COMPARISON OF COMPOSITES

			GRG	FORTON MG	GFRC	FRP
Environmental Hazards						
VOC's			None	None	None	Yes
Fire Classification			Class I	Class I	Class I	Class I
ASTM E-84			0,0	25,45	0, 0	25,150
Application			Interior	Interior Exterior	Interior Exterior	Interior Exterior
Demolding Cycles			>1 hour	>1 hour	16 hours	2-4 hours
Clean Up			Water	Water	Water	Regulated Solvents
Dimensional Behavior During Cure			Expands	Slight Expansion	Shrinkage	Noticeable Shrinkage

Typical Properties of Composites:

Density		pcf	95-100	95-100	120-140	80-110
Compressive	C-109	psi	6,000	6-9,000	7-10,000	15-25,000
Flexural Yield	C-947 Dry	psi	1,200	1,800-2,900	900-1,500	
Flexural Ultimate	C-947 Dry	psi	2,500	3,500-9,400	2,500-4,000	
Strain to Failure	C-947 Dry	%		2	0.5	
Modulus of Rupture	D-790	psi				16-32,000
Modulus of Elasticity		psi		8*10-6	1.5-2.9*10-6	8-1.4*10-6
Tensile Yield		psi	1,200-1,400		700-1,000	
Tensile Ultimate		psi		3,500-5,100	1,000-1,600	9-18,000
Impact Strength	D-256	ln.lbnn2	3	170	55-140	4-12
Shear: interlaminar		psi			400-800	
Shear: In-plane		psi			1,000-1,600	
Thermal Expansion		in/in/deg F	11.1*10-6	11*10-6	12*10-6	12-20*10-6
Thermal Conductivity		Btu/hr/ftF/ln2			3.5-7	
Moisture Movement				<1 0/00		
Equilibrium Moisture Content						
	65%RH			max.0.5wt%		
	85%RH			max.1.2wt%		
Water Vapor Diffusion				250		
Freeze-Thaw Resistance			None	Excellent	Good	Excellent
Hardness	Barcol		50			

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