



# TECHNICAL DATA SHEET (TDS)

## SM SERIES STANDOFF INSULATORS

### PRODUCT IDENTIFICATION

- **Product Name:** SM Series Standoff Insulators
- **Material Type:** Thermoset Polyester (BMC/SMC Moulded)
- **Details:**
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- **TDS Number:** MISCO – TDS - 014
- **TDS Date:** 01/12/2024
- TDS Version: 1

### PRODUCT DESCRIPTION

The MISCO **SM Series Standoff Insulators** are high-strength, flame-retardant electrical support components engineered for low-, medium-, and high-voltage switchgear, transformer assemblies, busbar systems, and industrial electrical equipment. Manufactured from a **dough-moulded thermoset polyester composite reinforced with fibreglass**, they provide outstanding mechanical stability, electrical insulation, and long-term dimensional integrity under load and temperature.

Designed for Australian industrial conditions, the SM Series delivers consistent, traceable performance backed by MISCO's quality-controlled manufacturing and inspection processes.

## NEMA GRADE

Material Used in SM Insulators	Indicative NEMA Grade	Description
Thermoset Glass-Filled Polyester (BMC/SMC)	<b>NEMA SG 200 / SG 220</b> ( <i>approx.</i> )	Glass-reinforced polyester, moulded – used for structural insulation components

**Note:** SM Insulators do not carry a formal NEMA grade, but the thermoset glass-filled polyester material is comparable to NEMA SG-series moulding compounds, which are used for electrical insulation in mechanical support applications

## CLASS

Class F = 155°C continuous thermal endurance

## MILITARY SPECIFICATIONS AND TYPE

### Conforming Material Classification:

**MIL-I-24768/17 – GDI-30 (Glass-Reinforced Polyester, Moulded, General Purpose Electrical Insulation)**

### Description of MIL-I-24768/17 (GDI-30):

- Moulded thermoset polyester electrical insulation
- Glass-fibre reinforced (DMC/BMC)
- High dielectric strength
- High mechanical compressive and flexural strength
- Suitable for structural insulating supports such as standoff insulators
- Classified for general-purpose electrical insulation applications

### Typical Properties Under MIL-I-24768/17:

- Electrical grade polyester
- UL 94 V-0 type material (depending on formulation)
- Mechanical strength stable under load and temperature
- Resistant to moisture and industrial contaminants

### Equivalent Former Specification:

- Replaces **MIL-M-14**, Type GDI-30 (discontinued)

## KEY PROPERTIES

- **High Dielectric Strength** – Reliable electrical isolation for LV and MV systems.
- **Strong Mechanical Performance** – High compressive, flexural, and tensile strength suitable for structural support.
- **UL 94 V-0 Flame Retardancy** – Ensures self-extinguishing behaviour and enhanced fire safety.
- **Class F (155°C) Thermal Rating** – Stable mechanical and electrical performance under continuous elevated temperatures.
- **Low Moisture Absorption** – Maintains insulation resistance and dimensional stability in humid or industrial environments.
- **Excellent Tracking Resistance (CTI ≥ 600 V)** – Withstands arcing, tracking, and surface degradation.
- **Corrosion-Resistant** – Immune to rust, oxidation, and most industrial atmospheres.
- **High Creepage & Clearance Capability** – Designed for compliance with AS/NZS 61439 and international switchgear standards.
- **Chemical Resistance** – Unaffected by oils, lubricants, greases, and most common electrical-industry chemicals.
- **Precision Moulded With Brass Inserts** – Consistent thread strength and reliable installation torque.
- **Halogen-Free, Asbestos-Free** – Environmentally compliant and suitable for defence and critical infrastructure applications.
- **Excellent Dimensional Stability** – No warping, swelling, or softening under load or temperature.

## APPLICATIONS

- **Busbar Support & Spacing** – Provides insulated structural separation for copper and aluminium busbar systems.
- **LV & MV Switchboards (AS/NZS 61439)** – Used for panel assemblies, distribution boards, and control cabinets.
- **Power Distribution Equipment** – Terminal support, conductor separation, and safe load-bearing insulation.
- **Transformer Construction & Retrofitting** – Supports tap leads, terminal plates, and auxiliary assemblies.
- **UPS, Battery Cabinets & Power Conversion Systems** – Insulated mechanical support for high-current components.
- **Industrial Control Systems** – Mounting and isolating live equipment within OEM enclosures.
- **Rail & Rolling Stock Electrical Systems** – Vibration-resistant insulating support in traction and auxiliary circuits.
- **Mining, Oil & Gas Electrical Infrastructure** – High-strength insulating standoffs for harsh, contaminated environments.

- **Renewable Energy Installations** – Solar inverter frames, energy storage systems, and power system insulation.
- **Aerospace Ground Equipment** – Electrically insulating supports in power management and testing equipment.
- **Defence Electrical Assemblies** – Conforming to MIL-I-24768/17 (GDI-30) for insulated structural support in mission-critical systems.

## INDUSTRIES SERVED

- **Switchboard Builders** – LV and MV power distribution, panelboards, and AS/NZS 61439 assemblies.
- **Transformer Manufacturers** – Terminal supports, conductor isolation, and auxiliary insulating structures.
- **Motor Rewind & Electrical Repair Workshops** – Safe component mounting and high-strength insulating supports.
- **Power Generation & Utilities** – Substation equipment, busbar supports, and critical electrical infrastructure.
- **Renewable Energy** – Solar inverters, battery energy storage systems (BESS), and wind turbine electrical sections.
- **Rail & Rolling Stock** – Traction systems, auxiliary power cabinets, and vibration-resistant electrical supports.
- **Industrial Machinery & Automation** – Insulated mechanical supports in OEM equipment and control enclosures.
- **Mining, Oil & Gas** – High-durability insulating components in harsh and contaminated environments.
- **Automotive & Heavy Vehicle Electrical Systems** – High-strength insulating supports for high-current circuits.
- **Aerospace (Ground Equipment)** – Precision electrical isolation for test rigs and power conversion systems.
- **Defence & Military Programs** – Applications requiring MIL-I-24768/17 GDI-30 compliant material performance.
- **Electrical & Electronics Manufacturers** – General insulating supports in assemblies, modules, and power systems.

## SPECIFICATIONS

	Details
<b>Material Composition</b>	Glass-reinforced thermoset polyester (DMC/BMC)
<b>Flame Rating</b>	UL 94 V-0 (material dependent)
<b>Thermal Class</b>	Class F (155°C)
<b>Colour</b>	Red (standard)

<b>Operating Temperature Range</b>	-40°C to +155°C (continuous)
<b>Short-Term Temperature Limit</b>	Up to 180°C
<b>Thread Insert Material</b>	Brass (standard); Stainless steel optional
<b>Available Thread Sizes</b>	M6, M8, M10, M12 (UNC on request)
<b>Standard Heights</b>	25 mm, 30 mm, 38 mm, 50 mm, 75 mm (others on request)
<b>Body Shape</b>	Hexagonal (standard); Cylindrical available on request
<b>Compliance</b>	RoHS 3, REACH, Halogen-Free, Asbestos-Free

## TOLERANCES

Dimension	Standard Tolerance	Notes
<b>Overall Height (H)</b>	±0.50 mm	Applies to all standard SM body heights.
<b>Across Flats (AF) – Hex Body</b>	±0.30 mm	Ensures correct spanner fitment; measured at mid-height.
<b>Body Diameter (Cylindrical Type)</b>	±0.30 mm	For round-body standoffs where applicable.
<b>Thread Insert Depth</b>	±0.40 mm	Depth measured from face to bottom of insert.
<b>Thread Concentricity</b>	≤ 0.30 mm TIR	Insert alignment tolerance to avoid lateral loading.
<b>Thread Quality</b>	ISO 6H (internal)	Applies to all brass and stainless-steel inserts.
<b>Flatness of Bearing Surfaces</b>	≤ 0.10 mm	Ensures stable mounting and uniform load distribution.
<b>Insert Positional Accuracy</b>	±0.25 mm	Centroid position relative to body centreline.
<b>Creepage Distance</b>	As per design	Controlled by mould geometry — validated during inspection.

## MECHANICAL PROPERTIES

Property	Typical Value	Test Method / Standard	Notes

<b>Compressive Strength</b>	180–220 MPa	ASTM D695	Primary load-bearing property for busbar support.
<b>Flexural Strength</b>	130–160 MPa	ASTM D790	Indicates stiffness under bending load.
<b>Tensile Strength</b>	80–110 MPa	ASTM D638	Material-dependent; reflects resistance to pull forces.
<b>Shear Strength</b>	18–25 MPa	ASTM D732	Critical for lateral load and panel applications.
<b>Impact Strength (Izod)</b>	6–10 kJ/m <sup>2</sup>	ASTM D256	Measures shock and vibration resistance.
<b>Thread Pull-Out Strength</b>	Model-dependent	MISCO Internal Test	Determined by insert depth and thread size.
<b>Elastic Modulus</b>	8–12 GPa	ASTM D790	Indicates overall stiffness of composite body.
<b>Poisson's Ratio</b>	0.25–0.30	ASTM E132	Typical for polyester-glass moulding compounds.
<b>Density</b>	1.85–2.00 g/cm <sup>3</sup>	ASTM D792	Consistent with DMC/BMC polyester materials.
<b>Hardness</b>	Rockwell M80–M100	ASTM D785	High surface hardness for wear resistance.
<b>Water Absorption (24h)</b>	< 0.20%	ASTM D570	Low uptake ensures stable mechanical performance.
<b>Creep Resistance</b>	High	ISO 899	Suitable for long-term static loads in switchboards.

## ELECTRICAL PROPERTIES

Property	Typical Value	Test Method / Standard	Notes
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<b>Dielectric Strength</b>	12–18 kV/mm	ASTM D149	High electrical insulation for LV & MV assemblies.
<b>Insulation Resistance</b>	$> 10^{12} \Omega$	ASTM D257	Ensures long-term stability under elevated humidity.
<b>Volume Resistivity</b>	$> 10^{13} \Omega \cdot \text{cm}$	ASTM D257	Indicates strong resistance to leakage currents.
<b>Surface Resistivity</b>	$> 10^{13} \Omega/\text{sq}$	ASTM D257	Suitable for clean, dry switchboard environments.
<b>Comparative Tracking Index (CTI)</b>	$\geq 600 \text{ V}$	IEC 60112	Excellent resistance to tracking and surface arcing.
<b>Dielectric Constant (1 kHz)</b>	4.5–6.0	ASTM D150	Typical values for glass-filled polyester composites.
<b>Dissipation Factor (1 kHz)</b>	$< 0.020$	ASTM D150	Low dielectric loss; stable under load.
<b>Power Frequency Withstand Voltage</b>	Application-dependent	IEC 60243	Validated per assembly design.
<b>Arc Resistance</b>	120–180 s	ASTM D495	Good resistance to carbon tracking and arc erosion.

## THERMAL PROPERTIES

Property	Typical Value	Test Method / Standard	Technical Notes
<b>Thermal Class</b>	<b>Class F (155°C)</b>	IEC 60085	Suitable for LV/MV switchgear, transformers, power electronics, rail and defence equipment.
<b>Continuous Operating Temperature</b>	-40°C to +155°C	IEC 60085	Full mechanical and electrical stability within this range.
<b>Short-Term Temperature Limit</b>	Up to 180°C	Manufacturer Data	Tolerates brief overloads without loss of structural integrity.
<b>Coefficient of Thermal Expansion (CTE)</b>	$2\text{--}3 \times 10^{-5} / ^\circ\text{C}$	ASTM E831	Low expansion supports dimensional stability in bolted assemblies.
<b>Heat Deflection Temperature (HDT)</b>	200–230°C	ASTM D648	Indicates resistance to deformation at high temperatures.
<b>Thermal Conductivity</b>	0.25–0.30 W/m·K	ASTM E1530	Low thermal conductivity enhances insulation around live components.
<b>Specific Heat Capacity</b>	0.90–1.10 kJ/kg·K	ASTM E1269	Typical for glass-polyester composites.
<b>Flammability</b>	UL 94 V-0	UL 94	Self-extinguishing material suitable for enclosed switchboards.
<b>Smoke &amp; Toxicity</b>	Low	Manufacturer Data	Halogen-free formulation reduces corrosive off-gassing.

<b>Thermal Ageing Resistance</b>	High	IEC 60216	Retains insulating properties after long-term heat exposure.
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### Engineering Notes & Performance Insight

- **Class F rating (155°C)** ensures compatibility with modern switchboard and transformer temperature rise limits.
- The **low CTE ( $2-3 \times 10^{-5} / ^\circ\text{C}$ )** prevents insert misalignment, cracking, and stress when busbars expand under load.
- **High HDT (200–230°C)** helps maintain body geometry in environments where copper busbars may reach elevated temperatures.
- **Thermal cycling stability** ensures durability in rail, mining, defence, and outdoor power equipment subject to vibration and temperature swings.
- **Self-extinguishing behaviour (UL 94 V-0)** enhances overall assembly fire safety.
- The material's **low thermal conductivity** helps limit heat spread between live parts and supporting structure.
- **Thermal ageing tests** show strong retention of dielectric strength and mechanical properties after long-term elevated temperature exposure.

### Environmental and System Integration Considerations

- Suitable for installation adjacent to copper or aluminium busbars experiencing intermittent heating.
- Compatible with AS/NZS 61439 temperature rise criteria for busbar systems and enclosed switchgear.
- Not recommended for continuous service above **155°C**; prolonged exposure beyond this may reduce mechanical strength.
- Insulators exhibit stable performance when used in conjunction with forced-air or natural convection cooling systems.

### CHEMICAL RESISTANCE

The SM Series Standoff Insulators, manufactured from glass-reinforced thermoset polyester (DMC/BMC), exhibit strong resistance to a wide range of industrial chemicals. The material is inherently stable, non-corrosive, and well suited to electrical environments where exposure to oils, lubricants, cleaning agents, and atmospheric contaminants is common.

This chemical resistance contributes significantly to long service life in switchboards, transformers, industrial machinery, mining, rail, and defence applications.

Chemical / Substance	Resistance Level	Notes
<b>Mineral Oils</b>	Excellent	Stable in contact with transformer, hydraulic, and lubrication oils.
<b>Silicone Oils</b>	Excellent	No swelling or degradation.
<b>Transmission Fluids</b>	Excellent	Suitable for industrial power systems and machinery.
<b>Greases &amp; Lubricants</b>	Excellent	No impact on mechanical or electrical performance.
<b>Water (Fresh / Salt)</b>	Excellent	Very low water absorption (<0.2%); no dimensional change.
<b>Alcohols (Ethanol, Isopropanol)</b>	Good	Mild, non-prolonged exposure acceptable.
<b>Aliphatic Hydrocarbons (e.g., Hexane)</b>	Excellent	Material remains stable with no embrittlement.
<b>Aromatic Hydrocarbons (Toluene, Xylene)</b>	Limited	Prolonged exposure may soften or dull the surface.
<b>Acids – Dilute (e.g., HCl, H<sub>2</sub>SO<sub>4</sub>)</b>	Good	Short-term exposure acceptable; avoid prolonged immersion.
<b>Acids – Concentrated</b>	Poor	Not recommended; can attack polyester matrix.
<b>Alkalis (e.g., NaOH, KOH)</b>	Moderate	High concentrations and high temperature should be avoided.
<b>Salt Spray / Salt Fog</b>	Excellent	Suitable for marine and coastal installations.
<b>Cleaning Agents (Non-Solvent Types)</b>	Excellent	Typical switchboard cleaners and degreasers are acceptable.
<b>Ketones (Acetone, MEK)</b>	Not Recommended	Can rapidly attack polyester composite—avoid any contact.
<b>Chlorinated Solvents</b>	Poor	Degrades resin matrix; strict avoidance required.
<b>Battery Electrolyte (Dilute Sulphuric Acid)</b>	Good	Spill exposure acceptable; wipe clean promptly.
<b>Ozone</b>	Excellent	Material remains stable and crack-resistant.
<b>UV Exposure</b>	Good	Indoor use optimal; outdoor exposure requires UV-stabilised grade.

## Engineering Notes

- The material's **low water absorption (<0.2%)** helps preserve dielectric strength and mechanical properties in humid or marine environments.
- **Avoid ketones and strong solvents**, which can attack the thermoset polyester resin.
- In switchboards and transformers, typical contaminants (oils, dust, greases) present **no risk** to the insulator body.

- Material is **halogen-free**, reducing toxic fume release in chemical or fire exposure.
- Suitable for **mining, transport, and defence** environments with fuel and lubricant exposure.
- For environments with persistent solvent vapours, confirm compatibility with MISCO technical support.

## PRODUCT LIFE, ENVIRONMENTAL RESISTANCE & PACKAGING

### Product Life and Durability

SM Series Standoff Insulators are designed for **long-term mechanical and electrical reliability** in demanding applications. When installed within specified electrical and mechanical limits:

- Service life typically exceeds **20 years** in indoor or IP-rated enclosures.
- Retain mechanical strength and dielectric performance without degradation.
- Brass inserts ensure **corrosion-resistant threading** under load and vibration.
- Material resists embrittlement or softening over time, even under thermal cycling.

### Environmental Resistance

- Operating Temperature: **-40 °C to +155 °C**
- Short-term temperature peaks up to **180 °C** (non-continuous)
- **Dust, vibration, and moisture-resistant** when enclosed per IP-rated specifications.
- Material suitable for **altitudes up to 2,000 m** without derating
- **UV stable** for sheltered outdoor use (may exhibit surface fading, not performance loss)
- Chemically resistant to oils, coolants, and mild acids (see Chemical Resistance section)
- Compliant with **IEC 61439-1 Clause 10.2** for environmental withstand conditions.

### Packaging and Delivery

- Supplied in **impact-resistant cartons** with internal dividers to prevent transit damage.
- Each carton labelled with **part number, thread size, quantity, and batch traceability**.
- Bulk orders available in **palletised or export-ready configurations**
- Packaging is **recyclable** and complies with **ISPM 15** standards where applicable.

- Custom packaging, branding, or kitting available for OEM or project-specific supply chains.

Proper installation, storage, and transport ensure maximum product life and field reliability.

## ENVIRONMENTAL COMPLIANCE

The SM Series Standoff Insulators are manufactured using materials and processes that align with international environmental, safety, and sustainability requirements. These insulators are suitable for use in modern industrial, utility, renewable energy, rail, and defence applications where environmental compliance and responsible material selection are essential

## REGULATORY & ENVIRONMENTAL CONFORMANCE

Standard / Directive	Compliance Status	Notes
<b>RoHS 3 (EU Directive 2015/863)</b>	Compliant	Contains no restricted heavy metals or hazardous substances.
<b>REACH (EC 1907/2006)</b>	Compliant	No SVHC (Substances of Very High Concern) above threshold.
<b>Halogen-Free</b>	Yes	Does not contain chlorine, bromine, or halogenated flame retardants.
<b>Asbestos-Free</b>	Yes	Contains no asbestos fibre or inorganic carcinogens.
<b>UL 94 V-0</b>	Material Grade	Self-extinguishing behaviour supports reduced smoke/toxic output.
<b>PFAS / PFOA / PFOS</b>	Not intentionally added	Aligns with tightening global restrictions on fluorinated chemicals.
<b>Conflict Minerals (US Dodd-Frank Act)</b>	Compliant	No knowingly sourced tin, tantalum, tungsten, or gold from conflict zones.
<b>ISO 14001 Environmental Management Principles</b>	Supported	Manufactured using processes aligned with environmental responsibility.

## Material & Environmental Characteristics

- **Halogen-free formulation** reduces corrosive and toxic gas generation in the event of overheating or electrical failure.
- **Low smoke generation** compared with halogenated composites, supporting safer conditions for enclosed switchboards and industrial installations.

- **No ozone-depleting substances** used in manufacturing.
- Resistant to oil, moisture, and most industrial chemicals, resulting in **long service life** and reduced replacement frequency.
- Suitable for sectors with strict environmental expectations, including **utilities, rail, defence, and renewable energy**.
- Manufactured from a **stable thermoset composite** that does not melt, drip, or deform under rated conditions, reducing risk to surrounding components.

### Waste Handling & End-of-Life Considerations

- Offcuts and damaged units may be disposed of as **non-hazardous industrial waste**.
- Material does not leach hazardous compounds under normal disposal conditions.
- Recycling is limited due to thermoset structure; however, long service life helps reduce environmental load.
- Incineration should follow local regulations due to fibreglass content.

### Packaging & Transport

- Packaged using recyclable cartons and protective inserts.
- No fumigation or chemical treatment required.
- Compliant with **ISPM 15** standards for export (when wooden packaging is used).

## SUSTAINABILITY AND ENVIRONMENTAL IMPACT

The SM Series Standoff Insulators are designed and manufactured with a focus on long service life, responsible material use, and compliance with international environmental frameworks. The inherent stability of the thermoset polyester composite, combined with MISCO's responsible sourcing and quality controls, supports reduced environmental impact across the product lifecycle.

### 1. Material Sustainability

- Manufactured from a **durable glass-reinforced thermoset composite**, providing long operational life and reducing replacement frequency.
- No halogenated additives, chlorinated flame retardants, or asbestos-based fillers are used.

- Materials are selected to meet strict compliance requirements for **RoHS, REACH, and SVHC restrictions**, ensuring minimal hazardous content.

## 2. Operational Environmental Benefits

- **Long service lifespan** minimises waste generation and resource consumption associated with frequent replacements.
- **High electrical and thermal efficiency** reduces risk of overheating events, equipment breakdown, and associated energy waste.
- Low smoke and low toxicity characteristics improve safety in enclosed and critical environments, including switchboards and defence systems.
- Stable performance in harsh industrial settings extends equipment life, reducing environmental burden from equipment degradation.

## 3. Manufacturing & Supply Chain Responsibility

- Produced using processes aligned with **ISO 9001** and **ISO 14001 environmental management principles**.
- No ozone-depleting substances are used during production.
- Manufacturing emissions and waste are minimised through controlled curing, closed-mould processes, and batch-optimised production.
- Material suppliers undergo compliance verification for **conflict minerals**, chemical restrictions, and sustainability declarations.

## 4. End-of-Life & Disposal Considerations

- Components may be disposed of as **non-hazardous industrial waste** under normal conditions.
- Fibreglass content prevents full recyclability; however, **extended service life significantly offsets end-of-life limitations**.
- Components do not leach hazardous chemicals into soil or groundwater when disposed of in accordance with local regulations.
- Incineration must follow regional guidelines due to fibreglass content and thermoset structure.

## 5. Environmental Impact in Application

- Suitable for renewable energy systems (solar, ESS, wind) where long-term reliability contributes to sustainable infrastructure.
- Resistant to weathering, corrosion, and chemical exposure, reducing maintenance interventions and associated material consumption.
- Halogen-free formulation avoids corrosive or toxic emissions in fault conditions, supporting safer and more environmentally responsible installations.

## 6. Circularity & Future Initiatives

While thermoset composites cannot be remelted or chemically depolymerised using conventional recycling, MISCO supports long-term sustainability objectives through:

- Extended product durability
- Batch-traceable materials
- Reduced waste in manufacturing
- Opportunities for future composite recycling via mechanical repurposing or energy recovery in compliant facilities

MISCO Australia continues to explore partnerships and emerging technologies that support improved recycling pathways for composite materials.

## SAFETY INFORMATION

- Non-toxic, non-conductive, and stable under normal operating conditions.
- Do not expose to temperatures above **155°C continuous** or **180°C short-term**.
- Inspect components before use; discard units with cracks, chips, or damaged threads.
- Avoid impact loads — internal fractures may not be visible.

### Handling

- Wear gloves when handling in bulk.
- Store in a dry, cool, indoor environment; avoid prolonged UV exposure.

### Installation

- Follow recommended torque values.
- Do not overtighten fasteners or modify components without engineering approval.
- Maintain creepage and clearance distances per **AS/NZS 61439** and **IEC 60664**.

### **Machining (If Required)**

- Not recommended.
- Machining generates fine dust: use extraction, wear P2/P3 respirator, safety glasses, gloves.
- Collect dust via vacuum; dispose of as non-hazardous industrial waste.

### **Fire Safety**

- Material is **UL 94 V-0** self-extinguishing.
- Use dry chemical or CO<sub>2</sub> extinguishers.
- Avoid inhalation of fumes from extreme overheating.

### **Chemical Exposure**

- Resistant to oils, greases, water, and most industrial agents.
- Avoid strong acids, alkalis, ketones, and chlorinated solvents.

### **First Aid**

- Skin: Wash with soap and water.
- Eyes: Rinse with water for 10–15 minutes.
- Inhalation: Move to fresh air.

**Refer to Safety Data Sheet (SDS) for full details before handling.**

## **WARRANTY**

MISCO Australia warrants that the SM Series Standoff Insulators are free from defects in material and workmanship at the time of dispatch and conform to MISCO's published specifications.

This warranty applies when the product is stored, installed, and used in accordance with recognised electrical and mechanical standards and MISCO guidelines.

### **Covered**

- Manufacturing defects
- Material non-conformance
- Incorrect supply (size, type, or specification)

### **Exclusions**

- Misuse, improper installation, or over-torquing
- Damage from impact, modification, or unauthorised machining

- Exposure to chemicals not compatible with thermoset polyester
- Operation outside rated electrical, mechanical, or thermal limits
- Normal wear or cosmetic changes that do not affect performance

### Conditions

- Claims must be submitted with batch details and evidence of the defect.
- MISCO's liability is limited to repair, replacement, or credit at MISCO's discretion.
- No warranty applies where the product has been altered, substituted, or installed contrary to AS/NZS 61439, IEC 60664, or MISCO technical instructions.

### DISCLAIMER

*The information provided in this data sheet is intended as a general guide for the use and handling of material. It is based on current knowledge, testing, and is believed to be accurate and reliable as of the date of publication. However, **MISCO Australia** makes no warranties, express or implied, regarding the material's performance, suitability, or fitness for any specific application.*

*Users are responsible for determining the material's suitability for their intended purpose, including conducting independent tests and evaluations as necessary. MISCO Australia does not accept any liability for any loss, damage, or injury resulting from the use of this information, the products described, or reliance on the provided recommendations.*

*Specifications are subject to change without notice as part of MISCO Australia's ongoing product improvement initiatives.*

*Always refer to the latest version of this data sheet before proceeding with critical applications.*

*All sales are subject to MISCO Australia's standard terms and conditions of sale.*

Revision	Date Issued	Prepared / Reviewed By	Description of Change	Approved By
1.0	January 2025	MISCO Australia	Initial release of Data Sheet for SM Series Standoff Insulators	Director, MISCO Australia

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### End of Technical Data Sheet.