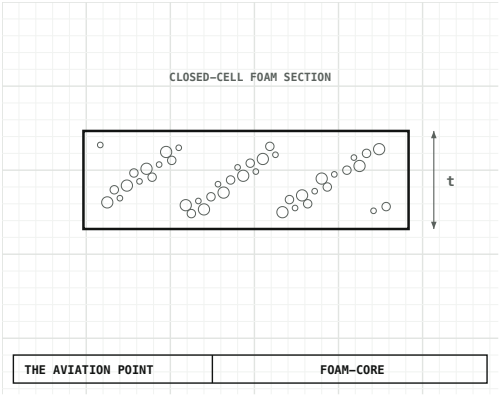
THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM

Foam core — closed-cell foam core

Foam cores shape and stiffen wing tips, controls and fuselage sections on light aircraft and homebuilts.



Schematic

Designation

Item	Value
Designation	Foam core
Class	Composites
Type	closed-cell foam core

Rohacell IG / IG-F (PMI closed-cell foam)

Property	31	51	71	110
Density, lb/ft³ (kg/m³)	2.00 (32)	3.25 (52)	4.68 (75)	6.87 (110)
Compressive strength, psi (MPa)	58 (0.4)	130 (0.9)	217 (1.5)	435 (3.0)
Tensile strength, psi (MPa)	145 (1.0)	275 (1.9)	406 (2.8)	507 (3.5)
Shear strength, psi (MPa)	58 (0.4)	116 (0.8)	188 (1.3)	348 (2.4)
Shear modulus, psi (MPa)	1,885 (13)	2,755 (19)	4,205 (29)	7,250 (50)

Evonik sheet, January 2014; typical values for nominal density. IG-F has a finer cell structure with the same properties and takes up less resin at cut cells. The sheet allows infusion and RTM up to 130 °C and 0.3 MPa; check the current Evonik sheet for the grade and process.

Foam against honeycomb at about 3 lb/ft³

Core	Density	Compressive, psi	Plate or core shear, psi
Nomex HRH-10 - 1/8 - 3.0	3.0 lb/ft³	300	175 L / 100 W
Rohacell 51 IG-F	3.25 lb/ft³	130	116

Two manufacturers, different test methods (ISO and ASTM for Rohacell, honeycomb plate shear for HRH-10): a rough guide only.

Notes

- **Not a substitution table.**
- **Process limits.** Foam crushes or distorts under cure pressure and temperature above its rating.

SOURCES · Evonik, ROHACELL IG and IG-F mechanical properties · Hexcel HexWeb HRH-10 Product Data Sheet · FAA-H-8083-31B, AMT Handbook — Airframe, Volume 1, Chapter 7

SCAN · OPEN THIS DATA SHEET
theaviationpoint.com/parts/materials/foam-core/

THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM · THE AVIATION POINT · THEAVIATIONPOINT.COM