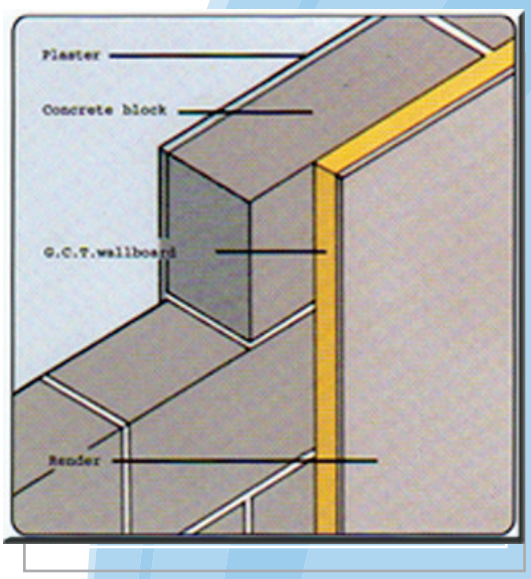
GULFCOOL THERM

GCT-ROOF & WALL INSULATION

General Description

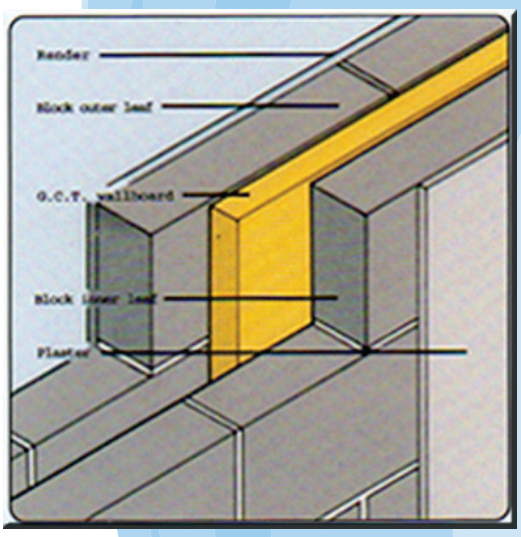
GCT Roof boards consist of a rigid closed cell Polyurethane(PUR) or Polyisocyanurate(PIR) foam.

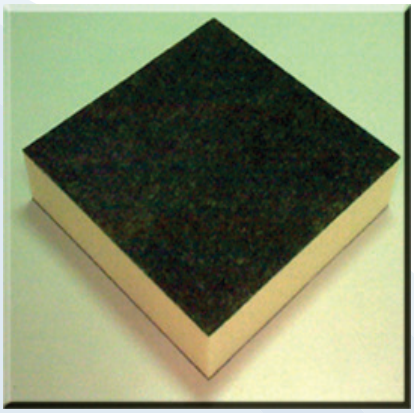


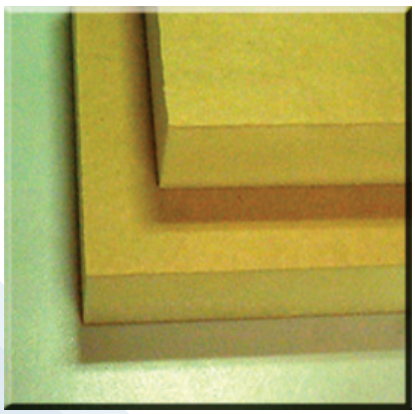
GCT-Roof boards are manufactured in various thicknesses from 20 – 150 mm and in densities ranging from 35Kg/m3 to 80Kg/m3-Densities.

GCT-Roof boards will meet the requirement of most international insulation specifications:

These include: ASTM-C-1013, ASTM-C-591, HH-1-1972, ASTM-D-1692, ASTM-E-84, DIN-4102, BS 476 JIS etc. ASTM C 1289-06, Type I, Type II, Class 1, Grade 2 (20 psi), Grade 3 (25 psi).

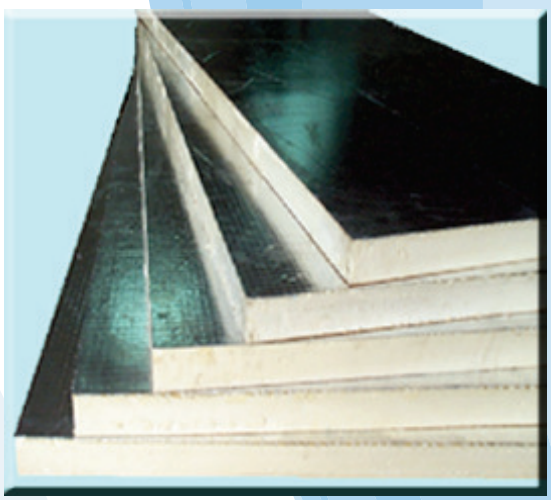






Availability

GCT-Roof boards are available with following finishes: -



a) Both sides with brown Kraft paper finished.

b) One side with Aluminium foil (Class '1' ,Class 'O', Alu glass) and other side brown Kraft paper finished.

c) Both sides with Black Fibreglass tissue finished.

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GCT-ROOF & WALL INSULATION

Polyurethane (PUR) Technical Data Sheet

Properties	Test Method	Value	Value	Value	Value
Nominal Density: Kg/m3 (lb/ft^3)	ASTM D-1622	PUR 35-40 (2.18-2.49)	PUR 50 (3.12)	PUR 65 (4.05)	PUR 75-80 * With Fiber Glass Tissue Faced
Thermal Conductivity @ 10 ^{O}C (50 ^{O}F) aged W /m*K (Btu-in/h*ft ^{2} ^{O}F)	ASTM C518/91	0.023 (0.159)	0.023 (0.159)	0.024 (0.166)	0.027 (0.187)
Average Compressive Strength @ 10% Relative Deformation: kPa (lb/in^2)	ASTM D-1621 BS EN 826:1996	245 (35.53)	365 (52.93)	690 (100.07)	*725 (105 psi)
Compressive Modulus: kPa (lb/in^2)	ASTM F-1839-01	13020 (1888.39)	18600 (2697.70)	24200 (3509.91)	29880 (4333.72)
Tensile Strength: kPa (lb/in^2)	ASTM D-1623	220 (31.9)	385 (55.83)	520 (75.41)	610 (88.47)
Shear Strength: kPa (lb/in^2)	ASTM F-1839-01	138 (20.01)	190 (27.55)	245 (35.53)	315 (45.68)
Shear Modulus: kPa (lb/in^2)	ASTM F-1839-01	3620 (525.03)	5210 (755.64)	6770 (981.9)	8300 (1203.81)
Closed Cell Content (Apparent vol, %)	ASTM D-2856	95	95	95	95
Avg. Water Vapor Transmission (grains/h*ft^2)	ASTM E96-00	1.19	1.12	0.5	0.4
Water Absorption % W/V	ASTM D-2842	2.25	2	1.5	1.3
Dimensional Stability (% Linear Change)	ASTM D-2126				
24 hours @ -20 ^{O}C		Negligible	Negligible	Negligible	Negligible
24 hours @ +110 ^{O}C		1.5	1.5	1	<1
24 hours @ +70 ^{O}C 100% RH		2	2	1.5	<1
Upper Temperature Limit^{O}C (^{O}F)		140 (284)	140 (284)	140 (284)	140 (284)
Linear Coefficient of Expansion m/m^{O}K	ASTM D-696	40-70x10^{-6}	40-70x10^{-6}	40-70x10^{-6}	40-70x10^{-6}
Fire resistance (small scale test)	BS 4102	B1/B2	B1/B2	B1/B2	B1/B2
Average Time & Extent of Burning(mm)	ASTM D 635:1991	< 5	< 5	< 5	7

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Polyisocyanurate (PIR) Technical Data Sheet

Properties	Test Method	Value	Value	Value	Value
Nominal Density: Kg/m3 (lb/ft^3)	ASTM D-1622	PIR 35 - 40 (2.18 - 2.49)	PIR 50 (3.12)	PIR 65 (4.05)	PIR 75-80 * With Fiber Glass Tissue Faced
Thermal Conductivity @ 10 ^{O}C (50 ^{o}F) aged W /m*K (Btu-in/h*ft ^{2} ^{o}F)	ASTM C518/91	0.023 (0.159)	0.023 (0.159)	0.024 (0.166)	0.027 (0.187)
Average Compressive Strength @ 10% Relative Deformation: kPa (lb/in^2)	ASTM D-1621 BS EN 826:1996	245 (35.53)	365 (52.93)	690 (100.07)	*725 (105 psi)
Compressive Modulus: kPa (lb/in^2)	ASTM F-1839-01	13020 (1888.39)	18600 (2697.70)	24200 (3509.91)	29880 (4333.72)
Tensile Strength: kPa (lb/in^2)	ASTM D-1623	220 (31.9)	385 (55.83)	520 (75.41)	610 (88.47)
Shear Strength: kPa (lb/in^2)	ASTM F-1839-01	138 (20.01)	190 (27.55)	245 (35.53)	315 (45.68)
Shear Modulus: kPa (lb/in^2)	ASTM F-1839-01	3620 (525.03)	5210 (755.64)	6770 (981.9)	8300 (1203.81)
Closed Cell Content (Apparent vol, %)	ASTM D-2856	95	95	95	95
Avg. Water Vapor Transmission (grains/h*ft^2)	ASTM E96-00	1.19	1.12	0.5	0.4
Water Absorption % W/V	ASTM D-2842	2.25	2	1.5	1.3
Dimensional Stability (% Linear Change)	ASTM D-2126				
24 hours @ -20 ^{O}C		Negligible	Negligible	Negligible	Negligible
24 hours @ +110 ^{O}C		1.5	1.5	1	<1
24 hours @ +70 ^{O}C 100% RH		2	2	1.5	<1
Upper Temperature Limit^{O}C (^{O}F)		140 (284)	140 (284)	140 (284)	140 (284)
Linear Coefficient of Expansion m/m	ASTM D-696	40-70x10 $^{-6}$	40-70x10^{-6}	40-70x10^{-6}	40-70x10^{-6}
Fire resistance (small scale test)	BS 4102	B1	B1	B1/B2	B1/B2
Fire Property	ASTM E 84 & BS 476	Class 1	Class 1	Class 1	Class 1

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