

3A Composites Core Materials AIREX® R63.140 Damage Tolerant Foam

Category : Other Engineering Material , Composite Core Material , Polymer , Thermoplastic

Material Notes:

AIREX® R63 is a closed-cell, linear, thermoplastic polymer foam with extremely high damage tolerance. This formula combines high elongation and excellent bond strength. AIREX® R63 is cold formable to simple shapes and thermo-formable to complex three-dimensional curves, and is nonfriable. AIREX® R63 is a core material for dynamically loaded and shock absorbing sandwich structures. Characteristics: Good impact strength (non-brittle failure mode), Easy to thermoform (cold and hot), Dimensionally stable, Excellent fatigue resistance, Outstanding core-to-skin adhesion, Non biodegradable, Good sound and thermal insulation. Applications: Marine: Hull bottoms, hull sides; Road and Rail: Front-ends, side skirts, crash belts; Aircraft: Explosion proof cargo containers; Recreation: Surf boards, canoes, kayaks; Industrial: Containers, shelters, helmets.

Order this product through the following link:

http://www.lookpolymers.com/polymer_3A-Composites-Core-Materials-AIREX-R63140-Damage-Tolerant-Foam.php

Physical Properties	Metric	English	Comments
Density	0.140 g/cc	0.00506 lb/in ³	average; ISO 845
	0.125 - 0.170 g/cc	0.00452 - 0.00614 lb/in ³	typical range; ISO 845

Mechanical Properties	Metric	English	Comments
Tensile Strength	>= 2.20 MPa	>= 319 psi	in the plane; ISO 527 1-2
	2.40 MPa	348 psi	average; in the plane; ISO 527 1-2
Elongation at Break	>= 75 %	>= 75 %	shear; ISO 1922
	80 %	80 %	average; shear; ISO 1922
Tensile Modulus	>= 0.0800 GPa	>= 11.6 ksi	in the plane; ISO 527 1-2
	0.0900 GPa	13.1 ksi	average; in the plane; ISO 527 1-2
Compressive Strength	>= 1.30 MPa	>= 189 psi	perpendicular to plane; ISO 844
	1.60 MPa	232 psi	average; perpendicular to plane; ISO 844
Compressive Modulus	>= 0.100 GPa	>= 14.5 ksi	perpendicular to plane; DIN 53421
	0.110 GPa	16.0 ksi	average; perpendicular to plane; DIN 53421
Shear Modulus	>= 0.0350 GPa	>= 5.08 ksi	ASTM C393
	0.0370 GPa	5.37 ksi	average; ASTM C393
Shear Strength	>= 1.60 MPa	>= 232 psi	ISO 1922

Mechanical Properties	1.85 MPa Metric	268 psi English	Average: ISO 1922 Comments
Charpy Impact, Notched	0.650 J/cm ²	3.09 ft-lb/in ²	DIN 53453

Thermal Properties	Metric	English	Comments
Thermal Conductivity	0.0390 W/m-K	0.271 BTU-in/hr-ft ² -°F	ISO 8301

Descriptive Properties	Value	Comments
Color	brownish yellow	

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