

# LEXANTM COPOLYMER HPH4404

## REGION EUROPE

## **DESCRIPTION**

High heat specialty polycarbonate. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO10993 or USP Class VI). EtO, steam, gamma and e-beam sterilizable.

# **TYPICAL PROPERTY VALUES**

Revision 20241028

PROPERTIES         TYPICAL VALUES         UNITS         EST METHODS           MECHANICAL ************************************				
Tensile Stress, brd, Type I, 50 mm/min         65         MP3         ASIM D638           Tensile Stress, brk, Type I, 50 mm/min         7         8         ASIM D638           Tensile Strain, brk, Type I, 50 mm/min         712         8         ASIM D638           Tensile Strain, brk, Type I, 50 mm/min         2102         MP3         ASIM D638           Tensile Strain, brk, Type I, 50 mm/min         2102         MP3         ASIM D638           Tensile Strain, John Span         200         MP3         ASIM D790           Hexural Modulus, 1.3 mm/min, 50 mm span         200         MP3         ASIM D785           Hardness, Rockwell R         220         MP3         ASIM D785           Hardness, Rockwell R         10         MP4         ASIM D785           Hardness, Rockwell R         10         MP3         ASIM D785           Tensile Strass, yield, 50 mm/min         6         MP4         50.527           Tensile Strass, break, 50 mm/min         21         NP2         50.527           Tensile Strass, break, 50 mm/min         18         180.02         19.02         19.02           Tensile Strass, break, 50 mm/min         18         180.02         19.02         19.02         19.02         19.02         19.02         19.02         <	PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Tensile Stress, brk, Type I, 50 mm/min         70         MPB         ASTM D638           Tensile Strain, Jvk, Type I, 50 mm/min         71         %         ASTM D638           Tensile Modulus, 5 mm/min         2100         MPB         ASTM D638           Flexural Stress, Jvk, 1,3 mm/min, 50 mm span         95         MPB         ASTM D790           Flexural Modulus, 1,3 mm/min, 50 mm span         2200         MPB         ASTM D780           Hardness, Rockwell M         222         -         ASTM D785           Hardness, Rockwell R         222         -         ASTM D785           Tensile Stress, Jeeld, 50 mm/min         60         MPB         S0 527           Tensile Stress, Jeeld, 50 mm/min         60         MPB         S0 527           Tensile Stress, Jeeld, 50 mm/min         85         4         S0 527           Tensile Stress, Jeeld, 50 mm/min         85         4         S0 527           Tensile Stress, Jeeld, 50 mm/min         81         S0 527         S0 527           Tensile Stress, Jeeld, 50 mm/min         81         S0 527         S0 527           Tensile Induction, break, 50 mm/min         81         S0 527         S0 527           Tensile Stress, Jeeld, 50 mm/min         81         S0 527         S0 78	MECHANICAL (1)			
Tensile Strain, lyf. Type I, 50 mm/min         7         8         ASTM D638           Tensile Strain, lyft, Type I, 50 mm/min         112         %         ASTM D638           Tensile Strain, lyft, Type I, 50 mm/min         2100         MPa         ASTM D638           Tensile Modulus, 5 mm/min         9         MPa         ASTM D790           Flexural Modulus, 1.3 mm/min, 50 mm span         200         MPa         ASTM D785           Hardness, Rockwell M         85         -         ASTM D785           Hardness, Rockwell R         122         -         ASTM D785           Hardness, Rockwell R         60         MPa         SO 527           Tensile Stress, yield, 50 mm/min         60         MPa         SO 527           Tensile Stress, break, 50 mm/min         7         %         SO 527           Tensile Stresh, break, 50 mm/min         85         %         SO 527           Tensile Stresh, break, 50 mm/min         85         %         SO 527           Tensile Stresh, break, 50 mm/min         85         %         SO 527           Tensile Stresh, break, 50 mm/min         85         %         MPa         SO 527           Tensile Stresh, break, 50 mm/min         88         %         MPa         SO 178	Tensile Stress, yld, Type I, 50 mm/min	65	MPa	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min         >112         %         ASTM D638           Tensile Modulus, 5 mm/min         2100         MPa         ASTM D638           Flexural Modulus, 5 mm/min, 50 mm span         250         MPa         ASTM D790           Flexural Modulus, 13 mm/min, 50 mm span         2200         MPa         ASTM D785           Hardness, Rockwell M         85         -         ASTM D785           Hardness, Rockwell R         122         -         ASTM D785           Tensile Stress, yelds, 50 mm/min         60         MPa         ISO 527           Tensile Strain, break, 50 mm/min         6         MPa         ISO 527           Tensile Strain, break, 50 mm/min         85         %         ISO 527           Tensile Strain, break, 50 mm/min         6         MPa         ISO 527           Tensile Strain, break, 50 mm/min         85         %         ISO 527           Tensile Strain, break, 50 mm/min         66         MPa         ISO 178           Reward Stress, yelds, 2 mm/min         66         MPa         ISO 178           Flexural Modulus, 7 mm/min         60         MPa         ISO 178           Edward Stress, yelds, 2 mm/min         60         MPa         ISO 178           Izo dumpact	Tensile Stress, brk, Type I, 50 mm/min	70	MPa	ASTM D638
Tensile Modulus, 5 mm/min         2100         MPa         ASTM DG38           Flexural Stress, yld, 1.3 mm/min, 50 mm span         95         MPa         ASTM D790           Flexural Modulus, 1.3 mm/min, 50 mm span         2200         MPa         ASTM D785           Hardness, Rockwell N         122         -         ASTM D785           Hardness, Rockwell R         122         -         ASTM D785           Tensile Stress, break, 50 mm/min         60         MPa         ISO 527           Tensile Stress, break, 50 mm/min         85         %         ISO 527           Tensile Stress, break, 50 mm/min         85         %         ISO 527           Tensile Stress, break, 50 mm/min         85         %         ISO 527           Tensile Stress, break, 50 mm/min         85         %         ISO 527           Tensile Stress, break, 50 mm/min         85         %         ISO 527           Tensile Stress, break, 50 mm/min         85         %         ISO 527           Flexural Stress, yleid, 2 mm/min         85         %         ISO 527           Tensile Stress, yleid, 5 mm/min         81         MPa         ISO 527           Tensile Stress, yleid, 5 mm/min         81         MPa         ISO 178           Berward Stre	Tensile Strain, yld, Type I, 50 mm/min	7	%	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span         95         MPa         ASTM D790           Flexural Modulus, 1.3 mm/min, 50 mm span         2200         MPa         ASTM D785           Hardness, Rockwell M         25         -         ASTM D785           Hardness, Rockwell N         122         -         ASTM D785           Tensile Stress, yield, 50 mm/min         65         Pa         05 527           Tensile Stress, break, 50 mm/min         60         MPa         05 527           Tensile Strain, Dreak, 50 mm/min         85         %         05 527           Tensile Strain, Dreak, 50 mm/min         85         %         05 527           Tensile Strain, Dreak, 50 mm/min         66         MPa         05 527           Tensile Modulus, 1 mm/min         61         MPa         05 527           Flexural Stress, yleid, 2 mm/min         66         MPa         05 178           Flexural Stress, yleid, 2 mm/min         66         MPa         05 178           Flexural Stress, yleid, 2 mm/min         66         MPa         35 178           Flexural Stress, yleid, 2 mm/min         60         MPa         35 178           Flexural Modulus, 2 mm/min         66         MPa         35 178           Izabara Instrust	Tensile Strain, brk, Type I, 50 mm/min	>112	%	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span         2000         MPa         ASTM D785           Hardness, Rockwell M         85         -         ASTM D785           Hardness, Rockwell R         122         -         ASTM D785           Hardness, Rockwell R         122         -         ASTM D785           Tensile Stress, yeld, 50 mm/min         66         MPa         ISO 527           Tensile Strain, yeld, 50 mm/min         7         %         ISO 527           Tensile Modulus, 1 mm/min         25         %         ISO 527           Tensile Strain, break, 50 mm/min         2150         MPa         ISO 527           Tensile Modulus, 2 mm/min         66         MPa         ISO 527           Flexural Modulus, 2 mm/min         120         MPa         ISO 178           Flexural Modulus, 2 mm/min         66         MPa         ISO 178           Flexural Modulus, 2 mm/min         120         MPa         ISO 178           Flexural Modulus, 2 mm/min         120         MPa         ASTM D4812           Instrumenting Density Minach         180         MPa         ASTM D4812           Izo Impact, unnotched, 23°C         19         MInach         ASTM D4812           Izo Impact, unnotched 80°10°3 +23°C         19	Tensile Modulus, 5 mm/min	2100	MPa	ASTM D638
Hardness, Rockwell M         95         ASTM D785           Hardness, Rockwell R         122         -         ASTM D785           Tensile Stress, yield, 50 mm/min         65         MPa         150 527           Tensile Stress, breds, 50 mm/min         70         MPa         150 527           Tensile Strain, yield, 50 mm/min         7         8         50 527           Tensile Strain, break, 50 mm/min         85         8         150 527           Tensile Modulus, 1 mm/min         2150         MPa         150 527           Flexural Stress, yield, 2 mm/min         66         MPa         150 178           Flexural Modulus, 2 mm/min         210         MPa         150 178           Tensile Intensity Intensi	Flexural Stress, yld, 1.3 mm/min, 50 mm span	95	MPa	ASTM D790
Hardness, Rockwell R         122          ASTM D785           Tensile Stress, yield, 50 mm/min         65         MPa         150 527           Tensile Stress, break, 50 mm/min         60         MPa         150 527           Tensile Stresin, break, 50 mm/min         85          150 527           Tensile Modulus, 1 mm/min         85          MPa         150 527           Flexural Stress, yield, 2 mm/min         66         MPa         150 178           Flexural Modulus, 2 mm/min         85         30 527         150 178           Flexural Stress, yield, 2 mm/min         60         MPa         150 178           Tensile Modulus, 2 mm/min         85         30         178         50 178           Revard Three         150 178         150 178         150 178         150 178           Brown Inductived, 23°C         85 200         17m         ASTM D481         150 178         150 178           Brood Impact, notched, 23°C         120         17m         ASTM D356         150 180 180 180         150 180 180 180         150 180 180 180         150 180 180 180         150 180 180 180         150 180 180 180         150 180 180 180         150 180 180 180         150 180 180 180 180         150 180 180 180         150 180 180 18	Flexural Modulus, 1.3 mm/min, 50 mm span	2200	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min         65         MPa         ISO 527           Tensile Stress, break, 50 mm/min         60         MPa         ISO 527           Tensile Strain, yield, 50 mm/min         7         %         ISO 527           Tensile Strain, break, 50 mm/min         85         %         ISO 527           Tensile Modulus, 1 mm/min         2150         MPa         ISO 178           Flexural Modulus, 2 mm/min         2120         MPa         ISO 178           Flexural Modulus, 2 mm/min         2120         MPa         ISO 178           Flexural Modulus, 2 mm/min         2120         MPa         ISO 178           Impact, Unnotched, 23°C         MS3200         J/m         ASTM D4812           Izod Impact, notched, 23°C         100         J/m         ASTM D256           Izod Impact, D4, 30°C         120         J/m         ASTM D362           Izod Impact, Strength, Type S         577         IZO 180         IX/m²         ASTM D363           Izod Impact, Unnotched 80°10°3 +23°C         18         IX/m²         ISO 180/1U           Izod Impact, unnotched 80°10°3 +23°C         18         IX/m²         ISO 180/1U           Izod Impact, unnotched 80°10°3 +23°C         18         IX/m²         ISO 180/1U	Hardness, Rockwell M	85	-	ASTM D785
Tensile Stress, break, 50 mm/min         60         MPa         ISO 527           Tensile Strain, yield, 50 mm/min         7         %         ISO 527           Tensile Strain, break, 50 mm/min         85         %         ISO 527           Tensile Modulus, 1 mm/min         2150         MPa         ISO 527           Flexural Stress, yield, 2 mm/min         66         MPa         ISO 178           Flexural Modulus, 2 mm/min         2120         MPa         ISO 178           Impact Impact, mothed, 23°C         NB3200         J/m         ASTM D4812           Izod Impact, notched, 23°C         10         J/m         ASTM D256           Izod Impact, notched, 30°C         120         J/m         ASTM D256           Izod Impact, notched, 30°C         120         J/m         ASTM D256           Iso Impact Strength, Type S         577         kl/m²         ASTM D3763           Iso Impact (D 3029), 23°C         120         J         ASTM D3763           Izod Impact, unnotched 80°10°3 +23°C         NB         kl/m²         ISO 180/1U           Izod Impact, notched 80°10°3 +23°C         NB         kl/m²         ISO 180/1A           Izod Impact, notched 80°10°3 +23°C         13         kl/m²         ISO 180/1A	Hardness, Rockwell R	122	-	ASTM D785
Tensile Strain, yield, 50 mm/min         7         %         ISO 527           Tensile Strain, break, 50 mm/min         85         %         ISO 527           Tensile Modulus, 1 mm/min         2150         MPa         ISO 527           Flexural Stress, yield, 2 mm/min         66         MPa         ISO 178           Impact Intended, 23°C         V         WPa         ISO 178           Impact Impact, unotched, 23°C         NB3200         J/m         ASTM D4812           Izod Impact, unotched, 23°C         10         J/m         ASTM D256           Izod Impact, totched, 23°C         10         J/m         ASTM D256           Izod Impact, totched, 23°C         10         J/m         ASTM D256           Tensile Impact Strength, Type S         577         kl/m²         ASTM D3763           Instrumented Dart Impact (D 3029), 23°C         120         J         ASTM D3763           Izod Impact, unnotched 80°10°3 +23°C         NB         kl/m²         ISO 180/1U           Izod Impact, notched 80°10°3 +23°C         NB         kl/m²         ISO 180/1U           Izod Impact, notched 80°10°3 +23°C         3         kl/m²         ISO 180/1A           Izod Impact, notched 80°10°3 +23°C         3         kl/m²         ISO 180/1A      <	Tensile Stress, yield, 50 mm/min	65	MPa	ISO 527
Tensile Strain, break, 50 mm/min         85         %         ISO 527           Tensile Modulus, 1 mm/min         2150         MPa         ISO 527           Flexural Stress, yield, 2 mm/min         66         MPa         ISO 178           IMPACT (**)         Uso 178         IMPACT (**)         IMPACT (**)           Izod Impact, unnotched, 23°C         MB3200         J/m         ASTM D4812           Izod Impact, notched, 23°C         100         J/m         ASTM D256           Izod Impact, notched, 30°C         120         J/m         ASTM D256           Tensile Impact Strength, Type S         577         kl/m²         ASTM D3029           Instrumented Dart Impact (D 3029), 23°C         120         J/m²         ASTM D3029           Izod Impact, unnotched 80°10°3 +23°C         NB         kl/m²         ISO 180/10           Izod Impact, unnotched 80°10°3 +23°C         NB         kl/m²         ISO 180/10           Izod Impact, notched 80°10°3 +23°C         13         kl/m²         ISO 180/10           Izod Impact, notched 80°10°3 +23°C         13         kl/m²         ISO 180/10           Izod Impact, notched 80°10°3 +23°C         15         kl/m²         ISO 180/10           Izod Impact, notched 80°10°3 spe6zmm         57         kl/m²	Tensile Stress, break, 50 mm/min	60	MPa	ISO 527
Tensile Modulus, 1 mm/min         2150         MPa         ISO 527           Flexural Stress, yield, 2 mm/min         66         MPa         ISO 178           IMPACT (¹)         1210         MPa         ISO 178           IMPACT (¹)         IMPACT (¹)         IMPACT (¹)         IMPACT (¹)           Izod Impact, unnotched, 23°C         MB3200         J/m         ASTM D4812           Izod Impact, notched, 23°C         120         J/m         ASTM D256           Izod Impact, totched, 30°C         120         J/m         ASTM D1822           Falling Dart Impact (D 3029), 23°C         149         J         ASTM D3029           Instrumented Dart Impact Total Energy, 23°C         120         J/m²         ASTM D3763           Izod Impact, unnotched 80°10°3 +23°C         NB         kJ/m²         ISO 180/14           Izod Impact, unnotched 80°10°3 +23°C         NB         kJ/m²         ISO 180/14           Izod Impact, notched 80°10°3 +23°C         13         kJ/m²         ISO 180/14           Izod Impact, notched 80°10°3 +23°C         13         kJ/m²         ISO 180/14           Izod Impact, notched 80°10°3 +23°C         13         kJ/m²         ISO 180/14           Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm         NB         kJ/m²         I	Tensile Strain, yield, 50 mm/min	7	%	ISO 527
Flexural Stress, yield, 2 mm/min   66	Tensile Strain, break, 50 mm/min	85	%	ISO 527
Flexural Modulus, 2 mm/min   2120   MPa   ISO 178     IMPACT     IMPACT	Tensile Modulus, 1 mm/min	2150	MPa	ISO 527
IMPACT (1)           Izod Impact, unnotched, 23°C         NB3200         J/m         ASTM D4812           Izod Impact, notched, 23°C         600         J/m         ASTM D256           Izod Impact, notched, -30°C         120         J/m         ASTM D256           Tensile Impact Strength, Type S         577         kJ/m²         ASTM D1822           Falling Dart Impact (D 3029), 23°C         149         J         ASTM D3763           Izod Impact, unnotched 80*10*3+23°C         NB         kJ/m²         ISO 180/1U           Izod Impact, unnotched 80*10*3-30°C         NB         kJ/m²         ISO 180/1U           Izod Impact, notched 80*10*3-30°C         NB         kJ/m²         ISO 180/1A           Izod Impact, notched 80*10*3-30°C         11         kJ/m²         ISO 180/1A           Izod Impact, notched 80*10*3-30°C         11         kJ/m²         ISO 180/1A           Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm         57         kJ/m²         ISO 179/1eA           Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm         NB         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	Flexural Stress, yield, 2 mm/min	66	MPa	ISO 178
Izad Impact, unnotched, 23°C         N83200         J/m         ASTM D4812           Izad Impact, notched, 23°C         600         J/m         ASTM D256           Izad Impact, notched, -30°C         120         J/m         ASTM D256           Tensile Impact Strength, Type S         577         kJ/m²         ASTM D1822           Falling Dart Impact (D 3029), 23°C         149         J         ASTM D3029           Instrumented Dart Impact Total Energy, 23°C         120         J         ASTM D3763           Izad Impact, unnotched 80°10°3 +23°C         NB         kJ/m²         ISO 180/1U           Izad Impact, notched 80°10°3 +23°C         NB         kJ/m²         ISO 180/1U           Izad Impact, notched 80°10°3 +23°C         11         kJ/m²         ISO 180/1A           Izad Impact, notched 80°10°3 -30°C         11         kJ/m²         ISO 180/1A           Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm         57         kJ/m²         ISO 179/1eA           Charpy 30°C, V-notch Edgew 80°10°3 sp=62mm         NB         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, Unnotc	Flexural Modulus, 2 mm/min	2120	MPa	ISO 178
Izod Impact, notched, 23°C         600         J/m         ASTM D256           Izod Impact, notched, -30°C         120         J/m         ASTM D256           Tensile Impact Strength, Type S         577         kJ/m²         ASTM D1822           Falling Dart Impact (D 3029), 23°C         149         J         ASTM D3029           Istrumented Dart Impact Total Energy, 23°C         120         J         ASTM D3763           Izod Impact, unnotched 80°10°3 +23°C         NB         kJ/m²         ISO 180/10           Izod Impact, notched 80°10°3 +23°C         NB         kJ/m²         ISO 180/14           Izod Impact, notched 80°10°3 -23°C         NB         kJ/m²         ISO 180/14           Izod Impact, notched 80°10°3 -93°C         11         kJ/m²         ISO 180/1A           Izod Impact, notched 80°10°3 -95Cmm         57         kJ/m²         ISO 179/1eA           Charpy -30°C, V-notch Edgew 80°10°3 sp=62mm         NB         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         SS 179/1eU           THERMAL (¹)	IMPACT (1)			
Izad Impact, notched, -30°C         120         J/m         ASTM D256           Tensile Impact Strength, Type S         577         kJ/m²         ASTM D1822           Falling Dart Impact (D 3029), 23°C         149         J         ASTM D3029           Instrumented Dart Impact Total Energy, 23°C         120         J         ASTM D3763           Izod Impact, unnotched 80°10°3 +23°C         NB         kJ/m²         ISO 180/1U           Izod Impact, notched 80°10°3 +23°C         NB         kJ/m²         ISO 180/1A           Izod Impact, notched 80°10°3 +23°C         53         kJ/m²         ISO 180/1A           Izod Impact, notched 80°10°3 -30°C         11         kJ/m²         ISO 180/1A           Izod Impact, notched 80°10°3 -30°C         11         kJ/m²         ISO 180/1A           Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm         57         kJ/m²         ISO 179/1eA           Charpy -30°C, V-notch Edgew 80°10°3 sp=62mm         NB         kJ/m²         ISO 179/1eA           Charpy -30°C, Unnotch Edgew 80°10°3 sp=62mm         NB         kJ/m²         ISO 179/1eA           Charpy -30°C, Unnotch Edgew 80°10°3 sp=62mm         NB         kJ/m²         ISO 179/1eA           Charpy -30°C, Unnotch Edgew 80°10°3 sp=62mm         NB         KJ/m²         KJ/m²         ISO 179/1eA	Izod Impact, unnotched, 23°C	NB3200	J/m	ASTM D4812
Tensile Impact Strength, Type S         577         kJ/m²         ASTM D1822           Falling Dart Impact (D 3029), 23°C         149         J         ASTM D3029           Instrumented Dart Impact Total Energy, 23°C         120         J         ASTM D3763           Izod Impact, unnotched 80°10°3 +23°C         NB         kJ/m²         ISO 180/1U           Izod Impact, notched 80°10°3 +23°C         NB         kJ/m²         ISO 180/1A           Izod Impact, notched 80°10°3 +23°C         11         kJ/m²         ISO 180/1A           Charpy 23°C, V·notch Edgew 80°10°3 sp=62mm         57         kJ/m²         ISO 179/1eA           Charpy -30°C, V·notch Edgew 80°10°3 sp=62mm         13         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         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         AS	Izod Impact, notched, 23°C	600	J/m	ASTM D256
Falling Dart Impact (D 3029), 23°C         149         J         ASTM D3029           Instrumented Dart Impact Total Energy, 23°C         120         J         ASTM D3763           Izod Impact, unnotched 80°10°3 +23°C         NB         KJ/m²         ISO 180/1U           Izod Impact, unnotched 80°10°3 -30°C         NB         KJ/m²         ISO 180/1A           Izod Impact, notched 80°10°3 -30°C         11         KJ/m²         ISO 180/1A           Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm         57         KJ/m²         ISO 179/1eA           Charpy 30°C, V-notch Edgew 80°10°3 sp=62mm         NB         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         ASTM D1525	Izod Impact, notched, -30°C	120	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C   120   120   150   150   180   101   150   180   101   180   180   101   180	Tensile Impact Strength, Type S	577	kJ/m²	ASTM D1822
Izod Impact, unnotched 80*10*3 +23°C   NB   kJ/m²   ISO 180/1U     Izod Impact, unnotched 80*10*3 -30°C   NB   kJ/m²   ISO 180/1U     Izod Impact, notched 80*10*3 +23°C   53   kJ/m²   ISO 180/1A     Izod Impact, notched 80*10*3 -30°C   11   kJ/m²   ISO 180/1A     Izod Impact, notched 80*10*3 -30°C   11   kJ/m²   ISO 180/1A     Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm   13   kJ/m²   ISO 179/1eA     Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm   NB   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     THERMAL (1)   ISO 179/1eU     THERMAL (1)   ISO 179/1eU   ISO 179/1eU   ISO 179/1eU     THERMAL (1)   ISO 179/1eU   ISO 179/1	Falling Dart Impact (D 3029), 23°C	149	J	ASTM D3029
Izod Impact, unnotched 80*10*3 -30°C         NB         kJ/m²         ISO 180/1U           Izod Impact, notched 80*10*3 +23°C         53         kJ/m²         ISO 180/1A           Izod Impact, notched 80*10*3 -30°C         11         kJ/m²         ISO 180/1A           Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm         57         kJ/m²         ISO 179/1eA           Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm         13         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           THERMAL         10         NB         kJ/m²         ASTM D1525	Instrumented Dart Impact Total Energy, 23°C	120	J	ASTM D3763
Izod Impact, notched 80*10*3 +23°C         53         kJ/m²         ISO 180/1A           Izod Impact, notched 80*10*3 -30°C         11         kJ/m²         ISO 180/1A           Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm         57         kJ/m²         ISO 179/1eA           Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm         13         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           THERMAL (1)           Vicat Softening Temp, Rate B/50         160         °C         ASTM D1525	Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 -30°C         11         kJ/m²         ISO 180/1A           Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm         57         kJ/m²         ISO 179/1eA           Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm         13         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           THERMAL (1)           Vicat Softening Temp, Rate B/50         160         °C         ASTM D1525	Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80°10°3 sp=62mm         57         kJ/m²         ISO 179/1eA           Charpy -30°C, V-notch Edgew 80°10°3 sp=62mm         13         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           THERMAL (¹)           Vicat Softening Temp, Rate B/50         160         °C         ASTM D1525	Izod Impact, notched 80*10*3 +23°C	53	kJ/m²	ISO 180/1A
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm       13       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         THERMAL (¹¹)         Vicat Softening Temp, Rate B/50       160       °C       ASTM D1525	Izod Impact, notched 80*10*3 -30°C	11	kJ/m²	ISO 180/1A
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           THERMAL (1)           Vicat Softening Temp, Rate B/50         160         °C         ASTM D1525	Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	57	kJ/m²	ISO 179/1eA
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm         NB         kJ/m²         ISO 179/1eU           THERMAL (1)         Vicat Softening Temp, Rate B/50         160         °C         ASTM D1525	Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	13	kJ/m²	ISO 179/1eA
THERMAL (1) Vicat Softening Temp, Rate B/50 160 °C ASTM D1525	Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Vicat Softening Temp, Rate B/50 160 °C ASTM D1525	Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
3 - 1/2	THERMAL (1)			
<b>HDT, 1.82 MPa, 3.2mm, unannealed</b> 142 °C ASTM D648	Vicat Softening Temp, Rate B/50	160	°C	ASTM D1525
	HDT, 1.82 MPa, 3.2mm, unannealed	142	°C	ASTM D648



DDODEDTIES	TVDICAL VALUES	LINUTE	TECT METHODS
PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, flow	6.E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	8.E-05	1/°C	ASTM E831
Specific Heat	1.25	J/g-°C	ASTM C351
Thermal Conductivity	0.21	W/m-°C	ASTM C177
CTE, -40°C to 40°C, flow	6.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	154	°C	ISO 306
Vicat Softening Temp, Rate B/120	155	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	125	10	ISO 75/Af
PHYSICAL (1)			
Specific Gravity	1.2	-	ASTM D792
Specific Volume	0.83	cm³/g	ASTM D792
Density	1.19	g/cm³	ASTM D792
Water Absorption, (23°C/24hrs)	0.16	%	ASTM D570
Mold Shrinkage, flow, 3.2 mm (2)	0.6 – 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	6	g/10 min	ASTM D1238
Melt Flow Rate, 330°C/2.16 kgf	30	g/10 min	ASTM D1238
Density	1.2	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.16	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.35	%	ISO 62
Melt Volume Rate, MVR at 330°C/2.16kg	29	cm³/10 min	ISO 1133
OPTICAL (1)			
Light Transmission, 2.54 mm	85	%	ASTM D1003
Haze, 2.54 mm	1	%	ASTM D1003
Refractive Index	1.6	-	ASTM D542
ELECTRICAL (1)			
Volume Resistivity	>2.6E+17	Ω.cm	ASTM D257
Dielectric Strength, in air, 3.2 mm	20.2	kV/mm	ASTM D149
Relative Permittivity, 50/60 Hz	3.15	-	ASTM D150
Relative Permittivity, 1 MHz	3	-	ASTM D150
Dissipation Factor, 50/60 Hz	0.0012	-	ASTM D150
Dissipation Factor, 100 Hz	0.024	-	ASTM D150
INJECTION MOLDING (3)			
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	



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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) 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.
- (3) 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

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