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ICC-ES AC 454 CERTIFIED QUALIFICATION
SUMMARY TEST RESULTS

Reference	Property	Unit	Bar size & properties				AC454 Acceptance Criteria Result
			SI US	M10 (3)	M13 (4)	M16 (5)	
ASTM D2584	Mean Fiber Mass Content	%	84	82	80	84	Pass
ASTM D7205 ASTM D792	Mean Measured Cross-sectional Areal	mm ²	92	152	209	348	Pass
		in ²	0.142	0.236	0.324	0.539	
ASTM D7205	Guaranteed Ultimate Tensile Force*	KN	86	148	166	278	Pass
		kip	19.3	33.4	37.4	62.4	
	Ultimate Tensile Strength	kN	1339	1313	1040	1091	Pass
		ksi	203	190	151	158	
	Mean Tensile Modulus of Elasticity	GPa	77	72	60	64	Pass
Msi		11.2	10.4	8.7	9.2		
	Mean ultimate Tensile Strain	%	1.8	1.8	1.8	1.9	Pass
ASTM D7913	Guaranteed Bond Strength*	MPa	9.0	11.0	11.3	11.0	Pass
		ksi	1.3	1.6	1.6	1.6	
ASTM D7617	Guaranteed Transverse Shear Strength*	MPa	188	223	160	186	Pass
		ksi	27	32	23	27	

* *Guaranteed property is equal to mean value minus three standard deviations.

REFERENCES

1. ASTM D7957/D7957M-22 (2022). “Standard Specification for Solid Round Glass Fiber Reinforced Polymer Bars for Concrete Reinforcement”. ASTM Int., West Conshohocken, PA.
2. ASTM D2584-18 (2018) “Standard Test Method for Ignition Loss of Cured Reinforced Resins”. ASTM Int., West Conshohocken, PA.
3. ASTM D7205/D7205M-21 (2021). “Standard Test Methods for Tensile Properties of Fiber-Reinforced Polymer Matrix Composite Bars.” ASTM Int., West Conshohocken, PA.
4. ASTM D792-20 (2020) “Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement”. ASTM Int., West Conshohocken, PA.
5. ASTM D570-98 (2018). “Standard Test Method for Water Absorption of Plastics”. ASTM Int., West Conshohocken, PA.
6. ASTM E1356-08 (2014). “Standard Test Method for Assignment of the Glass Transition Temperatures by Differential Scanning Calorimetry”. ASTM Int., West Conshohocken, PA.
7. ASTM E2160-04 (2018). “Standard Test Method for Heat of Reaction of Thermally Reactive Materials by Differential Scanning Calorimetry”. ASTM Int., West Conshohocken, PA.