

RECORD

Page 4 of 102

Document Number: R-5.10_09-09-22_BE.1

Test Report

BASTECH CERTIFIED TEST RESULTS per FDOT 932-3 (Table 932-7) for FRP-23

Reference	Property*	Unit	BASTECH Bar Size & Properties				
		SI US	M10 (3)	M13 (4)	M16 (5)	M19 (6)	M22 (7)
ASTM D2584	Fiber Mass Content	%	79	75	77	77	78
ASTM E1356	Mean Glass Transition Temperature (DSC)	°C	110	N/A	113	N/A	113
		°F	229	N/A	235	N/A	235
ASTM E2160	Mean Total Enthalpy of Polymerization	J/g	100	100	100	100	100
	Mean Degree of cure	%	98	99	99	99	99
ASTM D7205	Mean Measured Cross-Sectional Area	mm ²	82	139	215	310	401
ASTM D792		in ²	0.127	0.216	0.333	0.481	0.622
ASTM D7205	Guaranteed Ultimate Tensile Force	kN	79.8	106	165	224	299
		kip	17.9	23.9	37.0	50.4	67.2
	Mean Ultimate Tensile Strength	MPa	1296	1001	1004	937	902
		ksi	188	145	146	136	131
	Mean Tensile Modulus of Elasticity	GPa	54	50	49	50	48
		Msi	7.8	7.2	7.1	7.2	7.0
Mean Ultimate Tensile Strain	%	2.4	2.0	2.0	1.9	1.9	
ASTM D7705-B	Mean Alkaline Resistance (Tensile Load Retention)	%	99	N/A	101	N/A	101
ASTM D7913	Mean Bond Strength	MPa	10.3	N/A	9.4	N/A	7.8
		ksi	1.5	N/A	1.4	N/A	1.1
ASTM D7617	Mean Transverse Shear Strength	MPa	238	221	203	196	206
		ksi	34	32	30	28	30
ASTM D4475	Mean Horizontal Shear Strength	MPa	45.2	47.8	43.1	44.3	43.7
		ksi	6.6	6.9	6.3	6.4	6.3
ASTM D570	Mean Moisture Absorption at 24 hrs.	%	0.13	N/A	0.10	N/A	0.16
	Mean Moisture Absorption at Saturation		0.70	N/A	0.71	N/A	0.92

*Refer to Section 1.4 and 2 of report for bar description and identification. N/A - Not applicable.