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NCAMP Material Procurement Specification
This specification is generated and maintained in accordance with NCAMP Standard Operating Procedures, NSP 100

Syensqo PRISM™ EP 2400 Toughened Epoxy Resin (formerly Solvay)

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REVISIONS:

Rev	By	Date	Pages Revised or Added
-	Michelle Man	01/10/2023	Document Initial Release
-	Michelle Man	06/30/2025	Updated Solvay to Syensqo,

1 SCOPE:

1.1 Form:

This detail specification along with the base specification NMS 241R establishes the requirements for an Epoxy Resin, suitable for the purpose of fabricating parts by resin infusion. This detail specification is intended to be used with an NCAMP qualified fabric material specification and process specification to produce laminates that meet acceptance specification limits.

This detail specification provide specific resin properties called out in the base specification and may contain additional or superseding requirements. The base specification shall govern where no additional requirement is specified; in such cases, the applicable sections are omitted from this detail specification.

2 Physical and Chemical Property Requirements:

Visual Requirements: The resin is a light yellow color and shall be free of contaminants.

Resin testing to meet the requirements in Table 2.1 shall be performed by the material supplier on every lot of material.

Table 2-1 – Neat Resin Physical and Chemical Properties

Property	Test Method[1]	Number of Replicates per lot	Requirements[2]
Volatile content	ASTM D3530	3	<2 % avg.
Min Viscosity	ASTM D2196/D4473	3	120±30 cP avg.
Viscosity at 100°C (212°F) - at 0 hours (as received) - after 2 hours	ASTM D4287	3	120±30 cP avg. 145±30 cP avg.
Gel Time 70°C to gel at 2°C/min	87-AN-P82-04 [3]	3	72-75 mins
DSC for Cure Kinetics, Onset Temp Peak Exotherm Temp	ASTM D3418	1	 219 to 229 °C avg. 264 to 269 °C avg.
High-Pressure Liquid Chromatography (HPLC)	SACMA SRM 20R-94	1	See PCD
Spectrophotometry (IR)	ASTM E168 ASTM E1252	1	See PCD

[1] Specific procedures should be identical to those used in the original material qualification program.

[2] “ind.” refers to individual measurements. “avg.” refers to the average measurements per roll. Limits computed at α=0.01. Limits are estimates and will be adjusted after completion of material qualification.

[3] Standard Operating Procedure for TA Instruments Ares-G2 viscometer.

Table 2-2 – Cured Neat Resin Chemical and Physical Properties

Property	Test Method[1]	Replicates per lot	Requirements[2]
Density[4]	ASTM D792	3	1.10 to 1.30 g/cc, avg.
Glass Transition Temperature by DMA	ASTM D7028	3	168 to 188 ºC, ind. [336 to 372 ºF, ind]

[1] Specific procedures should be identical to those used in the original material qualification program.
[2] "ind." refers to individual measurements. "avg." refers to the average of 3 measurements.
[3] Computed from actual qualification panel thicknesses using α=0.01 and modified CV, and theoretical Cured Ply Thickness as the nominal.
[4] Computed from actual qualification panel properties using α=0.01.

3 Related Specifications

The following are NCAMP qualified materials and process specifications that may be used with this material.

Document type	Specification Number	Document Name
Process Specification	NPS 82401	Fabrication of NMS 241 Qualification, Equivalency, and Acceptance Test Panels for Vacuum Assisted Resin Transfer Molding of Carbon Fiber Reinforced Laminates with Syensqo PRISM™ EP2400 toughened epoxy resin
Material **Procurement** Specification	NMS 241F/1	Tenax™ Dry Reinforcement (Carbon Fiber) Class 1, Style BA, Grade 380
Material **Acceptance** Specification	NMS 241/1	Oven Cure of VARTM Processed Dry Reinforcements with Toughened Epoxy Resin - Tenax™ Biaxial DRNF with Syensqo PRISM™ EP2400 Resin
Material **Procurement** Specification	NMS 241F/2	Tenax™ Dry Reinforcement (Carbon Fiber) Class 1, Style BD, Grade 380
Material **Acceptance** Specification	NMS 241/2	Oven Cure of VARTM Processed Dry Reinforcements with Toughened Epoxy Resin - Tenax™ Bidiagonal DRNF with Syensqo PRISM™ EP2400 Resin
Material **Procurement** Specification	NMS 241F/3	Tenax™ Dry Reinforcement (Carbon Fiber) Class 2, Style UD, Grade 190
Material **Acceptance** Specification	NMS 241/3	Oven Cure of VARTM Processed Dry Reinforcements with Toughened Epoxy Resin – Tenax™ UD Woven DRWF with Syensqo PRISM™ EP2400 Resin

QUALIFIED PRODUCTS LIST

Supplier Product Designation	Supplier Name and Production Location	Date Qualified	Specification Callout(1)
PRISM ™ EP2400 Resin System	**Resin Supplier Name**: Syensqo (formerly Solvay) **Production Location**: Wrexham Industrial Estate Abenbury Way Wrexham Clwyd LL13 9UZ Resin Mixer Vessel ID: Myers 1	May 2025	NMS 241R/1

(1) In accordance with NCAMP Standard Operating Procedures, NSP 100, this QPL shall not contain alternate materials/products. Additional production location may be included in the QPL only after successful equivalency demonstration and approval per NCAMP Process Control Document (PCD) Preparation and Maintenance Guide, NRP 101.

(1) **The proper specification callout for material procurement purpose is "NMS 241R/1".** This specification is developed based on the material properties that are available publicly. The purchaser may specify additional requirements beyond those specified in this specification, especially when the purchaser has generated additional material properties beyond those available publicly or when the application requires additional requirements. The additional requirements are subject to supplier review and approval.