



Product Comparison

Thursday, June 15, 2017

General Information

Product Description

Gordon Composites™ GC-67-UB	A continuous unidirectional "E" fiberglass/epoxy bar material that provides high strength and stiffness at all thickness ranges. GC-67-UB is manufactured with a proprietary pulforming process in which all glass fibers are pretensioned and aligned during the impregnation and curing process.
Gordon Composites™ GC-70-UCL	A light weight laminate composed of continuous unidirectional carbon fiber in an epoxy matrix, providing high strength and stiffness. GC-70-UCL is manufactured with a proprietary pulforming process in which all carbon fibers are pretensioned and aligned during impregnation and curing. This process assures the efficient utilization of the superior mechanical properties of the carbon fibers.
Gordon Composites™ GC-70-UL	A continuous unidirectional "E" fiberglass/epoxy laminate that has high strength and stiffness along the longitudinal (0) axis. GC-70-UL is manufactured with a proprietary pulforming process in which all glass fibers are pretensioned and aligned during the impregnation and curing process.
Gordon Composites™ GC-70-ULS	A continuous unidirectional "E" fiberglass combined with a 50/50 woven fiberglass inlay that has high strength and stiffness along the longitudinal (0) axis and provides cross strength (90 degrees to the longitudinal axis). GC-70-ULS is manufactured with a proprietary pulforming process in which all glass fibers are pretensioned and aligned during the impregnation and curing process.
Gordon Composites™ GC-70-ULZ	Made with high strength glass fiber commonly called "S" glass, this unidirectional glass laminate provides strength and fatigue resistance superior to laminates made with standard "E" glass. GC-70-ULZ is manufactured with a proprietary pulforming process in which all glass fibers are pretensioned and aligned during the impregnation and curing process.

General	Gordon Composites™ GC-67-UB	Gordon Composites™ GC-70-UCL	Gordon Composites™ GC-70-UL	Gordon Composites™ GC-70-ULS	Gordon Composites™ GC-70-ULZ
Manufacturer / Supplier	• PolyOne Corporation	• PolyOne Corporation	• PolyOne Corporation	• PolyOne Corporation	• PolyOne Corporation
Generic Material	• Composites, Advanced	• Composites, Advanced	• Composites, Advanced	• Composites, Advanced	• Composites, Advanced
Material Status	• Commercial: Active	• Commercial: Active	• Commercial: Active	• Commercial: Active	• Commercial: Active
Regional Availability	• North America	• North America	• North America	• North America	• North America
Filler / Reinforcement	• Glass Fiber, 67% Filler by Weight	• Carbon Fiber, 70% Filler by Weight	• Glass Fiber, 70% Filler by Weight	• Glass Fiber, 70% Filler by Weight	• Glass Fiber, 70% Filler by Weight

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General	Gordon Composites™ GC-67-UB	Gordon Composites™ GC-70-UCL	Gordon Composites™ GC-70-UL	Gordon Composites™ GC-70-ULS	Gordon Composites™ GC-70-ULZ
Uses	<ul style="list-style-type: none">Automotive ApplicationsIndustrial ApplicationsMarine ApplicationsMetal ReplacementSporting GoodsSpringsStructural Parts	<ul style="list-style-type: none">Aerospace ApplicationsIndustrial ApplicationsMarine ApplicationsMetal ReplacementProstheticsSpringsStructural Parts	<ul style="list-style-type: none">Industrial ApplicationsMarine ApplicationsMetal ReplacementProstheticsSporting GoodsSpringsStructural Parts	<ul style="list-style-type: none">Industrial ApplicationsMarine ApplicationsMetal ReplacementSporting GoodsSpringsStructural Parts	<ul style="list-style-type: none">Industrial ApplicationsMarine ApplicationsMetal ReplacementProstheticsSporting GoodsSpringsStructural Parts
Appearance	<ul style="list-style-type: none">Natural Color	<ul style="list-style-type: none">Black	<ul style="list-style-type: none">BlackBlueBrownColorlessRedWhite	<ul style="list-style-type: none">BlackBlueBrownGreyNatural ColorRed	<ul style="list-style-type: none">BlackNatural Color
Forms	<ul style="list-style-type: none">Sheet¹Unidirectional	<ul style="list-style-type: none">Customizable Forms²Sheet³Unidirectional	<ul style="list-style-type: none">Sheet⁴Unidirectional⁵	<ul style="list-style-type: none">Sheet⁶	<ul style="list-style-type: none">Sheet⁷
Processing Method	<ul style="list-style-type: none">Machining	<ul style="list-style-type: none">Machining	<ul style="list-style-type: none">Machining	<ul style="list-style-type: none">Machining	<ul style="list-style-type: none">Machining

ASTM & ISO Properties⁸

Physical	Gordon Composites™ GC-67-UB	Gordon Composites™ GC-70-UCL	Gordon Composites™ GC-70-UL	Gordon Composites™ GC-70-ULS	Gordon Composites™ GC-70-ULZ	Unit	Test Method
Density	1.88	1.55	1.88	1.88	1.88	g/cm³	ASTM D1505
Mechanical	Gordon Composites™ GC-67-UB	Gordon Composites™ GC-70-UCL	Gordon Composites™ GC-70-UL	Gordon Composites™ GC-70-ULS	Gordon Composites™ GC-70-ULZ	Unit	Test Method
Tensile Modulus							ASTM D3039
-- ⁹	5.80E+6	2.20E+7	6.00E+6	6.00E+6	7.40E+6	psi	
-- ¹⁰	1.50E+6	1.40E+6	1.50E+6	--	1.60E+6	psi	
Tensile Strength							ASTM D3039
-- ⁹	138000	430000	152000	152000	243000	psi	
-- ¹⁰	6000	7000	6800	--	6700	psi	
Tensile Strain ⁹ (Break)	2.3	1.9	2.5	2.5	3.3	%	ASTM D3039

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Product Comparison

Mechanical	Gordon Composites TM	Gordon Composites TM	Gordon Composites TM	Gordon Composites TM	Gordon Composites TM	Unit	Test Method
	GC-67-UB	GC-70-UCL	GC-70-UL	GC-70-ULS	GC-70-ULZ		
Flexural Modulus	5.50E+6	1.99E+7	5.80E+6	6.00E+6	6.80E+6	psi	ASTM D790
Flexural Strength ¹¹	153000	303000	208000	210000	245000	psi	ASTM D790
Compressive Modulus							
-- 10	--	1.60E+6	--	--	--	psi	ASTM D6641
-- 10	1.70E+6	--	1.80E+6	--	1.90E+6	psi	ASTM D3410
-- 9	5.90E+6	--	6.00E+6	6.00E+6	7.30E+6	psi	ASTM D3410
-- 9	--	1.95E+7	--	--	--	psi	ASTM D6641
Compressive Strength							
-- 9	120000	--	111000	119000	119000	psi	ASTM D3410
-- 10	22000	--	21200	--	20900	psi	ASTM D3410
-- 10	--	24000	--	--	--	psi	ASTM D6641
-- 9	--	160000	--	--	--	psi	ASTM D6641
Shear Modulus							ASTM D5379
-- 12	420000	--	490000	--	540000	psi	
-- 13	600000	--	650000	--	910000	psi	
Shear Strength							
-- 12	4700	--	4900	--	5300	psi	ASTM D5379
-- 13	8900	--	7400	--	8000	psi	ASTM D5397
Poisson's Ratio							
-- 14	0.30	--	0.29	--	0.28		ASTM D3410
-- 15	--	0.31	--	--	--		ASTM D3039
Thermal	Gordon Composites TM	Gordon Composites TM	Gordon Composites TM	Gordon Composites TM	Gordon Composites TM	Unit	Test Method
	GC-67-UB	GC-70-UCL	GC-70-UL	GC-70-ULS	GC-70-ULZ		
Glass Transition Temperature	250	240	250	250	245	°F	ASTM D3418

Product Comparison

Notes

¹ Width: .400" to 8.75" Thickness: .130" to .550" Length: 6" to 264"
² Available in roll form with lengths up to 250 ft.
³ Width: 1.50" to 8.75" Thickness: .020" to .045" Length: 6" to 120"
⁴ Width: .1.50" to 18.00" Thickness: .018" to .080" Length: 6" to 120" strips
⁵ Also available in roll form with lengths up to 250 ft.
⁶ Width: .1.50" to 18.00" Thickness: .040" to .080" Length: 6" to 120"
⁷ Width: .1.50" to 8.75" Thickness: .020" to .040" Length: 6" to 120"
⁸ Typical properties: these are not to be construed as specifications.
⁹ 0 degree orientation
¹⁰ 90 degree orientation
¹¹ Strength Values developed from ASTM D790 are dependent on thickness. As thickness increased flex strength decreased. The test data above is based on a test thickness of .060"
¹² Inter-laminar, 2,3 direction
¹³ In-plane, 1,2 direction
¹⁴ nu12 (0/90), valid both tensile and compression
¹⁵ nu12 (0/90)