

TUFFAK CA POLYCARBONATE SHEET

CLASS A PERFORMANCE

TUFFAK CA is an optical grade transparent polycarbonate sheet product designed to meet Class A flammability requirements in the International Building Code (IBC) for interior wall and ceiling finishes. It features outstanding impact strength. high temperature resistance and high clarity and passes the National Fire Protection Association (NFPA) 286 flammability requirements. This UV stable, lightweight, thermoformable, and easy to fabricate sheet is available in smooth and patterns; clear and colors. TUFFAK CA sheet is offered with a five (5) year Limited Product Warranty against breakage. The terms of the warranty are available upon request.

APPLICATIONS

Class A rated wall and ceiling finishes, coverings, decorative panels, protective coverings, partitions, interior windows, safety barriers, lighting diffusers and interior signage

Regulatory code compliance and Certifications

Class A rated per the 2015 International Building Code Section 803.1 for interior wall and ceiling finishes

Property Test Method Units Values PHYSICAL Specific Gravity ASTM D792 - 1.2 Refractive Index ASTM D542 - 1.586 Light Transmission, E59 White @ O.118° ASTM D1003 % 88 Light Transmission, B59 White @ O.118° ASTM D1003 % 27 Light Transmission, B54 White @ O.118° ASTM D1003 % 27 Light Transmission, B48 White @ O.118° ASTM D1003 % 50 Light Transmission, 130 Gray @ O.118° ASTM D1003 % 50 Light Transmission, 130 Gray @ O.118° ASTM D1003 % 50 Light Transmission, 130 Gray @ O.118° ASTM D1003 % 50 Light Transmission, 1848 White @ O.118° ASTM D1003 % 50 Light Transmission, 180 gray @ O.118° ASTM D1003 % 50 Light Transmission, 180 gray @ O.118° ASTM D1003 % 10 Light Transmission, 180 gray @ O.118° ASTM D1003 % 10 Light Transmission, 180 gray @ O.118° ASTM D1003	TYPICAL PROPERTIES*									
Specific Gravity	Property	Test Method	Units	Values						
Refractive Index ASTM D542 − 1586 Light Transmission, Clear @ 0.118" ASTM D1003 % 88 Light Transmission, B59 White @ > 0.118" ASTM D1003 % 27 Light Transmission, B54 White @ > 0.118" ASTM D1003 % 27 Light Transmission, B48 White @ 0.118" ASTM D1003 % 50 Light Transmission, 130 Gray @ 0.118" ASTM D1003 % 50 Light Transmission, 130 Gray @ 0.118" ASTM D1003 % 50 Light Transmission, 150 Gray @ 0.118" ASTM D1003 % 50 Light Transmission, 150 Gray @ 0.118" ASTM D1003 % 50 Light Transmission, 150 Gray @ 0.118" ASTM D1003 % 50 Water Absorption, 24 hours @ 73°F ASTM D1003 % 50 Water Absorption, 24 hours @ 73°F ASTM D570 % 0.15 Poisson's Ratio ASTM D638 psi 9,500 Tensile Strength, Break ASTM D638 psi 9,500 Tensile Strength, Yield ASTM D638 psi 13,500 <td>PHYSICAL</td> <td></td> <td></td> <td></td>	PHYSICAL									
Light Transmission, Clear @ 0.118" ASTM D1003 % 27 Light Transmission, B59 White @ 0.118" ASTM D1003 % 27 Light Transmission, B54 White @ 0.118" ASTM D1003 % 27 Light Transmission, B27 White @ 0.118" ASTM D1003 % 27 Light Transmission, B48 White @ 0.118" ASTM D1003 % 50 Light Transmission, 130 Gray @ 0.118" ASTM D1003 % 50 Light Transmission, 155 Dark Gray @ 0.118" ASTM D1003 % 18 Light Transmission, K09 Bronze @ 0.118" ASTM D1003 % 18 Light Transmission, K09 Bronze @ 0.118" ASTM D1003 % 18 Light Transmission, K09 Bronze @ 0.118" ASTM D1003 % 18 Light Transmission, K09 Bronze @ 0.118" ASTM D1003 % 10 Water Absorption, 24 hours @ 73°F ASTM D1003 % 0.15 Poisson's Ratio ASTM D638 psi 9.500 Tensile Strength, Preak ASTM D638 psi 9.500 Tensile Ostula ASTM D638 psi </td <td>Specific Gravity</td> <td>ASTM D792</td> <td>-</td> <td>1.2</td>	Specific Gravity	ASTM D792	-	1.2						
Light Transmission, B59 White @ 0.118° ASTM D1003 % 27 Light Transmission, B54 White @ > 0.118° ASTM D1003 % 27 Light Transmission, B27 White @ 0.118° ASTM D1003 % 27 Light Transmission, B27 White @ 0.118° ASTM D1003 % 50 Light Transmission, 135 Dark Gray @ 0.118° ASTM D1003 % 50 Light Transmission, K09 Bronze @ 0.118° ASTM D1003 % 50 Light Transmission, K09 Bronze @ 0.118° ASTM D1003 % 50 Water Absorption, 24 hours @ 73°F ASTM D570 % 0.15 Poisson's Ratio ASTM D570 % 0.15 Poisson's Ratio ASTM D638 psi 9.500 MECHANICAL Transile Strength, Break ASTM D638 psi 9.500 Tensile Strength, Break ASTM D638 psi 9.500 Tensile Strength, Yield ASTM D638 psi 3.40,000 Elonyation ASTM D638 psi 110 Flexural Modulus ASTM D695 psi 12,500	Refractive Index	ASTM D542	-	1.586						
Light Transmission, B54 White @ > 0.118° ASTM D1003 % 27 Light Transmission, B27 White @ 0.118° ASTM D1003 % 27 Light Transmission, B48 White @ 0.118° ASTM D1003 % 50 Light Transmission, 130 Gray @ 0.118° ASTM D1003 % 50 Light Transmission, 135 Dark Gray @ 0.118° ASTM D1003 % 50 Light Transmission, K09 Bronze @ 0.118° ASTM D1003 % 50 Water Absorption, 24 hours @ 73°F ASTM D570 % 0.15 Poisson's Ratio ASTM D570 % 0.15 Poisson's Ratio ASTM D570 % 0.15 Poisson's Ratio ASTM D638 psi 9.500 Tensile Strength, Break ASTM D638 psi 9.500 Tensile Strength, Yield ASTM D638 psi 340,000 Tensile Modulus ASTM D638 psi 340,000 Elongation ASTM D638 psi 13,500 Flexural Modulus ASTM D790 psi 12,500 Compressive Strength	Light Transmission, Clear @ 0.118"	ASTM D1003	%	88						
Light Transmission, B27 White @ 0.118" ASTM D1003 % 50 Light Transmission, B48 White @ 0.118" ASTM D1003 % 50 Light Transmission, 130 Gray @ 0.118" ASTM D1003 % 50 Light Transmission, 135 Dark Gray @ 0.118" ASTM D1003 % 18 Light Transmission, K09 Bronze @ 0.118" ASTM D1003 % 50 Water Absorption, 24 hours @ 73°F ASTM D570 % 0.15 Poisson's Ratio ASTM E132 − 0.38 MECHANICAL Tensile Strength, Break ASTM D638 psi 9,500 Tensile Strength, Vield ASTM D638 psi 9,000 Tensile Strength, Vield ASTM D638 psi 340,000 Elongation ASTM D638 psi 340,000 Elongation ASTM D638 hsi 340,000 Flexural Strength ASTM D638 hsi 110 Flexural Strength ASTM D638 hsi 12,500 Compressive Strength ASTM D695 psi 12,500 Compressive Strength ASTM D695 psi 12,500 Compressive Modulus ASTM D695 psi 12,500 Compressive Modulus ASTM D256 ft·lbs/in 18 Izod Impact Strength, Unnotched @ 0.125" ASTM D256 ft·lbs/in 60 No Break Instrumented Impact @ 0.125" ASTM D256 ft·lbs/in 60 No Break Instrumented Impact & 0.125" ASTM D732 psi 10,000 Shear Strength, Freak ASTM D732 psi 114,000 Shear Strength, Pield ASTM D732 psi 114,000 Rockwell Hardness ASTM D732 psi 114,000	Light Transmission, B59 White @ 0.118"	ASTM D1003	%	27						
Light Transmission, B48 White @ 0.118" ASTM D1003 % 50 Light Transmission, 130 Gray @ 0.118" ASTM D1003 % 50 Light Transmission, 135 Dark Gray @ 0.118" ASTM D1003 % 18 Light Transmission, K09 Bronze @ 0.118" ASTM D1003 % 50 Water Absorption, 24 hours @ 73°F ASTM D570 % 0.15 Poisson's Ratio ASTM E132 − 0.38 MECHANICAL Tensile Strength, Break ASTM D638 psi 9.500 Tensile Strength, Vield ASTM D638 psi 9.000 Tensile Modulus ASTM D638 psi 9.000 Tensile Modulus ASTM D638 psi 340,000 Elongation ASTM D638 psi 100 Flexural Strength ASTM D638 psi 13.500 Compressive Strength ASTM D695 psi 13.500 Compressive Strength ASTM D695 psi 12.500 Compressive Modulus ASTM D695 psi 345,000 Izod Impact Strength, Notched @ 0.125" ASTM D256 ft lbs/in 18 Izod Impact Strength, Unnotched @ 0.125" ASTM D256 ft lbs/in 60 No Break Instrumented Impact @ 0.125" ASTM D3763 ft lbs 47 Shear Strength, Yield ASTM D732 psi 114,000 Shear Modulus ASTM D732 psi 114,000 Rockwell Hardness ASTM D732 psi 12,000 Shear Strength, Yield ASTM D732 psi 13,000 Shear Strength, Yield ASTM D732 psi 14,000	Light Transmission, B54 White @ > 0.118"	ASTM D1003	%	27						
Light Transmission, 130 Gray @ 0.118" ASTM D1003 % 50 Light Transmission, 135 Dark Gray @ 0.118" ASTM D1003 % 18 Light Transmission, K09 Bronze @ 0.118" ASTM D1003 % 50 Water Absorption, 24 hours @ 73°F ASTM D570 % 0.15 Poisson's Ratio ASTM E132 - 0.38 MECHANICAL Tensile Strength, Break ASTM D638 psi 9,500 Tensile Strength, Yield ASTM D638 psi 9,000 Tensile Modulus ASTM D638 psi 340,000 Elongation ASTM D638 psi 340,000 Elongation ASTM D638 % 110 Flexural Modulus ASTM D790 psi 13,500 Flexural Modulus ASTM D695 psi 12,500 Compressive Strength ASTM D695 psi 345,000 Izod Impact Strength, Notched @ 0.125" ASTM D256 ft lbs/in 18 Izod Impact Strength, Unnotched @ 0.125" ASTM D256 ft lbs/in 60 No Break <td>Light Transmission, B27 White @ 0.118"</td> <td>ASTM D1003</td> <td>%</td> <td>27</td>	Light Transmission, B27 White @ 0.118"	ASTM D1003	%	27						
Light Transmission, 135 Dark Gray @ 0.118* ASTM D1003 % 18 Light Transmission, K09 Bronze @ 0.118* ASTM D1003 % 50 Water Absorption, 24 hours @ 73°F ASTM D570 % 0.15 Poisson's Ratio ASTM E132 - 0.38 MECHANICAL Tensile Strength, Break ASTM D638 psi 9,500 Tensile Strength, Yield ASTM D638 psi 9,000 Tensile Modulus ASTM D638 psi 340,000 Elongation ASTM D638 % 110 Flexural Strength ASTM D638 % 110 Flexural Modulus ASTM D790 psi 345,000 Compressive Strength ASTM D695 psi 12,500 Compressive Modulus ASTM D695 psi 345,000 Izod Impact Strength, Notched @ 0.125" ASTM D256 ft lbs/in 18 Izod Impact Strength, Unnotched @ 0.125" ASTM D3763 ft lbs/in 60 No Break Instrumented Impact @ 0.125" ASTM D3763 ft lbs/in <td< td=""><td>Light Transmission, B48 White @ 0.118"</td><td>ASTM D1003</td><td>%</td><td>50</td></td<>	Light Transmission, B48 White @ 0.118"	ASTM D1003	%	50						
Light Transmission, KO9 Bronze @ 0.118° ASTM D1003 % 50 Water Absorption, 24 hours @ 73°F ASTM D570 % 0.15 Poisson's Ratio ASTM E132 - 0.38 MECHANICAL Tensile Strength, Break ASTM D638 psi 9,500 Tensile Strength, Yield ASTM D638 psi 9,000 Tensile Modulus ASTM D638 psi 340,000 Elongation ASTM D638 % 110 Flexural Strength ASTM D790 psi 13,500 Flexural Modulus ASTM D790 psi 345,000 Compressive Strength ASTM D695 psi 12,500 Compressive Modulus ASTM D695 psi 345,000 Lizod Impact Strength, Notched @ 0.125° ASTM D256 ft lbs/in 60 No Break Instrumented Impact @ 0.125° ASTM D3763 ft lbs/in 60 No Break Instrumented Impact @ 0.125° ASTM D372 psi 10,000 Shear Strength, Sreak ASTM D732 psi 10,000 <td>Light Transmission, 130 Gray @ 0.118"</td> <td>ASTM D1003</td> <td>%</td> <td>50</td>	Light Transmission, 130 Gray @ 0.118"	ASTM D1003	%	50						
Water Absorption, 24 hours @ 73°F ASTM D570 % 0.15 Poisson's Ratio ASTM E132 – 0.38 MECHANICAL Tensile Strength, Break ASTM D638 psi 9,500 Tensile Strength, Break ASTM D638 psi 9,000 Tensile Modulus ASTM D638 psi 340,000 Elongation ASTM D638 % 110 Flexural Strength ASTM D638 % 110 Flexural Strength ASTM D638 % 110 Flexural Modulus ASTM D638 % 110 Flexural Modulus ASTM D790 psi 345,000 Compressive Strength ASTM D695 psi 12,500 Compressive Wodulus ASTM D695 psi 345,000 Izod Impact Strength, Notched @ 0.125" ASTM D256 ft-lbs/in 60 No Break Instrumented Impact @ 0.125" ASTM D3763 ft-lbs 47 Shear Strength, Break ASTM D732 psi 10,000 Shear Strength, Wield ASTM D732	Light Transmission, 135 Dark Gray @ 0.118"	ASTM D1003	%	18						
Poisson's Ratio ASTM El32 - 0.38 MECHANICAL Tensile Strength, Break ASTM D638 psi 9,500 Tensile Strength, Yield ASTM D638 psi 9,000 Tensile Modulus ASTM D638 psi 340,000 Elongation ASTM D638 % 110 Flexural Strength ASTM D638 % 110 Compressive Modulus ASTM D695 psi 345,000 Izod Impact Strength, Notched @ 0.125" ASTM D256 ft lbs/in 18 Izod Impact Strength, Unnotched @ 0.125" ASTM D256 ft lbs/in 60 No Break Instrumented Impact @ 0.125" ASTM D732 psi 10,000 Shear Strength, Yield ASTM D732	Light Transmission, K09 Bronze @ 0.118"	ASTM D1003	%	50						
MECHANICAL Tensile Strength, Break ASTM D638 psi 9,500 Tensile Strength, Yield ASTM D638 psi 9,000 Tensile Modulus ASTM D638 psi 340,000 Elongation ASTM D638 % 110 Flexural Strength ASTM D790 psi 13,500 Flexural Modulus ASTM D790 psi 345,000 Compressive Strength ASTM D695 psi 12,500 Compressive Modulus ASTM D695 psi 345,000 Izod Impact Strength, Notched @ 0.125" ASTM D256 ft·lbs/in 18 Izod Impact Strength, Notched @ 0.125" ASTM D256 ft·lbs/in 60 No Break Instrumented Impact @ 0.125" ASTM D3763 ft·lbs 47 Shear Strength, Spreak ASTM D732 psi 10,000 Shear Strength, Yield ASTM D732 psi 114,000 Rockwell Hardness ASTM D732 psi 114,000 Rockwell Hardness ASTM D696 in/in/"F 3.75 x 10° <	Water Absorption, 24 hours @ 73°F	ASTM D570	%	0.15						
Tensile Strength, Break ASTM D638 psi 9,500 Tensile Strength, Yield ASTM D638 psi 9,000 Tensile Modulus ASTM D638 psi 340,000 Elongation ASTM D638 % 110 Flexural Strength ASTM D790 psi 13,500 Flexural Modulus ASTM D790 psi 345,000 Compressive Strength ASTM D695 psi 12,500 Compressive Modulus ASTM D695 psi 345,000 Izod Impact Strength, Notched @ 0.125" ASTM D256 ft-lbs/in 18 Izod Impact Strength, Unnotched @ 0.125" ASTM D256 ft-lbs/in 60 No Break Instrumented Impact @ 0.125" ASTM D3763 ft-lbs 47 Shear Strength, Unnotched @ 0.125" ASTM D732 psi 10,000 Shear Strength, Yield ASTM D732 psi 10,000 Shear Modulus ASTM D732 psi 114,000 Rockwell Hardness ASTM D785 - M70 / R118 THERMAL <tr< td=""><td>Poisson's Ratio</td><td>ASTM E132</td><td>-</td><td>0.38</td></tr<>	Poisson's Ratio	ASTM E132	-	0.38						
Tensile Strength, Yield ASTM D638 psi 9,000 Tensile Modulus ASTM D638 psi 340,000 Elongation ASTM D638 % 110 Flexural Strength ASTM D790 psi 13,500 Flexural Modulus ASTM D790 psi 345,000 Compressive Strength ASTM D695 psi 12,500 Compressive Modulus ASTM D695 psi 345,000 Izod Impact Strength, Notched @ 0.125" ASTM D256 ft.lbs/in 18 Izod Impact Strength, Unnotched @ 0.125" ASTM D256 ft.lbs/in 60 No Break Instrumented Impact @ 0.125" ASTM D3763 ft.lbs 47 Shear Strength, Break ASTM D732 psi 10,000 Shear Strength, Yield ASTM D732 psi 114,000 Rockwell Hardness ASTM D732 psi 114,000 Rockwell Hardness ASTM D785 - M70 / R118 THERMAL Coefficient of Thermal Expansion ASTM D696 in/in/*F 3.75 x 10* </td <td>MECHANICAL</td> <td></td> <td></td> <td></td>	MECHANICAL									
Tensile Strength, Yield ASTM D638 psi 9,000 Tensile Modulus ASTM D638 psi 340,000 Elongation ASTM D638 % 110 Flexural Strength ASTM D790 psi 13,500 Flexural Modulus ASTM D790 psi 345,000 Compressive Strength ASTM D695 psi 12,500 Compressive Modulus ASTM D695 psi 345,000 Izod Impact Strength, Notched @ 0.125" ASTM D256 ft.lbs/in 18 Izod Impact Strength, Unnotched @ 0.125" ASTM D256 ft.lbs/in 60 No Break Instrumented Impact @ 0.125" ASTM D3763 ft.lbs 47 Shear Strength, Break ASTM D732 psi 10,000 Shear Strength, Yield ASTM D732 psi 114,000 Rockwell Hardness ASTM D732 psi 114,000 Rockwell Hardness ASTM D785 - M70 / R118 THERMAL Coefficient of Thermal Expansion ASTM D696 in/in/*F 3.75 x 10* </td <td></td> <td>ASTM D638</td> <td>psi</td> <td>9.500</td>		ASTM D638	psi	9.500						
Tensile Modulus ASTM D638 psi 340,000 Elongation ASTM D638 % 110 Flexural Strength ASTM D790 psi 13,500 Flexural Modulus ASTM D790 psi 345,000 Compressive Strength ASTM D695 psi 12,500 Compressive Modulus ASTM D695 psi 345,000 Izod Impact Strength, Notched @ 0.125" ASTM D256 ft-lbs/in 18 Izod Impact Strength, Unnotched @ 0.125" ASTM D256 ft-lbs/in 60 No Break Instrumented Impact @ 0.125" ASTM D3763 ft-lbs 47 Shear Strength, Break ASTM D3732 psi 10,000 Shear Strength, Yield ASTM D732 psi 10,000 Shear Modulus ASTM D732 psi 114,000 Rockwell Hardness ASTM D732 psi 114,000 Rockwell Hardness ASTM D696 in/in/o*F 3.75 x 10-5 Coefficient of Thermal Expansion ASTM D696 in/in/o*F 1.35 Coefficien	<u> </u>		·	.,						
Elongation	<u> </u>		·							
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Flexural Modulus ASTM D790 Compressive Strength ASTM D695 Compressive Modulus ASTM D695 D95 ASTM D695 D96 ASTM D695 D97 ASTM D695 D98 ASTM D695 D98 ASTM D695 D98 ASTM D695 D99 ASTM D695 D99 ASTM D695 D99 B10,000 B1		ASTM D790	psi	13.500						
Compressive Strength ASTM D695 psi 12,500 Compressive Modulus ASTM D695 psi 345,000 Izod Impact Strength, Notched @ 0.125" ASTM D256 ft lbs/in 18 Izod Impact Strength, Unnotched @ 0.125" ASTM D256 ft lbs/in 60 No Break Instrumented Impact @ 0.125" ASTM D3763 ft lbs 47 Shear Strength, Break ASTM D732 psi 10,000 Shear Strength, Yield ASTM D732 psi 6,000 Shear Modulus ASTM D732 psi 114,000 Rockwell Hardness ASTM D785 - M70 / R118 THERMAL Coefficient of Thermal Expansion ASTM D696 in/in/°F 3.75 x 10-5 Coefficient of Thermal Conductivity ASTM C177 BTU-in/hr-ft²-°F 1.35 Heat Deflection Temperature @ 264 psi ASTM D648 °F 270 Heat Deflection Temperature @ 66 psi ASTM D648 °F 280 Brittleness Temperature ASTM D746 °F -200 FLAMMABILITY Horizontal Burn, AEB ASTM D635 °F <1 Ignition Temperature, Self ASTM D1929 in 1022	•	ASTM D790	·							
Compressive Modulus Izod Impact Strength, Notched @ 0.125" ASTM D256 ft lbs/in 18 Izod Impact Strength, Unnotched @ 0.125" ASTM D256 ft lbs/in 60 No Break Instrumented Impact @ 0.125" ASTM D3763 ft lbs 47 Shear Strength, Break ASTM D732 psi 10,000 Shear Strength, Yield ASTM D732 psi 6,000 Shear Modulus ASTM D732 psi 114,000 Rockwell Hardness ASTM D785 - M70 / R118 THERMAL Coefficient of Thermal Expansion ASTM D696 in/in/°F 3.75 x 10-5 Coefficient of Thermal Conductivity ASTM C177 BTU-in/hr-ft²-°F 1.35 Heat Deflection Temperature @ 264 psi ASTM D648 °F 270 Heat Deflection Temperature @ 66 psi ASTM D648 °F 280 Brittleness Temperature & ASTM D746 °F -200 FLAMMABILITY Horizontal Burn, AEB ASTM D635 °F <1 Ignition Temperature, Self ASTM D1929 in 1022	Compressive Strength	ASTM D695	·							
Izod Impact Strength, Unnotched @ 0.125" ASTM D256 ft lbs/in 60 No Break Instrumented Impact @ 0.125" ASTM D3763 ft lbs 47 Shear Strength, Break ASTM D732 psi 10,000 Shear Strength, Yield ASTM D732 psi 6,000 Shear Modulus ASTM D732 psi 114,000 Rockwell Hardness ASTM D785 - M70 / R118 THERMAL Coefficient of Thermal Expansion ASTM D696 in/in/°F 3.75 x 10-5 Coefficient of Thermal Conductivity ASTM C177 BTU-in/hr-ft²-°F 1.35 Heat Deflection Temperature @ 264 psi ASTM D648 °F 270 Heat Deflection Temperature @ 66 psi ASTM D648 °F 280 Brittleness Temperature & ASTM D746 °F -200 FLAMMABILITY Horizontal Burn, AEB ASTM D635 °F <1 Ignition Temperature, Self ASTM D1929 in 1022		ASTM D695	psi	345,000						
Izod Impact Strength, Unnotched @ 0.125" ASTM D256 ft lbs/in 60 No Break Instrumented Impact @ 0.125" ASTM D3763 ft lbs 47 Shear Strength, Break ASTM D732 psi 10,000 Shear Strength, Yield ASTM D732 psi 6,000 Shear Modulus ASTM D732 psi 114,000 Rockwell Hardness ASTM D785 - M70 / R118 THERMAL Coefficient of Thermal Expansion ASTM D696 in/in/°F 3.75 x 10-5 Coefficient of Thermal Conductivity ASTM C177 BTU-in/hr-ft²-°F 1.35 Heat Deflection Temperature @ 264 psi ASTM D648 °F 270 Heat Deflection Temperature @ 66 psi ASTM D648 °F 280 Brittleness Temperature & ASTM D746 °F -200 FLAMMABILITY Horizontal Burn, AEB ASTM D635 °F <1 Ignition Temperature, Self ASTM D1929 in 1022	Izod Impact Strength, Notched @ 0.125"	ASTM D256	ft·lbs/in	18						
Shear Strength, Break ASTM D732 psi 10,000 Shear Strength, Yield ASTM D732 psi 6,000 Shear Modulus ASTM D732 psi 114,000 Rockwell Hardness ASTM D785 - M70 / R118 THERMAL Coefficient of Thermal Expansion ASTM D696 in/in/°F 3.75 x 10-5 Coefficient of Thermal Conductivity ASTM C177 BTU-in/hr-ft²-°F 1.35 Heat Deflection Temperature @ 264 psi ASTM D648 °F 270 Heat Deflection Temperature @ 66 psi Brittleness Temperature & ASTM D746 °F 280 Brittleness Temperature ASTM D635 °F		ASTM D256	ft·lbs/in	60 No Break						
Shear Strength, Yield ASTM D732 psi 6,000 Shear Modulus ASTM D732 psi 114,000 Rockwell Hardness ASTM D785 - M70 / R118 THERMAL Coefficient of Thermal Expansion ASTM D696 in/in/°F 3.75 x 10-5 Coefficient of Thermal Conductivity ASTM C177 BTU-in/hr-ft²-°F 1.35 Heat Deflection Temperature @ 264 psi ASTM D648 °F 270 Heat Deflection Temperature @ 66 psi ASTM D648 °F 280 Brittleness Temperature ASTM D746 °F -200 FLAMMABILITY Horizontal Burn, AEB ASTM D635 °F <1 Ignition Temperature, Self ASTM D1929 in 1022	Instrumented Impact @ 0.125"	ASTM D3763	ft·lbs	47						
Shear Modulus Rockwell Hardness ASTM D732 Psi 114,000 Rockwell Hardness ASTM D785 - M70 / R118 THERMAL Coefficient of Thermal Expansion ASTM D696 in/in/°F 3.75 x 10-5 Coefficient of Thermal Conductivity ASTM C177 BTU-in/hr-ft²-°F 1.35 Heat Deflection Temperature @ 264 psi ASTM D648 °F 270 Heat Deflection Temperature @ 66 psi ASTM D648 °F 280 Brittleness Temperature ASTM D746 °F -200 FLAMMABILITY Horizontal Burn, AEB ASTM D635 °F <1 Ignition Temperature, Self ASTM D1929 in 1022	Shear Strength, Break	ASTM D732	psi	10,000						
Rockwell Hardness ASTM D785 - M70 / R118 THERMAL Coefficient of Thermal Expansion ASTM D696 in/in/°F 3.75 x 10-5 Coefficient of Thermal Conductivity ASTM C177 BTU-in/hr-ft²-°F 1.35 Heat Deflection Temperature @ 264 psi ASTM D648 °F 270 Heat Deflection Temperature @ 66 psi ASTM D648 °F 280 Brittleness Temperature ASTM D746 °F -200 FLAMMABILITY Horizontal Burn, AEB ASTM D635 °F <1 Ignition Temperature, Self ASTM D1929 in 1022	Shear Strength, Yield	ASTM D732	psi	6,000						
THERMAL Coefficient of Thermal Expansion ASTM D696 in/in/°F 3.75 x 10-5 Coefficient of Thermal Conductivity ASTM C177 BTU-in/hr-ft²-°F 1.35 Heat Deflection Temperature @ 264 psi ASTM D648 °F 270 Heat Deflection Temperature @ 66 psi ASTM D648 °F 280 Brittleness Temperature ASTM D746 °F -200 FLAMMABILITY Horizontal Burn, AEB ASTM D635 °F <1 Ignition Temperature, Self ASTM D1929 in 1022	Shear Modulus	ASTM D732	psi	114,000						
Coefficient of Thermal Expansion ASTM D696 in/in/°F 3.75 x 10°S Coefficient of Thermal Conductivity ASTM C177 BTU-in/hr-ft².°F 1.35 Heat Deflection Temperature @ 264 psi ASTM D648 °F 270 Heat Deflection Temperature @ 66 psi ASTM D648 °F 280 Brittleness Temperature ASTM D746 °F -200 FLAMMABILITY Horizontal Burn, AEB ASTM D635 °F <1 Ignition Temperature, Self ASTM D1929 in 1022	Rockwell Hardness	ASTM D785	-	M70 / R118						
Coefficient of Thermal Expansion ASTM D696 in/in/°F 3.75 x 10°S Coefficient of Thermal Conductivity ASTM C177 BTU-in/hr-ft².°F 1.35 Heat Deflection Temperature @ 264 psi ASTM D648 °F 270 Heat Deflection Temperature @ 66 psi ASTM D648 °F 280 Brittleness Temperature ASTM D746 °F -200 FLAMMABILITY Horizontal Burn, AEB ASTM D635 °F <1 Ignition Temperature, Self ASTM D1929 in 1022	THEDMAI									
Coefficient of Thermal Conductivity ASTM C177 BTU-in/hr-ft².°F 1.35 Heat Deflection Temperature @ 264 psi Heat Deflection Temperature @ 66 psi ASTM D648 °F 280 Brittleness Temperature ASTM D746 °F -200 FLAMMABILITY Horizontal Burn, AEB ASTM D635 °F <1 Ignition Temperature, Self ASTM D1929 in 1022		ASTM D696	in/in/°E	3 75 ∨ 10-5						
Heat Deflection Temperature @ 264 psi ASTM D648 °F 270 Heat Deflection Temperature @ 66 psi ASTM D648 °F 280 Brittleness Temperature ASTM D746 °F -200 FLAMMABILITY Horizontal Burn, AEB ASTM D635 °F <1 Ignition Temperature, Self ASTM D1929 in 1022	'									
Heat Deflection Temperature @ 66 psi ASTM D648 °F 280 Brittleness Temperature ASTM D746 °F -200 FLAMMABILITY Horizontal Burn, AEB ASTM D635 °F <1 Ignition Temperature, Self ASTM D1929 in 1022	· ·									
Brittleness Temperature ASTM D746 °F -200 FLAMMABILITY Horizontal Burn, AEB ASTM D635 °F <1 Ignition Temperature, Self ASTM D1929 in 1022	· · · · · · ·									
FLAMMABILITY Horizontal Burn, AEB ASTM D635 °F <1 Ignition Temperature, Self ASTM D1929 in 1022										
Horizontal Burn, AEB ASTM D635 °F <1 Ignition Temperature, Self ASTM D1929 in 1022	·	7.01110740	1	200						
Ignition Temperature, Self ASTM D1929 in 1022		A STM D675	°E	~1						
			•							
Ignition Temperature Flash ASTM D1020 °E 924	Ignition Temperature, Sell Ignition Temperature, Flash	ASTM D1929 ASTM D1929	°F	824						

^{*}Typical properties are not intended for specification purposes.

TUFFAK CA POLYCARBONATE SHEET

TUFFAK CA has been fire tested and certified in numerous installation configurations; both on and off wall and off ceiling. For maximum fire resistance, TUFFAK CA meets IBC code compliance for Class A performance when installed as outlined below.

Regulatory code compliance and certifications

NFPA 286 Wall or Ceiling	Pass
2015 IBC Section 803	Class A Performance, also can be used wherever Class B or C is required

Grade	Location	Attachment	Gauge	Distance from Ceiling	Distance from Wall	Rating
TUFFAK CA	Ceiling	Standoffs / Hanger Bars	0.118″- 0.500″	≥ 2″		Class A Equivalent
	Wall	On wall at corners	0.118"- 0.236"		0″	Class A Equivalent
	Wall	Standoffs	0.118"- 0.236"		≥ 0.5″	Class A Equivalent
	Wall	Plastic Channels	0.118"- 0.236"		0″	Class A Equivalent

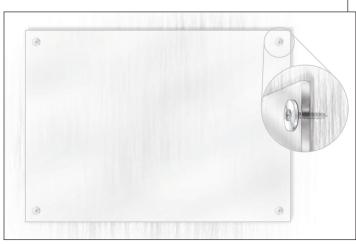
Ceiling Stand-offs / Hanger bars



Rigid plastic H-channels



Cap / Barrel Stand-offs mounts to wall



Screw / Washer attachments on corners

Additional information can be found in TUFFAK CA fabrication guidelines at www.plastolite.com

These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use are beyond our control. We recommend that the prospective user determines the suitability of our materials and suggestions before adopting them on a commercial scale.





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