2026 EDITION

UNSATURATED POLYESTER & VINYL ESTER RESINS

Product Catalogue

MANUFACTURER
DORAHA · PUNJAB · INDIA

Samrat Poly Resins



COMPANY AT A GLANCE

Resin engineering, built around application.

DORAHA · LUDHIANA · INDIA

Samrat Poly Resins is a resin manufacturer based in Doraha, Ludhiana, serving FRP and composite processors with application-focused resin systems. Its portfolio is organised across orthophthalic (SPR 201), isophthalic (SPR 301), terephthalic (SPR 401) and vinyl ester (SPR 501) families, with grades for lamination, moulding, sheet production, gelcoats, fire-retardant applications, corrosion-resistant applications, pultrusion, tooling and specialised casting requirements.

The range is presented through its correct resin chemistry, product code, processing profile and intended application, helping buyers understand and compare suitable grades clearly.



QUALITY INSPECTION LABORATORY · DORAHA

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PRODUCT RANGE MAP + CONTENTS

Four chemistries. One code system.

Every grade is listed under its resin-chemistry family with its code and full product name. The series number names the chemistry; the suffix names the grade. Each family is presented in its own section of the catalogue.

SPR 201 Orthophthalic Polyester Resins

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GENERAL AND SPECIAL-PURPOSE GRADES

GPC	GP Clear Resin · General-purpose hand lay-up grade
QM	Quartz Marble Resin · Artificial and cultured marble
BGR	Button Grade Resin · Buttons and small mouldings
CC	Clear Casting Resin · Statues, idols and decorative casting
CTG	Cooling Tower Grade Resin · Thixotropic grade

ROOF-LIGHT AND SHEET GRADES

SGY	Sheet Grade Yellow Resin · General-purpose FRP sheet manufacturing
RL	Roof Light Resin · Roof-light sheet manufacturing
RL (UV)	UV-Stabilized Roof Light Resin · UV-stabilized roof-light grade

SMC AND DMC GRADES

SMC	SMC Resin · Sheet moulding compound resin
DMC	DMC Resin · Dough moulding compound resin

FIRE-RETARDANT GRADES

FR	Fire-Retardant Resin · Fire-retardant parts manufacturing
FR (HF)	Halogen-Free Fire-Retardant Resin · Halogen-free fire-retardant laminates

GELCOAT GRADES

GC	Gelcoat Resin · White high-gloss surface top coat
FR-GC	Fire-Retardant Gelcoat Resin · Fire-retardant top coat · rail and automotive

SPR 301 Isophthalic Polyester Resins

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GENERAL AND ANTI-CORROSIVE GRADES

SPR 301	Isophthalic Polyester Resin · General isophthalic grade · water and chemical service
OT	Oil Storage Tank Grade Resin · Oil-storage-tank lining and chemical equipment
OS	Organic Solvent-Resistant Grade Resin · Storage of organic solvents
RB	Rock Bolt Grade Resin · Mining applications
FW	Filament Winding Grade Resin · Filament winding process grade
CT	Cooling Tower Grade Resin · Thixotropic grade
LV	Low-Viscosity Grade Resin · Jute reinforcement

SMC AND DMC GRADES

SMC / DMC	Isophthalic SMC and DMC Resins · Sheet and dough moulding compound resins

FIRE-RETARDANT GRADE

FR	Fire-Retardant Resin · Halogen-free fire-retardant grade

GELCOAT GRADE

GC	Gelcoat Resin · Brush and spray gelcoat

SPR 401 Terephthalic Polyester Resins

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SMC AND DMC GRADES

SMC	Terephthalic SMC Resin · Sheet moulding compound resin
DMC	Terephthalic DMC Resin · Dough moulding compound resin

FIRE-RETARDANT GELCOAT GRADE

FRGC	Fire-Retardant Gelcoat Resin · Rail and transport top coat

PULTRUSION GRADE

PT	Pultrusion Grade Resin · Continuous pultrusion grade

TOOLING GRADE

TL	Tooling Grade Resin · Isophthalic NPG-based mould resin

SPR 501 Vinyl Ester Resins

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VE	Vinyl Ester Resin · Corrosion-resistant FRP lining

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SPR 201

Orthophthalic Polyester Resins

PAGES 4–7

SPR 201 is the orthophthalic polyester family — the general-purpose unsaturated polyester resins of the Samrat range. This opening page carries its general-purpose clear, quartz-marble, button, clear-casting and cooling-tower grades; the roof-light and sheet, SMC and DMC, fire-retardant and gelcoat grades follow on pages 5–7. Each grade is listed with its applications and typical specification. All grades are supplied non-accelerated; MEKP and cobalt octoate are customer-added separately during use at the reference dosages shown.



SPR 201 GPC
GP CLEAR RESIN

SPR 201 GPC

GP Clear Resin

GENERAL-PURPOSE LAMINATING GRADE

General-purpose clear orthophthalic laminating resin for hand lay-up and spray-up FRP.

APPLICATIONS AND PROCESSES

- Hand lay-up and spray-up lamination
- FRP door skins and panels
- FRP water tanks and roofing sheets
- Automotive FRP components
- Marine FRP fabrication

TYPICAL SPECIFICATION

APPEARANCE	Clear liquid
VISCOSITY	350–450 cPs
GEL TIME	Under 8 minutes
STYRENE CONTENT	33–40%
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

SPR 201 QM

Quartz Marble Resin

QUARTZ AND MARBLE CASTING GRADE

Orthophthalic resin for artificial quartz, engineered-stone and cultured-marble casting.

APPLICATIONS AND PROCESSES

- Engineered quartz stone slabs
- Quartz kitchen and vanity countertops
- Artificial and cultured marble
- Decorative mineral-filled castings

TYPICAL SPECIFICATION

APPEARANCE	Clear to pale-yellow liquid
VISCOSITY	400–800 cPs
GEL TIME	7–10 minutes
STYRENE CONTENT	35–40%
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

SPR 201 BGR

Button Grade Resin

CAST POLYESTER BUTTON GRADE

High-gloss casting resin for cast polyester button production.

APPLICATIONS AND PROCESSES

- Cast polyester buttons for the garment industry
- Transparent and coloured buttons
- Small moulded accessories

TYPICAL SPECIFICATION

APPEARANCE	Transparent, semi-liquid
VISCOSITY	1,100 cPs
GEL TIME	9.5 minutes
SPECIFIC GRAVITY	1.20
STYRENE CONTENT	33%
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.1% — customer-added separately during use

SPR 201 CC

Clear Casting Resin

DECORATIVE CASTING GRADE

Clear polyester casting grade for decorative and artistic castings.

APPLICATIONS AND PROCESSES

- Statues and idols
- Decorative articles and artefacts
- Furniture top coats

TYPICAL SPECIFICATION

APPEARANCE	Clear liquid
VISCOSITY	350–450 cPs
GEL TIME	Under 8 minutes
STYRENE CONTENT	33–40%
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

SPR 201 CTG

Cooling Tower Grade Resin

THIXOTROPIC LAY-UP GRADE

Thixotropic orthophthalic grade for sag-resistant lay-up on vertical and large surfaces.

APPLICATIONS AND PROCESSES

- Cooling-tower FRP components
- Wind-turbine FRP components
- Sag-resistant lay-up on vertical surfaces

TYPICAL SPECIFICATION

APPEARANCE	Clear liquid
VISCOSITY	350–450 cPs
GEL TIME	Under 8 minutes
STYRENE CONTENT	33–40%
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

SPR 201

Orthophthalic Polyester Resins

PAGES 4–7 · CONTINUED

ROOF-LIGHT AND SHEET GRADES

The SPR 201 family continues with its three sheet-production grades: a pre-pigmented yellow resin for coloured FRP sheet and panel work, a water-white resin for translucent roof-light and skylight sheets, and a UV-stabilized clear grade for roof-light sheets exposed to sunlight. All three are supplied non-accelerated, with MEKP and cobalt octoate customer-added separately during use at the reference dosages shown; the SMC and DMC and fire-retardant grades follow on page 6, the gelcoat grades on page 7.



SPR 201 SGY
SHEET GRADE YELLOW RESIN

SPR 201 SGY

Sheet Grade Yellow Resin

PRE-PIGMENTED SHEET GRADE

Pre-pigmented yellow orthophthalic resin for FRP sheet lamination and compression moulding.

APPLICATIONS AND PROCESSES

- Pre-pigmented FRP sheets and roofing panels
- Decorative panels and electrical enclosures
- Washroom partitions and construction formwork
- Lamination and compression-moulded components

TYPICAL SPECIFICATION

APPEARANCE	Yellow, pre-pigmented liquid
VISCOSITY	280 cPs
GEL TIME	6.5 minutes
STYRENE CONTENT	35%
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

SPR 201 RL

Roof Light Resin

ROOF-LIGHT SHEET GRADE

Water-white orthophthalic resin for translucent roof-light and skylight sheets.

APPLICATIONS AND PROCESSES

- Translucent roof-light and skylight panels
- Industrial and commercial roofing sheets
- Greenhouse glazing panels
- Hand lay-up and roofing-sheet production

TYPICAL SPECIFICATION

APPEARANCE	Water-white liquid
VISCOSITY	280 cPs
GEL TIME	6.5 minutes
SPECIFIC GRAVITY	1.1
STYRENE CONTENT	35%
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

SPR 201 RL (UV)

UV-Stabilized Roof Light Resin

UV-STABILIZED SHEET GRADE

UV-stabilized clear orthophthalic resin for roof-light sheets exposed to sunlight.

APPLICATIONS AND PROCESSES

- UV-stabilized clear roof-light sheets
- Sunlight-exposed translucent roofing panels
- Industrial daylighting applications

TYPICAL SPECIFICATION

APPEARANCE	Clear transparent liquid
VISCOSITY	200–400 cPs
GEL TIME	6.5–10 minutes
STYRENE CONTENT	30–40%
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

SPR 201 CONTINUES

The family's remaining groups follow on the next two pages.

PAGE 6

- SMC and DMC grades — SMC, DMC
- Fire-retardant grades — FR, FR (HF)

PAGE 7

- Gelcoat grades — GC, FR-GC

SPR 201 Orthophthalic Polyester Resins

PAGES 4–7 · CONTINUED

SMC AND DMC · FIRE-RETARDANT GRADES

The SPR 201 family continues with its moulding-compound and fire-retardant grades: an orthophthalic resin for sheet moulding compound and dough moulding compound, and two fire-retardant laminating resins — a halogenated grade and a halogen-free grade. All four are supplied non-accelerated; MEKP and cobalt octoate are customer-added separately during use at the reference dosages shown. The gelcoat and fire-retardant gelcoat grades follow on page 7.



SPR 201 SMC · SPR 201 DMC
SMC / DMC RESINS

SMC AND DMC RESINS

SPR 201 SMC

SMC Resin

SHEET MOULDING COMPOUND RESIN

Orthophthalic resin for sheet moulding compound — reinforcement and filler pre-impregnated in sheet form for compression moulding.

APPLICATIONS AND PROCESSES

- Sheet moulding compound production
- Compression-moulded FRP panels
- Automotive panels and transportation components
- Water tanks and sanitaryware mouldings

TYPICAL SPECIFICATION

APPEARANCE	Pale-yellow liquid
VISCOSITY	600 cPs at 25 °C
GEL TIME	12–18 minutes (1.5% MEKP, 25 °C)
SPECIFIC GRAVITY	1.12
STYRENE CONTENT	35%
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% — customer-added during use

SPR 201 DMC

DMC Resin

DOUGH MOULDING COMPOUND RESIN

Orthophthalic resin for dough moulding compound — a bulk, dough-form compound for compression-moulded parts.

APPLICATIONS AND PROCESSES

- Dough moulding compound production
- Compression-moulded electrical housings
- Manhole covers and industrial mouldings
- Electrical-grade moulded components

TYPICAL SPECIFICATION

APPEARANCE	Pale-yellow liquid
VISCOSITY	600 cPs at 25 °C
GEL TIME	12–18 minutes (1.5% MEKP, 25 °C)
SPECIFIC GRAVITY	1.12
STYRENE CONTENT	35%
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% — customer-added during use

FIRE-RETARDANT RESINS

SPR 201 FR

Fire-Retardant Resin

HALOGENATED FIRE-RETARDANT GRADE

Halogenated fire-retardant orthophthalic resin for FRP laminates and panels.

APPLICATIONS AND PROCESSES

- Fire-retardant FRP laminates and panels
- Rail and transport composite components
- Automotive FRP components
- Marine and electrical FRP components

TYPICAL SPECIFICATION

APPEARANCE	White liquid
VISCOSITY	400 cPs
GEL TIME	5.5 minutes
STYRENE CONTENT	35%
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

SPR 201 FR (HF)

Halogen-Free Fire-Retardant Resin

HALOGEN-FREE FIRE-RETARDANT GRADE

Halogen-free fire-retardant orthophthalic resin for FRP laminates.

APPLICATIONS AND PROCESSES

- Halogen-free fire-retardant FRP laminates
- Marine composite components
- Applications specifying halogen-free fire retardancy

TYPICAL SPECIFICATION

APPEARANCE	White to light-yellow opaque liquid
VISCOSITY	1,500–3,500 cPs at 25 °C
GEL TIME	15–30 minutes at 25 °C
SPECIFIC GRAVITY	1.25–1.45
STYRENE CONTENT	30–40%
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

SPR 201 CONTINUES

GELCOAT AND FIRE-RETARDANT GELCOAT GRADES — PAGE 7

SPR 201 Orthophthalic Polyester Resins

PAGES 4–7 · CONTINUED

GELCOAT GRADES

The SPR 201 family closes with its two gelcoat grades — surface-coating resins applied to the mould face before the laminate is laid up, so that the finished FRP part carries a smooth, protective outer skin. The fire-retardant gelcoat pairs with the fire-retardant laminating resins on page 6. Both are supplied non-accelerated and thixotropic; MEKP is customer-added during use at the reference dosage shown.



SPR 201 GC
GELCOAT RESIN

GELCOAT RESINS

SPR 201 GC

Gelcoat Resin

GENERAL-PURPOSE GELCOAT

Thixotropic white surface-coating gelcoat applied to the mould face ahead of the laminate for a high-gloss finish.

APPLICATIONS AND PROCESSES

- Mould-surface gelcoat for FRP mouldings and boat hulls
- Automotive body panels and bathware
- Sanitaryware, water tanks and FRP furniture
- Brush, spray or roller application before lay-up

TYPICAL SPECIFICATION

APPEARANCE	White liquid
VISCOSITY	11,000 cPs
GEL TIME	8.5 minutes
STYRENE CONTENT	30%
SUPPLY CONDITION	Non-accelerated · thixotropic
REFERENCE CURE	MEKP 1.5% — customer-added during use

SPR 201 FR-GC

Fire-Retardant Gelcoat Resin

THIXOTROPIC FIRE-RETARDANT GELCOAT

Thixotropic fire-retardant gelcoat for the mould-face surface of fire-retardant FRP components.

APPLICATIONS AND PROCESSES

- Rail and metro composite components
- Automotive FRP components
- Surface gelcoat for fire-retardant FRP laminates

TYPICAL SPECIFICATION

APPEARANCE	Milky white to grey opaque liquid; custom-tinted variants where supplied
HIGH-SHEAR VISCOSITY	5,000–11,000 cPs at 25 °C
LOW-SHEAR VISCOSITY	30,000–45,000 cPs at 25 °C
GEL TIME	9–16 minutes at 25 °C
SPECIFIC GRAVITY	1.35–1.55
STYRENE CONTENT	17–25% by weight
SUPPLY CONDITION	Non-accelerated · thixotropic
REFERENCE CURE	MEKP 1.5–2.0% — customer-added during use

NEXT CHEMISTRY FAMILY

SPR 301 — ISOPHTHALIC POLYESTER RESINS — PAGE 8

SPR 301

Isophthalic Polyester Resins

PAGES 8–10

SPR 301 is the isophthalic polyester family. Built on isophthalic acid rather than the phthalic anhydride of the SPR 201 grades, these resins are specified where a laminate faces water immersion, chemical service or sustained outdoor conditions. The family opens with the general Isophthalic Polyester Resin and its oil-storage-tank grade, followed by the anti-corrosive grades, the SMC and DMC resin, the fire-retardant grade and the gelcoat. All grades except the gelcoat are supplied non-accelerated; MEKP and cobalt octoate are customer-added separately during use at the reference dosages shown.



SPR 301
ISOPHTHALIC POLYESTER RESIN

SPR 301

Isophthalic Polyester Resin

GENERAL ISOPHTHALIC GRADE

General isophthalic unsaturated polyester resin for laminates that face water immersion, chemical service or sustained outdoor conditions.

APPLICATIONS AND PROCESSES

- Laminates facing water immersion or sustained damp service
- Chemical-service FRP where a resistance requirement applies
- Components in sustained outdoor conditions
- Tanks, linings and corrosion-resistant FRP

TYPICAL SPECIFICATION

APPEARANCE	Off-white to light-beige liquid
VISCOSITY	500 cPs at 25 °C
GEL TIME	15 minutes
SPECIFIC GRAVITY	1.12
STYRENE CONTENT	40% by weight
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

SPR 301 OT

Oil Storage Tank Grade Resin

OIL-STORAGE TANK LINING GRADE

Isophthalic grade with good electrical and heat-resistance properties, for the FRP lining of oil storage tanks.

APPLICATIONS AND PROCESSES

- FRP lining for oil-storage tanks
- Chemical-equipment manufacturing

TYPICAL SPECIFICATION

APPEARANCE	Clear, pale-yellow to light-amber liquid
VISCOSITY	300–600 cPs at 25 °C
GEL TIME	15–35 minutes at 25 °C
SPECIFIC GRAVITY	1.04–1.14
STYRENE CONTENT	33–45% by weight
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

ANTI-CORROSIVE GRADES

SPR 301 OS

Organic Solvent-Resistant Grade Resin

ORGANIC-SOLVENT SERVICE GRADE

Isophthalic grade with corrosion resistance against organic solvents and good chemical and heat resistance.

APPLICATIONS AND PROCESSES

- FRP linings for organic-solvent storage
- Sewage pipes
- Effluent-treatment equipment

TYPICAL SPECIFICATION

APPEARANCE	Clear, light-straw to reddish-amber liquid
VISCOSITY	200–400 cPs at 25 °C
GEL TIME	15–35 minutes at 25 °C
SPECIFIC GRAVITY	1.03–1.15
STYRENE CONTENT	35–50% by weight
SUPPLY CONDITION	Non-accelerated · non-thixotropic
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

CONTINUED ON PAGE 9 · ANTI-CORROSIVE GRADES · SMC / DMC · FIRE-RETARDANT · GELCOAT

SPR 301

Isophthalic Polyester Resins

ANTI-CORROSIVE GRADES · CONTINUED

SPR 301 RB

Rock Bolt Grade Resin

ROCK-BOLT COMPOUND BASE RESIN

High-strength isophthalic liquid base resin with excellent mechanical properties, used to manufacture rock-bolt anchoring compounds. It is the liquid resin, not the finished mineral-filled mastic or capsule.

APPLICATIONS AND PROCESSES

- Manufacture of rock-bolt anchoring compounds
- Mining reinforcement systems

TYPICAL SPECIFICATION

APPEARANCE	Viscous liquid resin
VISCOSITY	2,000–3,500 cPs
GEL TIME	Ultra-fast grades 15 seconds–2 minutes · delayed grades 5–30+ minutes
SPECIFIC GRAVITY	Approximately 1.12
STYRENE CONTENT	35–39% by weight
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

SPR 301 FW

Filament Winding Grade Resin

FILAMENT-WINDING PROCESS GRADE

Isophthalic grade with high binding properties and high strength, for the filament winding process.

APPLICATIONS AND PROCESSES

- Filament-winding processes
- Filament-wound FRP pipes and tanks

TYPICAL SPECIFICATION

APPEARANCE	Clear, light-yellow to amber liquid
VISCOSITY	200–400 cPs at 25 °C
GEL TIME	20–60+ minutes at 25 °C
SPECIFIC GRAVITY	1.04–1.14
STYRENE CONTENT	35–45% by weight
SUPPLY CONDITION	Non-accelerated · non-thixotropic
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate approximately 0.4% — customer-added separately during use

SPR 301 CT

Cooling Tower Grade Resin

THIXOTROPIC LAY-UP GRADE

Thixotropic isophthalic grade with heat, chemical and corrosion resistance and high strength.

APPLICATIONS AND PROCESSES

- Cooling-tower composite components
- Wind-energy composite components

TYPICAL SPECIFICATION

APPEARANCE	Cloudy to amber liquid
VISCOSITY, 60 RPM	400–650 cPs
VISCOSITY, 6-12 RPM	1,500–2,000 cPs
THIXOTROPIC INDEX	2.0–3.5
GEL TIME	15–35 minutes at 25 °C
SPECIFIC GRAVITY	1.10–1.15
STYRENE CONTENT	37–45% by weight
SUPPLY CONDITION	Non-accelerated · thixotropic
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

SPR 301 LV

Low-Viscosity Grade Resin

JUTE-IMPREGNATION GRADE

Low-viscosity isophthalic grade designed for jute reinforcement.

APPLICATIONS AND PROCESSES

- Impregnation of jute reinforcement
- Jute-reinforced composite mouldings

TYPICAL SPECIFICATION

APPEARANCE	Clear, water-white to light-straw liquid
VISCOSITY	80–180 cPs at 25 °C
GEL TIME	40–90+ minutes at 25 °C
SPECIFIC GRAVITY	1.03–1.09
STYRENE CONTENT	42–50% by weight
SUPPLY CONDITION	Non-accelerated · non-thixotropic
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.2% — customer-added separately during use

CONTINUED ON PAGE 10

SMC / DMC · FIRE-RETARDANT GRADE · GELCOAT GRADE

SPR 301

Isophthalic Polyester Resins

PAGES 8–10 · CONTINUED

SMC AND DMC · FIRE-RETARDANT · GELCOAT GRADES

The SPR 301 family closes with its moulding-compound resins — one combined entry for the SMC and DMC resins, presented as two products that share a single typical specification — followed by the halogen-free fire-retardant grade and the isophthalic gelcoat. All except the gelcoat are supplied non-accelerated; MEKP and cobalt octoate are customer-added separately during use at the reference dosages shown.



SPR 301 GC
GELCOAT RESIN

SMC AND DMC GRADES · SHARED TYPICAL SPECIFICATION

SPR 301 SMC / DMC

Isophthalic SMC Resin

SHEET MOULDING COMPOUND RESIN

Isophthalic SMC resin with superior properties compared with the SPR 201 SMC grade.

APPLICATIONS AND PROCESSES

- Sheet moulding compound production
- Hot-mould and compression-moulding processes

TYPICAL SPECIFICATION

APPEARANCE	Clear, pale-yellow to light-amber liquid
VISCOSITY	800–1,400 cPs at 25 °C
GEL TIME	12–18 minutes at 25 °C
SPECIFIC GRAVITY	1.10–1.14
STYRENE CONTENT	31–36% by weight
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

SPR 301 SMC / DMC

Isophthalic DMC Resin

DOUGH MOULDING COMPOUND RESIN

A separate manufactured product from the SMC resin, sharing the same typical specification.

APPLICATIONS AND PROCESSES

- Dough moulding compound production
- Compression-moulded composite components

TYPICAL SPECIFICATION

APPEARANCE	Clear, pale-yellow to light-amber liquid
VISCOSITY	800–1,400 cPs at 25 °C
GEL TIME	12–18 minutes at 25 °C
SPECIFIC GRAVITY	1.10–1.14
STYRENE CONTENT	31–36% by weight
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

FIRE-RETARDANT GRADE

SPR 301 FR

Fire-Retardant Resin

HALOGEN-FREE ATH-FILLED GRADE

Isophthalic fire-retardant polyester resin for fire-retardant FRP components and laminates.

APPLICATIONS AND PROCESSES

- Fire-retardant FRP components
- Rail and metro coaches
- Marine applications
- Fire-retardant laminates

TYPICAL SPECIFICATION

APPEARANCE	White
VISCOSITY	400 cPs
GEL TIME	5.5 minutes
SPECIFIC GRAVITY	1.18
STYRENE CONTENT	35% by weight
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

GELCOAT GRADE

SPR 301 GC

Gelcoat Resin

ISOPHTHALIC GELCOAT

Isophthalic gelcoat with very low water adhesion, high coverage and controlled thixotropy for a high-gloss mould-face surface.

APPLICATIONS AND PROCESSES

- Mould-facing gelcoat for high-gloss, smooth composite surfaces
- Sanitaryware and transport panel mouldings

TYPICAL SPECIFICATION

APPEARANCE	Creamy off-white to pale ivory
LOW-SHEAR VISCOSITY	40,000 cPs at 25 °C
HIGH-SHEAR VISCOSITY	1,500 cPs at 25 °C
THIXOTROPIC INDEX	26
GEL TIME	8 minutes at 25 °C
SPECIFIC GRAVITY	1.15 at 25 °C
STYRENE CONTENT	32% by weight
SUPPLY CONDITION	Pre-accelerated · thixotropic
REFERENCE CURE	MEKP 2.0% — customer-added during use

NEXT CHEMISTRY FAMILY

SPR 401 — TEREPHTHALIC POLYESTER RESINS — PAGE 11

SPR 401

Terephthalic Polyester Resins

PAGES 11–12

SPR 401 is the terephthalic polyester family. It carries the terephthalic SMC and DMC resins, the fire-retardant gelcoat and the pultrusion grade, together with the SPR 401 TL tooling resin — an isophthalic NPG-based grade that is retained within the SPR 401 code range and is not a terephthalic resin. All grades are supplied non-accelerated; cure-system components are customer-added separately during use at the reference dosages shown, and the pultrusion grade is run on a heat-activated peroxide system rather than the ambient MEKP and cobalt system.



SPR 401
TEREPHTHALIC POLYESTER RESINS

SPR 401 SMC

Terephthalic SMC Resin

SHEET MOULDING COMPOUND RESIN

Terephthalic resin for sheet-moulding-compound production, with high heat-resistant capacity, good resistance to corrosive chemicals and excellent mechanical and impact properties.

APPLICATIONS AND PROCESSES

- Sheet moulding compound production
- Compression-moulded composite components
- Hot-mould processing

TYPICAL SPECIFICATION

APPEARANCE	Clear to slightly hazy, pale-yellow to light-amber liquid
VISCOSITY	800–1,500 cPs at 25 °C
GEL TIME	12–18 minutes at 25 °C (ambient QC)
SPECIFIC GRAVITY	1.11–1.15
STYRENE CONTENT	32–38% by weight
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

SPR 401 DMC

Terephthalic DMC Resin

DOUGH MOULDING COMPOUND RESIN

Terephthalic resin for dough-moulding-compound production — a separate product from the SMC resin, with its own specification.

APPLICATIONS AND PROCESSES

- Dough moulding compound production
- Compression-moulded composite components
- Complex moulded FRP parts

TYPICAL SPECIFICATION

APPEARANCE	Clear to light-yellow liquid
VISCOSITY	1,200–2,200 cPs at 25 °C
GEL TIME	14–22 minutes at 25 °C (ambient QC)
SPECIFIC GRAVITY	1.11–1.15
STYRENE CONTENT	31–36% by weight
SUPPLY CONDITION	Non-accelerated
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.5% — customer-added separately during use

CONTINUED ON PAGE 12

FIRE-RETARDANT GELCOAT GRADE · PULTRUSION GRADE · TOOLING GRADE

SPR 401

Terephthalic Polyester Resins

PAGES 11–12 · CONTINUED

FIRE-RETARDANT GELCOAT GRADE

SPR 401 FRGC

Fire-Retardant Gelcoat Resin

PIGMENTED FIRE-RETARDANT GELCOAT

Thixotropic fire-retardant gelcoat with excellent mechanical properties, for the mould-face surface of fire-retardant FRP components.

APPLICATIONS AND PROCESSES

- Fire-retardant gelcoat surfaces for rail and transport composite components
- Automotive composite components
- Fire-retardant moulded FRP parts

TYPICAL SPECIFICATION

APPEARANCE	Opaque, thick pigmented liquid
COLOUR	White, grey or custom colour
VISCOSITY, 2 RPM	12,000–18,000 cPs
VISCOSITY, 20 RPM	2,000–3,500 cPs
THIXOTROPIC INDEX	4.5–6.0
GEL TIME	12–22 minutes at 25 °C
DENSITY	1.25–1.45 g/cm³
STYRENE CONTENT	28–35% by weight
SUPPLY CONDITION	Non-accelerated · thixotropic
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

PULTRUSION GRADE

SPR 401 PT

Pultrusion Grade Resin

HEAT-ACTIVATED PULTRUSION GRADE

High-strength terephthalic grade with excellent mechanical properties for continuous pultrusion. Production pultrusion uses a heat-activated peroxide system, not the ambient MEKP and cobalt system.

APPLICATIONS AND PROCESSES

- Continuous pultrusion processing
- Pultruded FRP profiles and structural sections

TYPICAL SPECIFICATION

APPEARANCE	Clear, light-straw to amber liquid
VISCOSITY	300–600 cPs at 25 °C
HOT-DIE GEL TIME	40–80 seconds at 130–140 °C
AMBIENT QC GEL TIME	15–25 minutes at 25 °C
SPECIFIC GRAVITY	1.10–1.14
STYRENE CONTENT	36–42% by weight
SUPPLY CONDITION	Non-accelerated · non-thixotropic
PRODUCTION CURE	Heat-activated peroxide blend, total dosage 1.0–2.0% — customer-added during processing
PRODUCTION MEKP	0%
PRODUCTION COBALT	0%

TOOLING GRADE · ISOPHTHALIC NPG-BASED RESIN IN THE SPR 401 CODE RANGE

SPR 401 TL

Tooling Grade Resin

ISOPHTHALIC NPG-BASED TOOLING GRADE

Highly reactive, high-molecular-weight isophthalic NPG (neopentyl glycol)-based polyester resin for composite mould production. Retained within the SPR 401 code range; not a terephthalic grade.

APPLICATIONS AND PROCESSES

- Composite mould production
- Tooling and die preparation

TYPICAL SPECIFICATION

APPEARANCE	Opaque, cloudy to milky liquid
VISCOSITY, 60 RPM	400–650 cPs
VISCOSITY, 6 RPM	1,500–2,500 cPs
THIXOTROPIC INDEX	2.5–3.8
GEL TIME	15–30 minutes at 25 °C
SPECIFIC GRAVITY	1.12–1.16
STYRENE CONTENT	35–42% by weight
SUPPLY CONDITION	Non-accelerated · moderately thixotropic
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

NEXT CHEMISTRY FAMILY

SPR 501 — VINYL ESTER RESINS — PAGE 13

SPR 501

Vinyl Ester Resins

PAGE 13

SPR 501 is the vinyl ester family — a single grade, Vinyl Ester Resin, specified where an FRP lining or composite structure faces corrosive or chemical service. It is supplied non-accelerated; MEKP and cobalt octoate are customer-added separately during use at the reference dosages shown.



SPR 501 VE
VINYL ESTER RESIN

SPR 501 VE

Vinyl Ester Resin

CORROSION-RESISTANT LINING GRADE

Vinyl ester resin with anti-corrosive properties, low shrinkage and excellent bonding with glass fibre, for corrosion-resistant FRP linings and chemical-service composite structures.

APPLICATIONS AND PROCESSES

- Corrosion-resistant FRP linings
- Marine composite components
- Chemical-service composite structures

TYPICAL SPECIFICATION

APPEARANCE	Clear, light-honey to amber liquid
VISCOSITY	350–550 cPs at 25 °C
GEL TIME	15–35 minutes at 25 °C
SPECIFIC GRAVITY	1.02–1.08
STYRENE CONTENT	40–50% by weight
SUPPLY CONDITION	Non-accelerated · non-thixotropic
REFERENCE CURE	MEKP 1.5% + Cobalt Octoate 0.4% — customer-added separately during use

WHERE NEXT

Product selection guide PAGE 14

Technical support PAGE 15

Guide

Product Selection Guide

Start from the manufacturing process and the end component, then check the service environment, the surface finish required and the viscosity the process needs. The table gives a sensible starting grade for each requirement; the product pages carry the applications and typical specification of every grade.

The guide identifies a starting grade only. Final selection should be confirmed against the customer's own process, trial result and the current technical documentation for the grade.

REQUIREMENT / APPLICATION	SUGGESTED FAMILY OR GRADE	TYPICAL PROCESS	SELECTION NOTE
General hand lay-up and spray-up FRP	SPR 201 GPC GP Clear Resin	Hand lay-up, spray-up	General-purpose orthophthalic starting grade; CC and CTG share its specification
Clear and decorative casting	SPR 201 CC Clear Casting Resin	Casting	Statues, idols and decorative articles; button work uses SPR 201 BGR
Artificial and cultured marble	SPR 201 QM Quartz Marble Resin	Mineral-filled casting	Engineered-quartz and cultured-marble slabs and countertops
Roof-light and FRP sheet production	SPR 201 SGY RL · RL (UV)	Continuous sheet lamination	SGY general sheet · RL roof-light sheet · RL (UV) for sunlight exposure
SMC and DMC moulding compounds	SPR 201, 301 or 401 SMC and DMC	Hot-mould compression moulding	Choose the family by the chemistry the compound requires
Standard gelcoat surface	SPR 201 GC SPR 301 GC	Brush or spray, before lay-up	SPR 201 GC for general mould work; SPR 301 GC where the surface faces weathering or water
Fire-retardant gelcoat surface	SPR 201 FR-GC SPR 401 FRGC	Brush or spray, before lay-up	Pair with the fire-retardant laminating resin of the same project
Fire-retardant laminates	SPR 201 FR FR (HF) · SPR 301 FR	Hand lay-up, spray-up	FR (HF) and SPR 301 FR are halogen-free grades; confirm the project requirement
Water immersion, chemical or outdoor service	SPR 301 Isophthalic Polyester Resin	Hand lay-up, spray-up	General isophthalic grade for damp, chemical or sustained outdoor conditions
Oil-storage and organic-solvent linings	SPR 301 OT SPR 301 OS	Hand lay-up lining	OT for oil-storage tanks and chemical equipment; OS for organic-solvent, sewage and effluent service
Rock-bolt anchoring compounds	SPR 301 RB Rock Bolt Grade Resin	Compound manufacture	Liquid base resin for the compound maker, not the finished capsule
Filament winding	SPR 301 FW Filament Winding Grade Resin	Filament winding	Non-thixotropic isophthalic grade for wound pipes and tanks
Cooling-tower and wind-energy components	SPR 201 CTG SPR 301 CT	Hand lay-up on vertical surfaces	Thixotropic grades for sag-resistant lay-up; SPR 301 CT for the isophthalic route
Jute reinforcement	SPR 301 LV Low-Viscosity Grade Resin	Impregnation, hand lay-up	Low-viscosity grade designed for jute impregnation
Pultrusion	SPR 401 PT Pultrusion Grade Resin	Continuous pultrusion	Run on a heat-activated peroxide system, not the ambient MEKP and cobalt system
Tooling and mould production	SPR 401 TL Tooling Grade Resin	Mould lay-up	Isophthalic NPG-based grade retained in the SPR 401 code range
Corrosion-resistant linings and structures	SPR 501 VE Vinyl Ester Resin	Hand lay-up, spray-up	Vinyl ester route for chemical-service linings and marine composite components

Support

Technical Support

Every grade in this catalogue is manufactured at Doraha and supported by the technical team that formulates it. Support runs from the first selection conversation through trial, documentation and batch-level questions in production.

Product selection	Help in identifying a sensible starting grade for a process, component and service environment, using the selection guide on page 14 and the product pages as the reference.
Application and processing	Discussion of the customer's lay-up, casting, moulding-compound, winding, pultrusion or gelcoat process and how the chosen grade is handled within it.
Trial and evaluation	A trial on the customer's own process and reinforcement, evaluated before commercial use; typical specification values are not a substitute for a trial.
Technical documents	A technical data sheet and safety data sheet are available for the grades for which they have been issued. Ask Samrat Poly Resins for the current revision of any document before relying on it; earlier revisions are superseded.
Batch questions and clarification	Batch-specific questions, gel-time or viscosity queries and clarification of any value in this catalogue are answered directly by the technical team.
Storage and handling	Guidance on storing resins, initiators and accelerators separately, in original sealed containers, cool, shaded and away from heat and ignition sources, and on the shelf life stated in the current data sheet.

SAFETY STATEMENT

- Review the applicable safety data sheet before use.
- Use suitable personal protective equipment and adequate ventilation.
- Store resin, initiators and accelerators correctly and separately.
- Add the initiator and the accelerator to the resin separately, according to the confirmed process.
- Never mix a concentrated peroxide initiator directly with a cobalt accelerator.

DOCUMENTS

Technical data sheets and safety data sheets are issued grade by grade; not every grade in this catalogue carries a published sheet. Request the latest revision directly from Samrat Poly Resins before relying on a document — earlier revisions are superseded.

TECHNICAL ENQUIRIES

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Resin engineering, built around application.

UNSATURATED POLYESTER AND VINYL ESTER RESIN SYSTEMS

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