

## CYCOM® 2265

CYCOM® 2265 is a phenolic prepreg for interior aircraft applications where low flammability and toxicity are required. The prepreg is light in color and exhibits excellent peel strength on foam and Nomex® cores. The product is also very stable and retains its adhesion and flow properties when stored under normal conditions. CYCOM® 2265 is currently qualified to a number of major Airframer interior specifications.

Typical applications for CYCOM® 2265 include transportation interiors.

### Features and Benefits

- For transport interior applications
- Ohio State University (OSU) heat release well below current regulations
- Low Flame, Smoke and Toxicity (FST) properties
- High peel strength
- Fast cure
- Superior surface finish characteristics

## CHARACTERISTICS

**Table 1 | Physical Properties**

Property	Glass Style 7781	Glass Style 120	Test Method
Resin Content, %	38 – 44	44 – 50	ASTM D 3529
Resin Flow <sup>1</sup> , %	14 – 22	9 – 19	ASTM D 3531
Volatiles <sup>2</sup> , %	3 max	4 max	ASTM D 3530
Gel Time <sup>3</sup> , minutes	7 – 17		ASTM D 3532
Room Temperature Tack <sup>4</sup>	Low		
Drape	Slight to Boardy		
Shelf Life	6 months at or below 0°F (-18°C) from date of shipment		
Shop Life	10 days at or below 75°F (24°C)		

<sup>1</sup> Test Conditions: 250°F (121°C), 50 psi (0.35 MPa)

<sup>2</sup> Test Conditions: 250°F (121°C), 10 minutes

<sup>3</sup> Test Temperature: 250°F (121°C)

<sup>4</sup> Temperature: 75°F (24°C)



**Table 2 | Product Availability**

Carrier*	Glass, Aramid, and Carbon Fiber
Roll Width	60 in (1520 mm)
Roll Length	60 yds (55 m)

\*Standard reinforcements include 120 and 7781 style woven glass fabrics. Other styles of woven and knitted glass may also be available. Aramid and Carbon Fiber fabric reinforcements are available upon request.

## Flammability Properties

**Table 3 | Flammability Properties**

Test	Properties	7781 Glass Fabric		120 Glass Fabric		Test Method
		Sandwich <sup>1</sup>	Laminate	Sandwich <sup>1</sup>	Laminate	
60 Second Vertical Burn	Self-Extinguish Time, seconds	0	0	0	0	FAR 25.853
	Burn Length, in (mm)	0.8 (20.3)	0.5 (12.7)	1.6 (40.6)	1.1 (27.9)	
	Drip Time, seconds	No drip	No drip	No drip	No drip	
30 Second 45° Burn	Self-Extinguish Time, seconds	0	0	0	0	FAR 25.853
	Average Afterglow Time, seconds	0	0	0	0	
	Flame Penetration	None	None	None	None	

<sup>1</sup> Sandwich panel specimens: Skins: One ply of CYCOM® 2265 on each side of the core, Core:Nomex® honeycomb core, 0.125 in (3.18 mm) cell, 3.0 pcf (0.048 g/cc) density, 0.50 in (12.7 mm) thick. The prepreg orientation is the fill face of the fabric against the core and the warp of the fabric perpendicular to the core ribbon direction.

**Table 4 | OSU Heat and Smoke Release: OSU Test at 35 kW/m<sup>2</sup> Heat Flux**

Properties		7781 Glass Fabric	Test Method
2 minute Total Heat Release	Sandwich Panel (2 ply/2 ply), kW min/m <sup>2</sup>	≤ 30	FAR 25.853
	Laminate (6 plies), kW min/m <sup>2</sup>	≤ 30	
Average Peak Heat Release	Sandwich Panel, kW min/m <sup>2</sup>	≤ 30	FAR 25.853
	Laminate, kW min/m <sup>2</sup>	≤ 30	
NBS Smoke Chamber*	Average DS at 4 minutes	7	FAR 25.853

\* Run at 25 kW/m<sup>2</sup> Heat Flux  
 Similar test can be run with ASTM E 906.



## PROPERTIES

**Table 5 | Mechanical Properties**

Properties	Test Temperature °F (°C)	7781 Glass Fabric	120 Glass Fabric	Test Method
Tensile Strength, ksi (MPa)	75 (24)	53 (367)	-	ASTM D 638
Tensile Modulus, Msi (GPa)		3.4 (23.4)	-	
Compression Strength, ksi (MPa)	75 (24)	48 (330)	-	ASTM D 695
Compression Modulus, Msi (GPa)		2.8 (19.3)	-	
Long Beam Flex Ultimate Strength, ksi (MPa)	75 (24)	33 (225)	15 (105)	ASTM C 393
Flatwise Tensile <sup>1</sup> , psi (MPa)	75 (24)	330 (2.3)	302 (2.1)	ASTM C 297
Climbing Drum Peel Strength <sup>2</sup> (Nomex), in-lb/3in (Nm/m)	75 (24)	12.8 (19.0)	5.8 (8.6)	ASTM D 1781
Climbing Drum Peel Strength <sup>3</sup> (Foam), in-lb/3in (Nm/m)	75 (24)	29.9 (44.3)	7.3 (10.8)	ASTM D 1781

<sup>1</sup> Sandwich specimens: One ply of CYCOM® 2265 on each side of the core, Core: HRH Metallic, 0.125 in (3.18 mm) cell, 3.0 pcf (0.048 g/cc) density, 0.50 in (12.7 mm) thick.

<sup>2</sup> Sandwich specimens: Skins: One ply of CYCOM® 2265 on each side of the core, Core: Nomex® honeycomb core, 0.125 in (3.18 mm) cell, 3.0 pcf (0.048 g/cc) density, 0.50 in (12.7 mm) thick.

<sup>3</sup> Sandwich specimens: Skins: One ply of CYCOM® 2265 on each side of the core, Core: FR-3718 foam core, 18.0 pcf (0.288 g/cc) density, 0.50 in (12.7 mm) thick

## PROCESSING

### Recommended Cure Cycles:

CYCOM® 2265 can be cured between 260°F and 285°F (127°C and 141°C) by a variety of cure cycles. Typical vacuum bag cure and press molding cycles are given in Figures 1 and 2, respectively. For best results with honeycomb sandwich panels, place the prepreg fill face against the core with the warp of the fabric perpendicular to the core ribbon direction. For a typical in-hot/out-hot cure, prepreg and honeycomb are inserted into preheated platens (Refer to Figure 3). Bumping of press, pressure application and temperature ramp rate are dependent on panel construction. Controlled cooling is recommended to minimize panel warpage after panel removal. These parameters are at the discretion of each individual fabricator. For additional information contact your Syensqo Technical Service representative.



### Vacuum Bag Cure Cycle

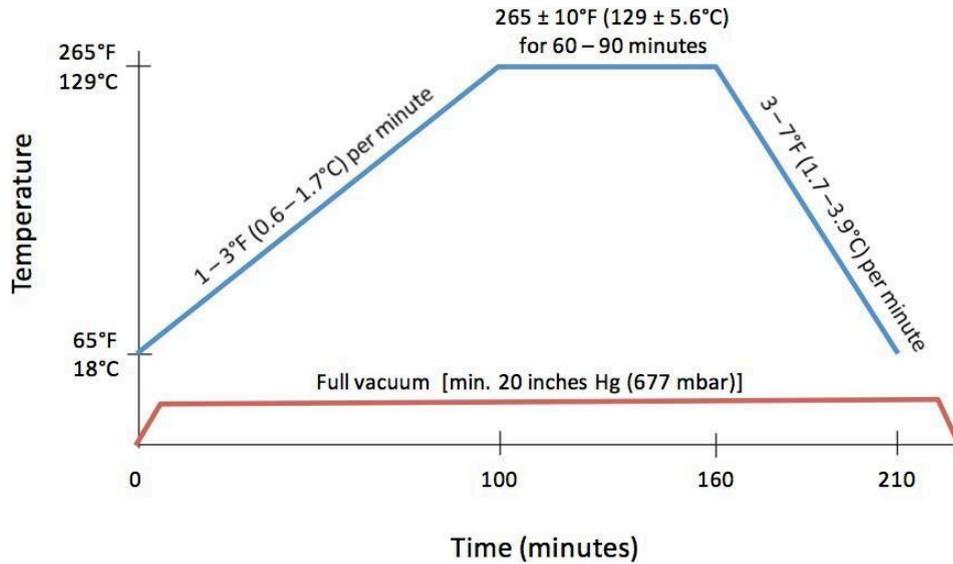


Figure 1 | Typical Vacuum Bag Cure Cycle: Honeycomb Sandwich Panel

### Press Cure Cycle

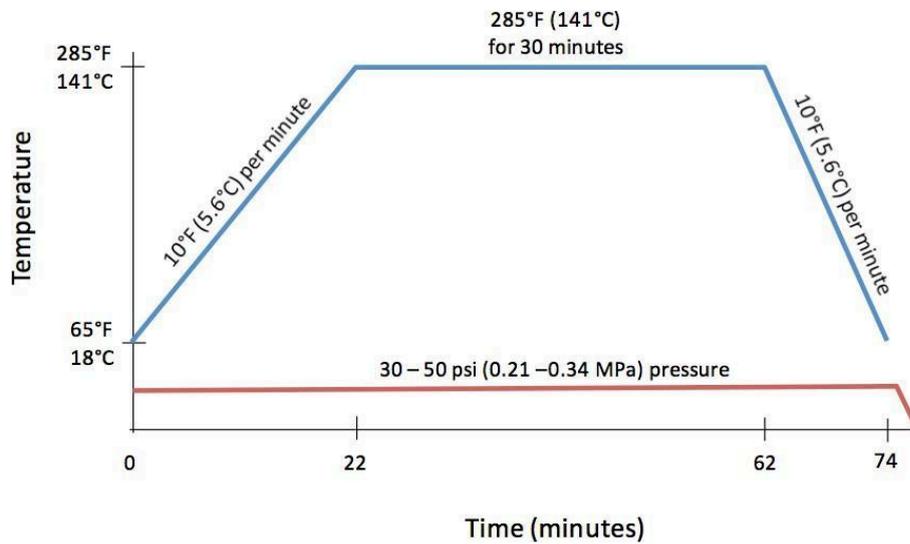
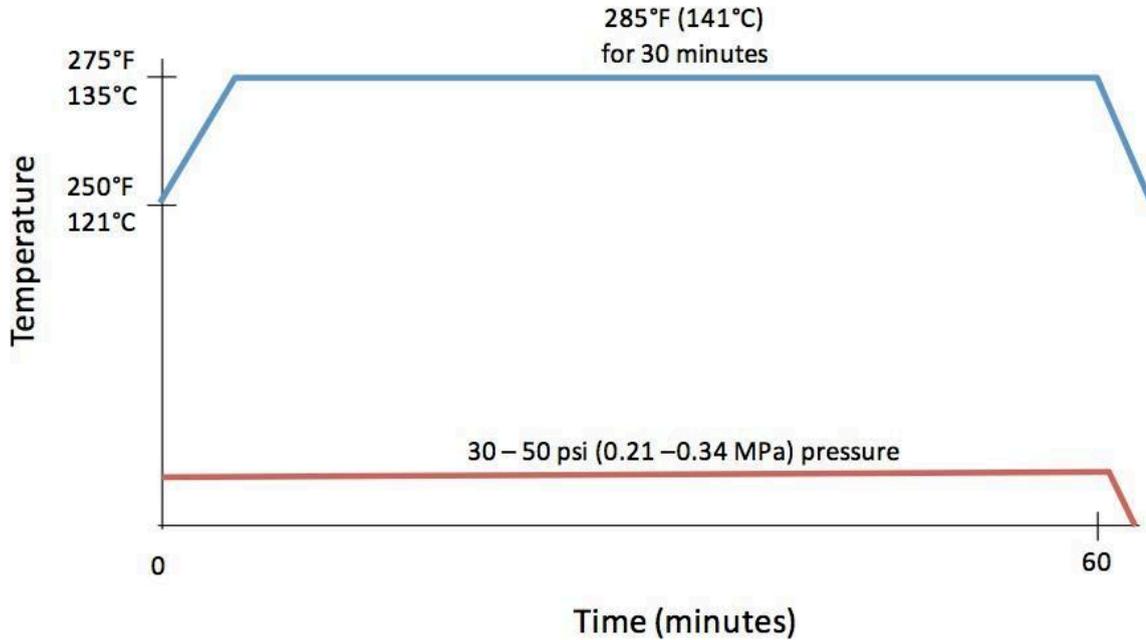


Figure 2 | Typical Press Cure Cycle: Honeycomb Sandwich Panel



**Alternative Press Cure Cycle****Figure 3 | Typical Press Cure Cycle: Hot-In/Hot-Out****HEALTH & SAFETY**

Please refer to the product SDS for safe handling, personal protective equipment recommendations and disposal considerations.

