

PRODUCT DATA SHEET



TENCATE ADVANCED COMPOSITES

EM-5A Cyanate Ester Core Splice

PRODUCT TYPE

- 350°F (177°C) Cure Cyanate Ester Syntactic Core Splice Film

TYPICAL APPLICATIONS

- Aerospace Structures
- Satellite & Space Structure

SHELF LIFE

Out Life

28 days out life 77°F (25°C)

Frozen Storage Life

12 months storage life at <0°F (-18°C)

Out Life is the time during which the material retains enough tack, drape and handling for easy component lay-up.

Revised 1/2017

All data given is based on representative samples of the materials in question. Since the method and circumstances under which these materials are processed and tested are key to their performance, and TenCate Advanced Composites has no assurance of how its customers will use the material, the corporation cannot guarantee these properties.

TenCate, [TenCate] Cetex® and all other related characters, logos and trade names are claims and/or registered trademarks of Koninklijke Ten Cate B.V. and/or its subsidiaries in one or more country. Use of trademarks, trade names and other IP rights of TenCate without express written approval of TenCate is strictly prohibited.

Page 1 of 1

EM-5A_DS_012417

PRODUCT DESCRIPTION

TenCate EM-5A is a 350°F (177°C) cure expanding cyanate ester syntactic film (core splice). It's unexpanded density is approximately 50 pcf (0.80 g/cc) and exhibits an expansion ratio of up to 4x. It is available in continuous film rolls or in sheet form from thicknesses of 10-125 mils (0.25-3.18 mm).

Standard widths are 24 inches (61 cm), but alternative widths up to 50 inches (127 cm) are available upon request.

EM-5A PRODUCT BENEFITS/FEATURES

- Ambient work life of more than 28 days
- Good handleability and drape with minimal slump
- Flexible cure processing under vacuum, autoclave or press
- Co-curable with composite prepregs
- Lightweight film core: 50 pcf, nom. (0.80 g/cc)

EM-5A CORE SPLICE PHYSICAL PROPERTIES

Unexpanded.....	50 pcf, nom. (0.80 g/cc)
Expanded Density.....	12-18 pcf (0.19-0.29 g/cc) expanded.
Minimum Density at Full Expansion.....	10 pcf (0.16 g/cc) at 4x expansion
Dry Tg (by DSC).....	400°F (204°C) cured 2 hours at 350°F (177°C)
Gel Time at 350°F(177°C).....	~ 8 minutes
Volatile Content.....	<1%
Outgassing Data.....	TML 0.59% CVCM 0.01% ¹

(1) Meet NASA requirements for space structure.

EM-5A MECHANICAL PROPERTIES

Property	Condition	Method	Results	
Tube Shear at 3.0x expansion	75°F (24°C)	Internal	1280 psi	8.8 MPa

Cured at 350°F/177°C at 2-5°F/min (1-3°C/min) for 90 minutes.

TYPICAL CURE PARAMETERS

- Heat to 350°F (177°C) +10°F/0F (+5°C/0°C) at ramp of 2-5°F/min. (1-2.5°C/min.) Ideal ramp rate is 2F/min (1C/min).
- Hold at 350°F (177°C) for 1.5 to 2 hours. Cool.

TENCATE ADVANCED COMPOSITES

18410 Butterfield Blvd.
Morgan Hill, CA 95037 USA
Tel: +1 408 776 0700

2450 Cordelia Road
Fairfield, CA 94534 USA
Tel: +1 707 359 3400

Amber Drive, Langley Mill
Nottingham, NG16 4BE UK
Tel: +44 (0)1773 530899

www.tencateadvancedcomposites.com
info@tcac-usa.com (USA)
tcacsales@tencate.com (Europe)