

PREPREGS PRODUCT : P²SI® 635LM

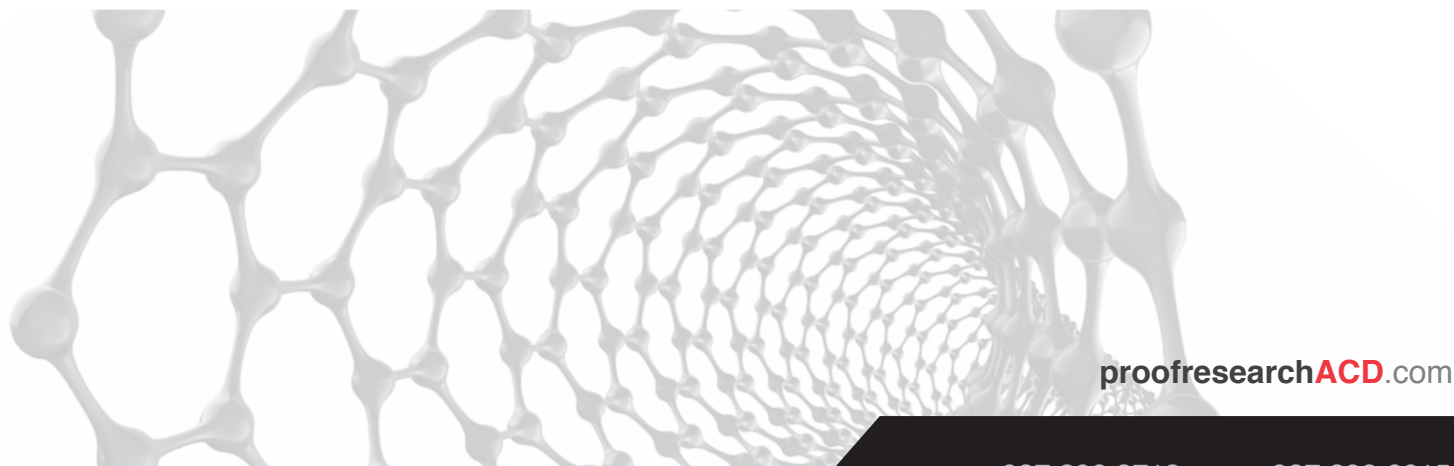
P²SI® 635LM provides a unique balance of thermal stability, resin infusion processability, mechanical performance, and affordability. P²SI® 635LM offers significant versatility compared to competitive products in the marketplace, including a high-use temperature (up to 550°F continuous), low-melt viscosity, large processing window, and flexible cure behavior. Cure cycles range from 600°F/4h with a post cure to 700°F/1h without a post cure. The ability to be cured for short times or lower temperatures is amenable to both cure temperature restrictions and component production schedules. P²SI® 635LM exhibits good thermo-oxidative stability, mechanical performance, and flexibility, making it one of the most versatile new materials we offer. P²SI® 635LM is available as a PMR-type prepreg or as a melt-processable solid.

RHEOLOGICAL PROPERTIES

PROPERTY	VALUE
Softening Temperature, °F (°C)	279 (137)
Cure Exotherm Temperature, °F (°C)	621 (327)
Processing Window (Δ), °F (°C)	342 (190)
Minimum Dynamic Viscosity, Poise	
626°F (330°C)	3
Pot Life at Temperature, h	
500°F (260°C)	2
536°F (280°C)	2
572°F (300°C)	1
Maximum Viscosity at Temperature, Poise	
500°F (260°C)	60
536°F (280°C)	50
572°F (300°C)	40

RESIN PROPERTIES

PROPERTY	NEAT RESIN	T650-35 8HS/UC309	16781 S-2 GLASS	TEST METHOD
Glass Transition Temperature, °F (°C)	635 (335)	—	—	ASTM D3418
Glass Transition Temperature, °F (°C)				ASTM D7028
Storage Modulus, E'	—	—	628 (331)	
Loss Modulus, E''	—	—	682 (361)	
tanδ	—	—	694 (368)	
Maximum Moisture Gain, 8-ply, %	—	1.03	—	ASTM D5229
Thermo-Oxidative Mass Loss, %				—
600°F (316°C) / 100h	—	0.51	0.73	
550°F 288°C) / 646h	—	0.45	—	



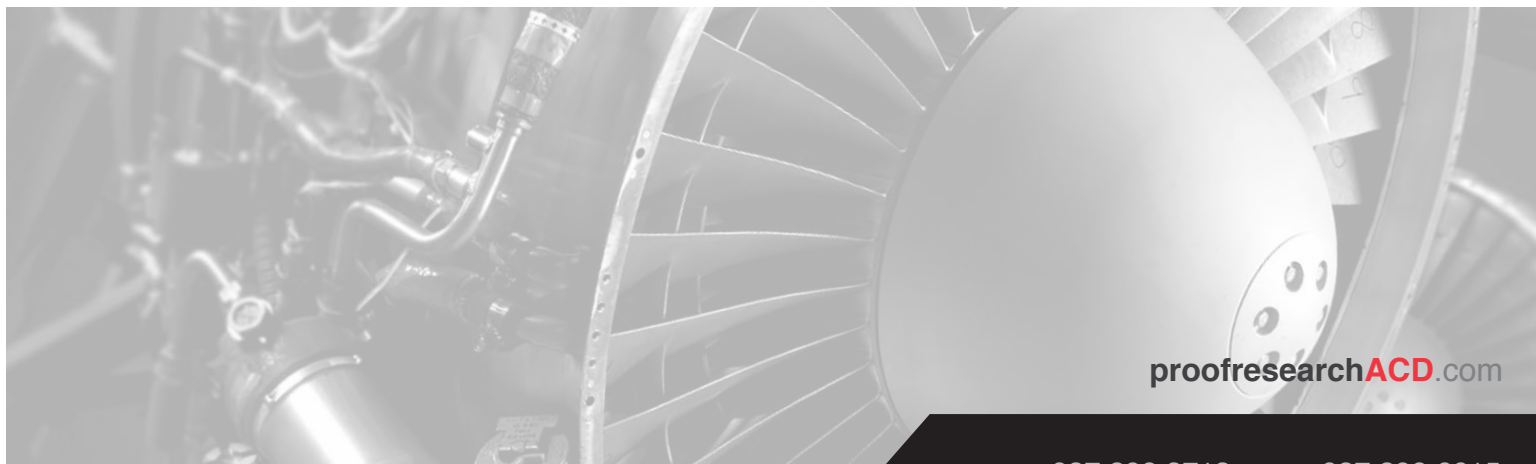
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TYPICAL MECHANICAL PROPERTIES FOR TEXTILE COMPOSITE LAMINATES

PROPERTY	T650-35 8HS/UC309	16781 S-2 GLASS	TEST METHOD
THREE-POINT FLEXURAL STRENGTH, ksi (MPa)			ASTM D790
75°F 23°C	136 (938)	127 (876)	
Aging: 600°F (316°C) / 100h			
75°F 23°C	116 (800)	—	
Aging: 550°F (288°C) / 646h			
75°F 23°C	109 (752)	—	
550°F 288°C	90 (621)	—	
Aging: Moisture Saturated			
75°F 23°C	101 (694)	—	
550°F 288°C	70 (483)	—	
INTERLAMINAR SHEAR STRENGTH, ksi (MPa)			ASTM D2344
75°F 23°C	12.1 (83.4)	9.8 (67.6)	
Aging: 600°F (316°C) / 100h			
75°F 23°C	10.3 (71.0)	—	
Aging: 550°F (288°C) / 646h			
75°F 23°C	6.3 (43.4)	—	
550°F 288°C	6.0 (41.4)	—	
Aging: Moisture Saturated			
75°F 23°C	6.8 (46.9)	—	
550°F 288°C	5.3 (36.5)	—	

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