

Declaration of Performance - Tuffak®

Issue Date: April 2024

1. Product Type	Light Transmitting flat solid polycarbonate (PC) sheets
2. Product Type Reference Number	R80XXXXXX - XXX (no co-extrusion UV protection layer) R80XXXXXX W XXX (co-extrusion UV protection layer from both sides)
3. Intended Use	For internal and external use in roofs, walls and ceilings
4. Manufacturer	Polygal Plastics Industries A Plaskolite Company, Kibbutz Gazit, D.N Yizrael 1934000, Israel. Tel +972-4-9596250, plaskolite.com
5. Notified Body Information	1168 (fire), 0407 (sound), 0402 (durability)
6. AVCP system	System 3
7. Declared Performance – Harmonized Technical Specification EN 16240:2014	
Type	Tuffak
Material Description	Polycarbonate (PC) flat solid extruded sheets.
Thickness (mm)	0.5-15
External Fire Performance	F _{ROOF} – NPD
Reaction to Fire	0.5-5 mm: B, s1, d0 6 mm: B, s2, d0
Resistance to Fire	NPD
Water Vapor Permeability	3.8×10^{-5} mg/m.h.Pa
Water/Air Permeability	Pass
Linear Thermal Expansion (-20 °C to 70 °C)	$\alpha = 65 \times 10^{-6} \text{ K}^{-1}$
Release of Dangerous Substances	NPD
Dimensional Tolerances	Pass
Shatter Properties (safe breakability) as:	
- Small Hard Body Impact Resistance	Pass (2 mm)
- Large Body Impact Resistance	NPD
Mechanical Resistance (deformation behavior)	$E_{t,mean} \geq 2200 \text{ MPa}$ $E_{t,charac} \geq 2000 \text{ MPa}$ $\sigma_{M,mean} \geq 60 \text{ MPa}$ $\sigma_{M charac} \geq 55 \text{ MPa}$
Direct Airborne Sound Insulation	$R_w = 32 \text{ dB}$ (12 mm); $R_w = 33 \text{ dB}$ (15 mm)
Thermal Transmittance	$U = 5.4 \text{ W}/(\text{m}^2 \cdot \text{K})$ (3 mm) $U = 5.0 \text{ W}/(\text{m}^2 \cdot \text{K})$ (6 mm) $U = 4.3 \text{ W}/(\text{m}^2 \cdot \text{K})$ (12 mm)
Light and Solar Transmittance (clear sheet)	$\tau_v = 87.3 \%$ (R8000, 3 mm); 86.5% (R8000W, 3 mm) $\tau_e = 80.0 \%$ (R8000, 3 mm); 79.5% (R8000W, 3 mm) $G = 82.3 \%$ (R8000, 3 mm); 82.0% (R8000W, 3 mm)
Resistance to fixings	Method of fixing (see manufacturer's datasheet)
Durability, as variation (after ageing—18 GJ/m ²):	
- of Yellowness Index	1.89 (ΔA)
- of Light Transmittance	0.53 (ΔA)
- of Flexural Modulus	Cu 0
- of Tensile Strength	Ku 0

The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 7. This declaration of performance is issued under the sole responsibility of the manufacturers identified in point 4.