



CYCOM® 2265 Phenolic Resin System

DESCRIPTION

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.

FEATURES & 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

SUGGESTED APPLICATIONS

- Transport interior applications

CHARACTERISTICS

Availability

Standard reinforcements include 7781 and 120 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. Standard widths are 50 inches (1270 mm) and 60 inches (1524 mm).

Table 1 | Properties of Available Forms

Form	Resin Solids Content Dry, weight%	Resin Flow ¹ %	Volatiles ² %
7781 Glass Fabric	38 – 44	14 – 22	≤ 3
120 Glass Fabric	44 – 50	9 – 19	≤ 4

¹ Test conditions: 50 psi, 250°F (345 kPa, 121°C)

² Test conditions: 10 minutes, 250°F (121°C)

Table 2 | Physical Characteristics

Shelf Life	6 months at 0°F (-18°C) 10 days at 72°F (22°C)
Tack	Low
Drape	Slight to boardy
Gel Time at 250°F (121°C)	7 – 17 minutes

PROPERTIES

Table 3 | Mechanical Properties

Properties	7781 Glass Fabric (RT)	120 Glass Fabric (RT)
Tensile		
Strength, ksi (MPa)	53.3 (367)	-
Modulus, Msi (GPa)	3.4 (23.4)	-
Compression		
Strength, ksi (MPa)	47.8 (330)	-
Modulus, Msi (GPa)	2.8 (19.3)	-
Long Beam Flex Ultimate Strength, ksi (MPa)	32.7 (226)	15.2 (105)
Flatwise Tensile, psi (MPa)	330 (2.28)	302 (2.08)
Peel Strength (Nomex), in-lb/3 in (N-m/m)	12.8 (10.7)	5.75 (8.53)
Peel Strength (Foam), in-lb/3 in (N-m/m)	29.9 (44.3)	7.25 (10.75)

Table 4 | Flammability Properties

Properties	7781 Glass Fabric		120 Glass Fabric	
	Sandwich ¹	Laminate	Sandwich ¹	Laminate
60 Second Vertical				
Average Self Ext. Time, seconds	0	0	0	0
Average Burn Length, inches (mm)	0.8 (20.3)	0.5 (12.7)	1.6 (40.6)	1.1 (27.9)
Average Drip Time, seconds	No drip	No drip	No drip	No drip
30 Second 45°				
Average Self Ext. Time, seconds	0	0	0	No drip
Average Afterglow	No drip	No drip	0	0
Flame Penetration	None	None	None	None

¹ Sandwich panel specimens are fabricated using Nomex® honeycomb core (1/8" hexagonal shaped cells, 3 lb/ft³ density) with one ply of prepreg on each side of the core. The prepreg orientation is fill face of the fabric against the core and the warp of the fabric perpendicular to the core ribbon direction.

Table 5 | OSU Heat and Smoke Release: OSU Test at 3.5 w/cm² Heat Flux

Properties	7781 Glass Fabric
2 minute Total Heat Release	
Sandwich Panel (2 ply/2 ply), KW min/m ²	≤ 30
Laminate (6 plies), KW min/m ²	≤ 30
Average Peak Heat Release	
Sandwich Panel, KW min/m ²	≤ 30
Laminate, KW min/m ²	≤ 30
NBS Smoke Chamber at 2.5 w/cm² Heat Flux	
Average DS at 4 minutes	7

SUGGESTED PROCESSING PARAMETERS

Recommended Cure Cycle

CYCOM® 2265 can be cured between 260 and 285°F (127 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 Cytec Engineered Materials Technical Service representative.

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

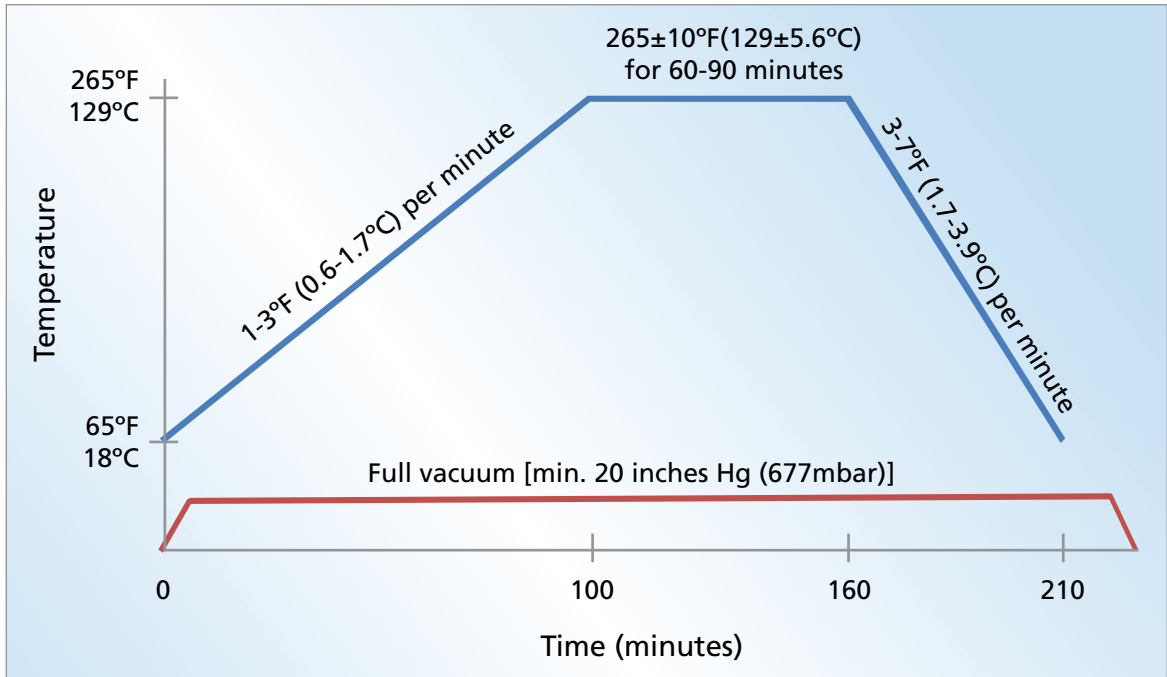


Figure 2 | Typical Press Cure Cycle: Honeycomb Sandwich Panel

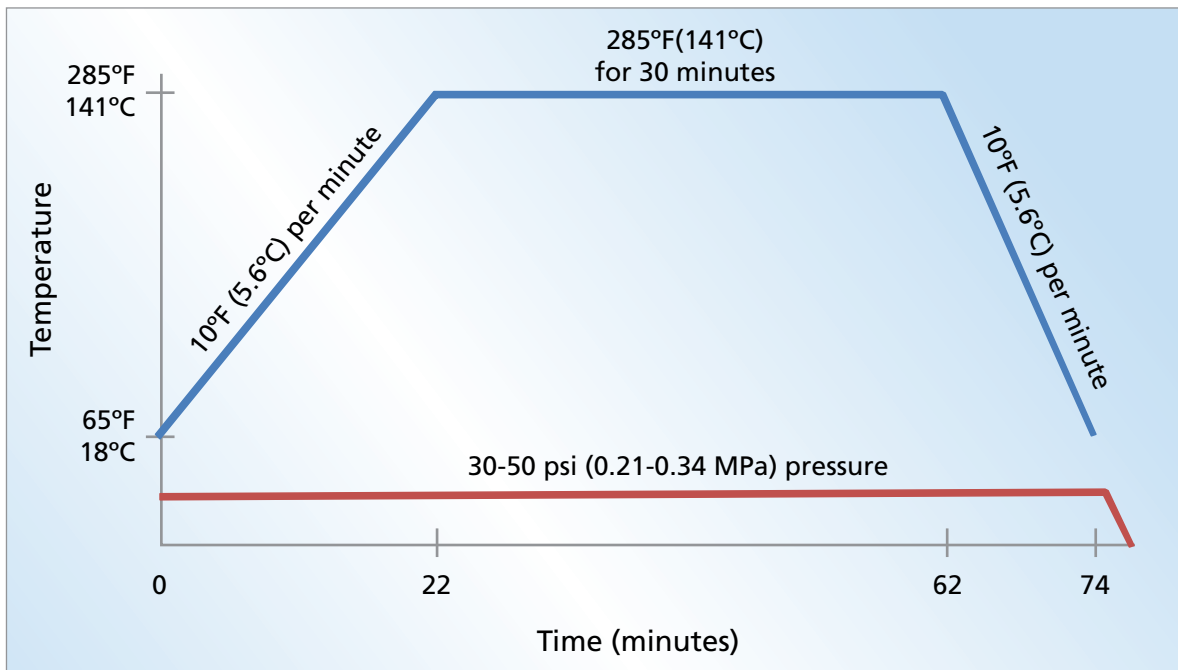
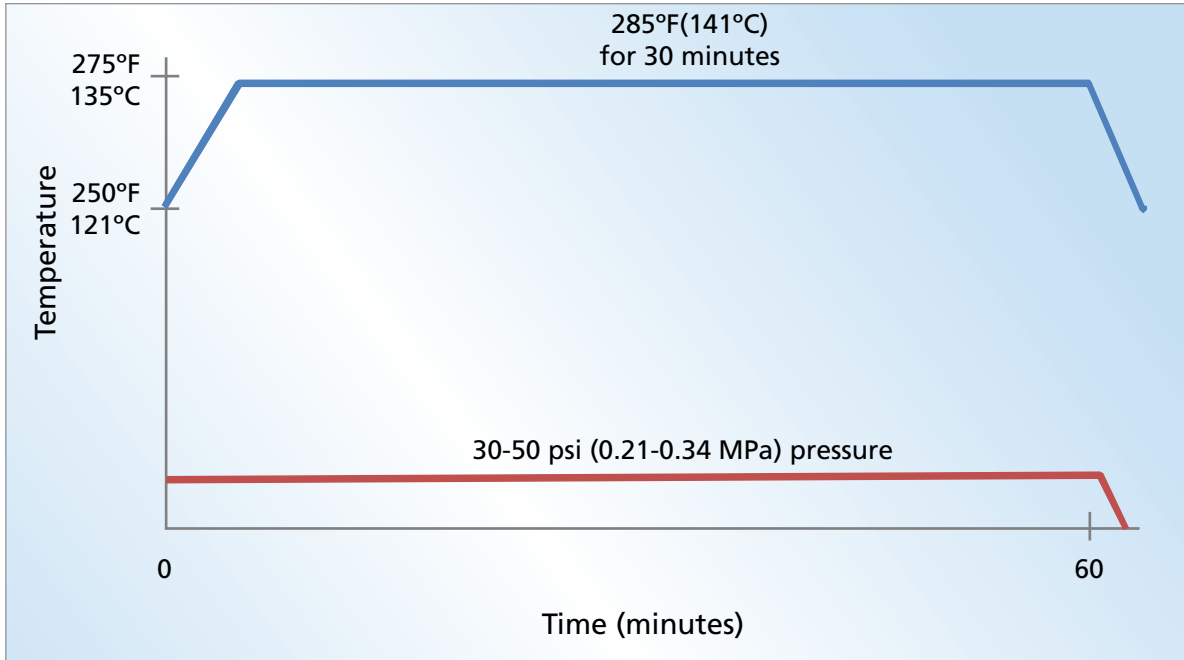


Figure 3 | Typical Press Cure Cycle: Hot-In/Hot-Out



PRODUCT HANDLING AND SAFETY

Cytec Engineered Materials recommends wearing clean, impervious gloves when working with phenolic resin systems to reduce skin contact and to avoid contamination of the product. Materials Safety Data Sheets (MSDS) and product labels are available upon request and can be obtained from any Cytec Engineered Materials Office.

DISPOSAL OF SCRAP MATERIAL

Disposal of scrap material should be in accordance with local, state, and federal regulations.

CONTACT INFORMATION

GLOBAL HEADQUARTERS for AEROSPACE MATERIALS

Tempe, Arizona
tel 480.730.2000
fax 480.730.2088
email custinfo@cytec.com

NORTH AMERICA

Anaheim, California
tel 714.630.9400
fax 714.666.4345

Orange, California
tel 714.639.2050
fax 714.532.4096

Cytec Carbon Fiber
Piedmont, South Carolina
tel 864.277.5720
fax 864.299.9373

Greenville, Texas
tel 903.457.8500
fax 903.457.8598

Winona, Minnesota
tel 507.454.3611
fax 507.452.8195

Havre de Grace, Maryland
tel 410.939.1910
fax 410.939.8100

D' Aircraft Products
Anaheim, California
tel 714.632.8444
fax 714.632.7164

EUROPE

Wrexham, United Kingdom
tel +44 1978.665200
fax +44 1978.665222

Östringen, Germany
tel +49 7253.934111
fax +49 7253.934102

ASIA

Shanghai, China
tel +86 21.5746.8018
fax +86 21.5746.8038

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