VS0 179/1eAS0 179/1eATHERMAL <sup>10</sup> 124°CASTM D1525ITE, 24°C to 95°C, flow7.15E/0S1/°CASTM E831CTE, 40°C to 95°C, flow7.93E/0S1/°CASTM E831CTE, 43°C to 80°C, flow7.93E/0S1/°CISO 11359-2CTE, 23°C to 80°C, flow7.93E/0S1/°CISO 11359-2	Flexural Modulus, 2 mm/min	2190	MPa	ISO 178
Izod Impact, notched, 30°C795J/mASTM D256Instrumented Dart Impact Total Energy, 23°C82JASTM D3763Izod Impact, unnotched 80°10°3 +23°CNBk/m²ISO 180/1UIzod Impact, unnotched 80°10°3 -30°CNBk/m²ISO 180/1UIzod Impact, notched 80°10°3 -30°CS0S0K/m²ISO 180/1UIzod Impact, notched 80°10°3 -30°CS0S0K/m²ISO 180/1UIzod Impact, notched 80°10°3 -30°CS0S0K/m²ISO 180/1AIzod Impact, notched 80°10°3 -80°CS0S0S0S0Izod Impact, Notch Edgew 80°10°3 sp=62mmS0S0S0S0S0Charpy 23°C, Unnotch Edgew 80°10°3 sp=62mmNBS0K/m²S0S0S0THERMAL <sup>11</sup> TTTTTTTVicat Softening Temp, Rate A/50I41°CASTM D525S1S0THERMAL <sup>10</sup> TS1S1S1S1S1CTE, 40°C to 95°C, flowI41°CIf°CASTM D543CTE, 40°C to 55°C, flowIf°CIf°CIf°CIffCTE, 40°C to 85°C, f	IMPACT <sup>(1)</sup>			
Instrumented Dark Impact Total Energy, 23°C     82     J     ASTM D3763       Izod Impact, unnotched 80°10°3 +23°C     NB     kl/m²     ISO 180/1U       Izod Impact, unnotched 80°10°3 +30°C     NB     kl/m²     ISO 180/1U       Izod Impact, unnotched 80°10°3 +30°C     65     kl/m²     ISO 180/1A       Izod Impact, notched 80°10°3 -30°C     55     kl/m²     ISO 180/1A       Izod Impact, notched 80°10°3 sp=62mm     70     kl/m²     ISO 179/1A       Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm     60     kl/m²     ISO 179/1A       Charpy 23°C, Unnotch Edgew 80°10°3 sp=62mm     NB     kl/m²     ISO 179/1A       Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm     NB     kl/m²     ISO 179/1B       Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm     NB     kl/m²     ISO 179/1B       Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm     NB     kl/m²     ISO 179/1B       Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm     NB     kl/m²     ISO 179/1B       Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm     NB     kl/m²     ISO 179/1B       Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm     141     C     ASTM D35	Izod Impact, notched, 23°C	890	J/m	ASTM D256
Izod Impact, unnotched 80*10*3 + 23°C     NB     kl /m²     SO 180/1U       Izod Impact, unnotched 80*10*3 + 23°C     NB     kl /m²     ISO 180/1A       Izod Impact, notched 80*10*3 - 30°C     65     kl /m²     ISO 180/1A       Izod Impact, notched 80*10*3 - 30°C     55     kl /m²     ISO 180/1A       Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm     60     kl /m²     ISO 179/1eA       Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm     60     kl /m²     ISO 179/1eA       Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm     NB     kl /m²     ISO 179/1eA       Charpy 30°C, Unnotch Edgew 80*10*3 sp=62mm     NB     kl /m²     ISO 179/1eA       Charpy 30°C, Unnotch Edgew 80*10*3 sp=62mm     NB     kl /m²     ISO 179/1eA       Charpy 30°C, Unnotch Edgew 80*10*3 sp=62mm     NB     kl /m²     ISO 179/1eA       Charpy 30°C, Unnotch Edgew 80*10*3 sp=62mm     NB     kl /m²     ISO 179/1eA       Charpy 30°C, Unnotch Edgew 80*10*3 sp=62mm     NB     kl /m²     ISO 179/1eA       Charpy 30°C, Unnotch Edgew 80*10*3 sp=62mm     141     °C     ASTM D1525       Charpy 3.2°C, flow     7.15E/05     1/°C	Izod Impact, notched, -30°C	795	J/m	ASTM D256
Izod Impact, unnotched 80*10*3 -30°C     NB     kJ m²     ISO 180/1U       Izod Impact, notched 80*10*3 +23°C     65     kJ m²     ISO 180/1A       Izod Impact, notched 80*10*3 -23°C     55     kJ m²     ISO 180/1A       Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm     70     kJ m²     ISO 179/1eA       Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm     60     kJ m²     ISO 179/1eA       Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm     NB     kJ m²     ISO 179/1eU       Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm     NB     kJ m²     ISO 179/1eU       Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm     NB     kJ m²     ISO 179/1eU       Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm     NB     kJ m²     ISO 179/1eU       Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm     NB     kJ m²     ISO 179/1eU       Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm     NB     kJ m²     ISO 179/1eU       Vicat Softening Temp, Rate A/50     141     °C     ASTM D1525       HDT, 1.82 MPa, 3.2mm, unannealed     124     °C     ASTM E831       CTE, 40°C to 95°C, flow     7.15E·05     1/°C     ASTM E831	Instrumented Dart Impact Total Energy, 23°C	82	J	ASTM D3763
Izod Impact, notched 80*10*3 +23°C     65     kl/m2     ISO 180/1A       Izod Impact, notched 80*10*3 -30°C     55     kl/m2     ISO 180/1A       Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm     70     kl/m2     ISO 179/1eA       Charpy 30°C, V-notch Edgew 80*10*3 sp=62mm     60     kl/m2     ISO 179/1eA       Charpy 30°C, V-notch Edgew 80*10*3 sp=62mm     NB     kl/m2     ISO 179/1eU       Charpy 30°C, Unnotch Edgew 80*10*3 sp=62mm     NB     kl/m2     ISO 179/1eU       THERMAL <sup>(1)</sup> VI     ISO 179/1eU     ISO 179/1eU       Vicat Softening Temp, Rate A/50     141     °C     ASTM D1525       HDT, 1.82 MPa, 3.2mm, unannealed     124     °C     ASTM D648       CTE, 40°C to 95°C, flow     7.05E/05     1/°C     ASTM E831       CTE, 40°C to 95°C, flow     7.05E/05     1/°C     ASTM E831       CTE, 23°C to 80°C, flow     7.05E/05     1/°C     050 11359-2       CTE, 23°C to 80°C, flow     7.03E/05     1/°C     ISO 11359-2	Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
izod Impact, notched 80°10°3·30°C     55     kJ /m²     ISO 180/1A       Charpy 33°C, V-notch Edgew 80°10°3 sp=62mm     70     kJ /m²     ISO 179/1eA       Charpy 30°C, V-notch Edgew 80°10°3 sp=62mm     60     kJ /m²     ISO 179/1eA       Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm     NB     kJ /m²     ISO 179/1eU       Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm     NB     kJ /m²     ISO 179/1eU       Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm     NB     kJ /m²     SO 179/1eU       Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm     NB     kJ /m²     SO 179/1eU       Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm     NB     kJ /m²     SO 179/1eU       Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm     NB     kJ /m²     SO 179/1eU       Charpy 30°C, Unnotch Edgew 80°10°3 sp=62mm     NB     kJ /m²     SO 179/1eU       Charpy 30°C, Mage 80°10°3 sp=62mm     NB     kJ /m²     SO 179/1eU       Charpy 30°C, Mage 80°10°G 80°C, Mage 80°C, Mage 80°10	Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm70kl/m2ISO 179/1eACharpy 30°C, V-notch Edgew 80°10°3 sp=62mm60kl/m2ISO 179/1eACharpy 23°C, Unnotch Edgew 80°10°3 sp=62mmNBkl/m2ISO 179/1eUCharpy 30°C, Unnotch Edgew 80°10°3 sp=62mmNBkl/m2ISO 179/1eUTHERMAL <sup>(1)</sup> 70ASTM D1525Vicat Softening Temp, Rate A/50141°CASTM D1525HDT, 1.82 MPa, 3.2mm, unannealed124°CASTM D648CTE, 40°C to 95°C, flow7.15E-051/°CASTM E831CTE, 40°C to 95°C, flow7.15E-051/°CISO 11359-2CTE, 23°C to 80°C, flow7.93E-051/°CISO 11359-2	Izod Impact, notched 80*10*3 +23°C	65	kJ/m²	ISO 180/1A
Charpy -30°C, V-notch Edgew 80°10°3 sp=62mm     60     kl/m²     ISO 179/1eA       Charpy 23°C, Unnotch Edgew 80°10°3 sp=62mm     NB     kl/m²     ISO 179/1eU       Charpy -30°C, Unnotch Edgew 80°10°3 sp=62mm     NB     kl/m²     ISO 179/1eU       THERMAL <sup>(1)</sup> Vicat Softening Temp, Rate A/50     141     °C     ASTM D1525       HDT, 1.82 MPa, 3.2mm, unannealed     124     °C     ASTM D648       CTE, -40°C to 95°C, flow     7.15E-05     1/°C     ASTM E831       CTE, 23°C to 80°C, flow     7.15E-05     1/°C     ISO 11359-2       CTE, 23°C to 80°C, flow     7.93E-05     1/°C     ISO 11359-2	Izod Impact, notched 80*10*3 -30°C	55	kJ/m²	ISO 180/1A
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm     NB     kl/m2     ISO 179/1eU       Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm     NB     kl/m2     ISO 179/1eU       THERMAL <sup>(1)</sup> Vicat Softening Temp, Rate A/50     141     °C     ASTM D1525       HDT, 1.82 MPa, 3.2mm, unannealed     124     °C     ASTM D648       CTE, 40°C to 95°C, flow     7.15E-05     1/°C     ASTM E831       CTE, 40°C to 95°C, flow     7.15E-05     1/°C     ISO 11359-2       CTE, 23°C to 80°C, flow     7.93E-05     1/°C     ISO 11359-2	Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	70	kJ/m²	ISO 179/1eA
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm     NB     kJ/m²     ISO 179/1eU       THERMAL <sup>(1)</sup> THERMAL     STM D1525     STM D1525       Vicat Softening Temp, Rate A/50     141     °C     ASTM D1525       HDT, 1.82 MPa, 3.2mm, unannealed     124     °C     ASTM D648       CTE, 40°C to 95°C, flow     7.15E-05     1/°C     ASTM E831       CTE, 40°C to 95°C, flow     7.15E-05     1/°C     ASTM E831       CTE, 23°C to 80°C, flow     7.15E-05     1/°C     ISO 11359-2       CTE, 23°C to 80°C, flow     7.93E-05     1/°C     ISO 11359-2	Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	60	kJ/m²	ISO 179/1eA
THERMAL <sup>(1)</sup> Yicat Softening Temp, Rate A/50   141   °C   ASTM D1525     HDT, 1.82 MPa, 3.2mm, unannealed   124   °C   ASTM D648     CTE, 40°C to 95°C, flow   7.15E-05   1/°C   ASTM E831     CTE, 40°C to 95°C, flow   7.93E-05   1/°C   ASTM E831     CTE, 23°C to 80°C, flow   7.15E-05   1/°C   ISO 11359-2     CTE, 23°C to 80°C, flow   7.93E-05   1/°C   ISO 11359-2	Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Vicat Softening Temp, Rate A/50     141     °C     ASTM D1525       HDT, 1.82 MPa, 3.2mm, unannealed     124     °C     ASTM D648       CTE, 40°C to 95°C, flow     7.15E·05     1/°C     ASTM E831       CTE, 40°C to 95°C, flow     7.93E·05     1/°C     ASTM E831       CTE, 23°C to 80°C, flow     7.15E·05     1/°C     ISO 11359-2       CTE, 23°C to 80°C, flow     7.93E·05     1/°C     ISO 11359-2	Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
HDT, 1.82 MPa, 3.2mm, unannealed   124   °C   ASTM D648     CTE, 40°C to 95°C, flow   7.15E·05   1/°C   ASTM E831     CTE, 40°C to 95°C, xflow   7.93E·05   1/°C   ASTM E831     CTE, 23°C to 80°C, flow   7.15E·05   1/°C   ISO 11359-2     CTE, 23°C to 80°C, xflow   7.93E·05   1/°C   ISO 11359-2	THERMAL <sup>(1)</sup>			
CTE, -40°C to 95°C, flow   7.15E-05   1/°C   ASTM E831     CTE, -40°C to 95°C, xflow   7.93E-05   1/°C   ASTM E831     CTE, 23°C to 80°C, flow   7.15E-05   1/°C   ISO 11359-2     CTE, 23°C to 80°C, xflow   7.93E-05   1/°C   ISO 11359-2	Vicat Softening Temp, Rate A/50	141	°C	ASTM D1525
CTE, -40°C to 95°C, xflow   7.93E-05   1/°C   ASTM E831     CTE, 23°C to 80°C, flow   7.15E-05   1/°C   ISO 11359-2     CTE, 23°C to 80°C, xflow   7.93E-05   1/°C   ISO 11359-2	HDT, 1.82 MPa, 3.2mm, unannealed	124	°C	ASTM D648
CTE, 23°C to 80°C, flow 7.15E-05 1/°C ISO 11359-2   CTE, 23°C to 80°C, xflow 7.93E-05 1/°C ISO 11359-2	CTE, -40°C to 95°C, flow	7.15E-05	1/°C	ASTM E831
<b>CTE, 23°C to 80°C, xflow</b> 7.93E-05 1/°C ISO 11359-2	CTE, -40°C to 95°C, xflow	7.93E-05	1/°C	ASTM E831
	CTE, 23°C to 80°C, flow	7.15E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C     PASS     -     IEC 60695-10-2	CTE, 23°C to 80°C, xflow	7.93E-05	1/°C	ISO 11359-2
	Ball Pressure Test, 125°C +/- 2°C	PASS	-	IEC 60695-10-2

© 2024 Copyright by SABIC. All rights reserved

## CHEMISTRY THAT MATTERS

Revision 20241028



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Vicat Softening Temp, Rate B/50	141	°C	ISO 306
Vicat Softening Temp, Rate B/120	143	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	119	°C	ISO 75/Af
Relative Temp Index, Elec <sup>(2)</sup>	80	°C	UL 746B
Relative Temp Index, Mech w/impact <sup>(2)</sup>	80	°C	UL 746B
Relative Temp Index, Mech w/o impact (2)	80	°C	UL 746B
PHYSICAL <sup>(1)</sup>			
Specific Gravity	1.19		ASTM D792
Mold Shrinkage on Tensile Bar, flow <sup>(3)</sup>	0.4 - 0.8	%	SABIC method
Mold Shrinkage, flow, 3.2 mm <sup>(3)</sup>	0.4 - 0.8	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm <sup>(3)</sup>	0.4 - 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	10	g/10 min	ASTM D1238
Density	1.19	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/saturated)	0.13	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.09	%	ISO 62
Melt Volume Rate, MVR at 220°C/5.0 kg	9	cm <sup>3</sup> /10 min	ISO 1133
ELECTRICAL <sup>(1)</sup>			
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 2	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 3	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 1	≥1.5	mm	UL 746A
FLAME CHARACTERISTICS (2)			
UL Yellow Card Link	<u>E121562-512742</u>		
UL Recognized, 94HB Flame Class Rating	≥1.5	mm	UL 94
Glow Wire Ignitability Temperature, 3.0 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm	825	°C	IEC 60695-2-13
Glow Wire Flammability Index, 3.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.5 mm	850	°C	IEC 60695-2-12
INJECTION MOLDING (4)			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	295 – 315	°C	
Nozzle Temperature	290 – 310	°C	
Front - Zone 3 Temperature	295 - 315	°C	
Middle - Zone 2 Temperature	280 - 305	°C	
Rear - Zone 1 Temperature	270 – 295	°C	
Mold Temperature	70 – 95	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.076	mm	



- (1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
- (2) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.
- (3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article. The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
- (4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

#### **MORE INFORMATION**

For curve data and CAE cards, please visit and register at https://materialfinder.sabic-specialties.com

#### DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NONINFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.