



TECHNICAL DATA SHEET (TDS)

MATERIAL

PRODUCT IDENTIFICATION

- **Product Name:** CB-HFT-600 Heat Shrink Tubing
- **Material Type:** Cross-linked polyolefin dual-wall heat shrink tubing.
- **Details:**
 - **Company:** MISCO Australia
 - **Address:** 89-91 Licola Crescent, Dandenong South, VIC 3175
 - **Telephone Number:** 03 9706 5185
 - **Email:** info@misco.net.au
 - **Website:** www.misco.net.au
- **TDS Number:** MISCO – TDS - 002
- **TDS Date:** 01/12/2024
- TDS Version: 1

PRODUCT DESCRIPTION

CB-HFT-600 is a premium-grade, flame-retardant, cross-linked polyolefin heat-shrink tubing developed for high-reliability electrical insulation, mechanical protection, and clear colour identification across industrial wiring systems. Supplied with a controlled 2:1 shrink ratio, this tubing delivers uniform wall thickness after recovery, excellent dielectric strength, and stable long-term performance under electrical, mechanical, and thermal load.

Engineered to withstand demanding service conditions, CB-HFT-600 provides strong resistance to abrasion, cuts, oils, fuels, solvents, and general industrial contaminants. Its flexible formulation allows clean installation over irregular shapes, connectors, terminals, and cable joints while maintaining a smooth, professional finish.

Designed for use in switchboards, motor and transformer manufacturing, automotive harnessing, control panels, instrumentation wiring, renewable energy installations, and general electrical maintenance, CB-HFT-600 offers a durable, compliant, and cost-effective solution for insulation and cable management across industrial and commercial sectors.

NEMA GRADE

Heat-shrink tubing does not have a NEMA grade.

NEMA grades apply to thermoset and thermoplastic sheet, rod, tube, and laminate materials (e.g., G10, FR4, LE Linen, F2 Fabric Bakelite).

Heat-shrink tubing falls under polyolefin electrical insulation products, which are classified instead by:

- UL 224 (heat-shrinkable tubing standard)
- IEC 60684 (international heat-shrink tubing standard)
- SAE-AMS-DTL specifications (for aerospace/defence shrink tubing)

So, for CB-HFT-600, the “NEMA grade” section is simply:

NEMA Grade: Not applicable (heat-shrink tubing is not classified under NEMA).

CLASS

Class 125°C (Continuous Operating Temperature)

This aligns with standard cross-linked polyolefin heat-shrink tubing used in electrical and industrial applications.

MILITARY SPECIFICATIONS AND TYPE

CB-HFT-600 aligns with the performance requirements of **SAE-AMS-DTL-23053/5**, the military/aerospace specification for flexible, flame-retardant, cross-linked polyolefin heat-shrink tubing (2:1).

Type: Type I – General Purpose, Flexible, Flame-Retardant

Class:

- **Class 1** – Black
- **Class 3** – Coloured tubing (Red, Blue, Yellow, Green, White)

KEY PROPERTIES

- **2:1 Shrink Ratio** – Provides controlled, uniform recovery for dependable coverage over cables, connectors, terminals, and irregular profiles.
- **Cross-Linked Polyolefin Construction** – Delivers long-term stability, excellent flexibility, and consistent shrink performance under repeated thermal cycling.
- **Flame-Retardant Formulation** – Meets the requirements of AMS-DTL-23053/5; black achieves the highest flammability rating (VW-1), with coloured variants maintaining low-flammability performance.
- **High Electrical Insulation Strength** – Offers strong dielectric properties suitable for low-voltage wiring, terminations, and protective sleeving in electrical assemblies.

- **Excellent Chemical Resistance** – Withstands exposure to oils, lubricants, fuels, hydraulic fluids, and common industrial solvents without degradation.
- **Moisture and Environmental Resistance** – Provides reliable protection against humidity, condensation, salt spray, and general atmospheric contaminants.
- **Abrasion and Wear Resistant** – Maintains integrity against scuffing, vibration, and mechanical contact typical in automotive, switchboard, and industrial installations.
- **Wide Service Temperature Range** – Suitable for continuous operation from -55°C to $+125^{\circ}\text{C}$ with stable physical and electrical performance.
- **Smooth, Clean Recovery Finish** – Shrinks evenly without wrinkling or cracking, producing a professional finish for cable harnessing and assembly work.
- **Low-Smoke, Halogen-Free** – Suitable for confined electrical enclosures and applications requiring reduced toxicity and smoke emissions.
- **Flexible Installation** – Easy to handle, cut, and shrink using standard heat guns; conforms readily to complex shapes.
- **UV Stability** – Black offers enhanced UV resistance for outdoor or high-exposure environments, maintaining long-term colour and material performance.
- **Colour Identification Range** – Available in White, Red, Blue, Yellow, Green, and Black for phase marking, polarity identification, and structured wiring layouts.

APPLICATIONS

- **Electrical Insulation** – Protection of low-voltage conductors, terminations, soldered joints, splices, and exposed wiring.
- **Strain Relief** – Reinforcement of connectors, lugs, terminals, and plug interfaces to reduce mechanical stress and prevent cable fatigue.
- **Cable Bundling & Harnessing** – Organisation and consolidation of wiring looms in switchboards, control cabinets, motor assemblies, and instrumentation systems.
- **Colour Coding & Identification** – Phase marking, polarity indication, earth identification, and structured labelling of cable runs and circuits.
- **Mechanical Protection** – Shielding cables and terminations from abrasion, vibration, and minor impact in industrial and automotive environments.
- **Environmental Protection** – Guarding against moisture, condensation, dust, and atmospheric contamination in enclosed or exposed installations.
- **Automotive & Transport Wiring** – Sleeving for looms in vehicles, heavy equipment, EV systems, and rail electrical assemblies.
- **Transformers, Motors & Rewinds** – Insulation and protection around leads, turns, tap connections, and termination points.
- **Switchboard & Panel Building** – General-purpose insulation and finishing for cable sets, control wiring, auxiliary circuits, and field terminations.
- **Electronics & Instrumentation** – Protection of sensors, small assemblies, PCB connections, and precision wiring.

- **Renewable Energy & Power Systems** – Use in solar inverters, battery storage systems, wind turbines, and power distribution hardware.
- **General Industrial Maintenance** – Suitable for routine repairs, upgrades, replacements, and field service applications.

INDUSTRIES SERVED

- **Switchboard Manufacturing & Electrical Distribution** – Cable insulation, termination protection, and colour identification in LV assemblies and control panels.
- **Transformer, Motor & Generator Manufacturing / Rewinds** – Lead insulation, joint protection, and harness management for rotating machines and power equipment.
- **Automotive, EV & Heavy Vehicle Manufacturing** – Wiring looms, protective sleeving, and strain-relief solutions for standard and high-duty electrical systems.
- **Rail, Rolling Stock & Tunnel Infrastructure** – Robust cable protection in signalling, traction, communication, and auxiliary electrical systems.
- **Aerospace, Defence & Military Systems** – General-purpose electrical insulation for equipment harnessing, communications, and electronic assemblies.
- **Renewable Energy & Power Generation** – Solar, wind, BESS, hydro, and thermal systems requiring reliable cable protection and identification.
- **Oil, Gas, Petrochemical & Refining** – Chemical-resistant insulation for wiring, instrumentation, and panel systems in harsh industrial environments.
- **Mining, Metals & Heavy Industrial Processing** – Abrasion-resistant sleeving for equipment wiring, control systems, and harsh-duty installations.
- **Industrial Machinery & Automation** – Protective tubing for sensors, motors, drives, and factory automation wiring.
- **Electronics, Semiconductor & High-Tech Manufacturing** – Insulation of precision wiring, assemblies, small connectors, and instrumentation circuits.
- **HVAC, Heating & Thermal Control Systems** – Cable management and insulation in heating units, air-handling, and environmental control equipment.
- **Marine, Shipbuilding & Offshore Energy** – Moisture-resistant protection for onboard, coastal, and offshore electrical systems.
- **Construction, Infrastructure & Building Services** – Colour coding, electrical insulation, and cable protection within building electrical networks.
- **Data Centres & Critical Infrastructure** – Reliable insulation for power distribution, monitoring systems, and equipment interconnects.
- **General Electrical Contracting & Maintenance** – Everyday use for repairs, terminations, upgrades, and field service work.

SPECIFICATIONS

Property	Specification / Value
Material	Cross-linked, flame-retardant polyolefin
Shrink Ratio	2:1
Colours Available	White, Red, Blue, Yellow, Green, Black
Operating Temperature Range	-55°C to +125°C (continuous)
Minimum Shrink Temperature	70°C
Full Recovery Temperature	100–120°C
Dielectric Strength	≥ 15 kV/mm
Volume Resistivity	≥ 1 × 10 ¹⁴ Ω·cm
Flammability Rating	Black: VW-1; Colours: Low-flammability (Class 3)
Thermal Class	Class 125°C
Chemical Resistance	Resistant to oils, fuels, hydraulic fluids, lubricants, mild acids/alkalis, solvents
Environmental Resistance	Moisture-resistant; UV-stable (best in black)
Halogen-Free	Yes
Standard Size Range	1.6 mm – 38 mm (expanded I.D.)
Supplied Forms	1.2 m lengths; 25–50 m coils; bulk spools; custom lengths

MECHANICAL PROPERTIES

Property	Typical Value	Test Method / Standard
Tensile Strength	≥ 10 MPa	ASTM D638

Elongation at Break	≥ 200%	ASTM D638
Longitudinal Shrinkage	≤ 5%	ASTM D2671
Heat Shock (250°C, 4 hrs)	No cracking, dripping, or flowing	ASTM D2671
Heat Ageing (158°C, 168 hrs)	Tensile ≥ 7 MPa; Elongation ≥ 100%	ASTM D2671
Cold Bend	No cracking at -55°C	ASTM D2671
Specific Gravity	1.30 – 1.35	ASTM D792
Tensile Set After Recovery	≤ 10%	ASTM D412
Tear Resistance	Good	ASTM D624 (reference)
Abrasion Resistance	Good	ASTM D1044 (reference)
Flexibility	Excellent	Functional Test
Hardness (Shore D)	40–55	ASTM D2240
Water Absorption (24 hrs)	≤ 0.50%	ASTM D570
Impact Resistance	Good	ASTM D256 (reference)
Dimensional Stability	Stable after full recovery	ASTM D2671
Surface Finish After Recovery	Smooth, uniform	Visual Inspection
Brittleness Temperature	-55°C	ASTM D746
Compression Resistance	Good	ASTM D695 (reference)

ELECTRICAL PROPERTIES

Property	Typical Value	Test Method / Standard
Dielectric Strength	≥ 15 kV/mm	ASTM D149
Volume Resistivity	≥ 1 × 10 ¹⁴ Ω·cm	ASTM D257

Surface Resistivity	$\geq 1 \times 10^{13} \Omega$	ASTM D257
Dielectric Constant (1 kHz)	2.5 – 3.0	ASTM D150
Power Factor (1 kHz)	≤ 0.02	ASTM D150
Insulation Resistance	Very High	IEC 60684
Rated Working Voltage	600 V	UL 224 / IEC
Electric Strength After Heat Ageing	Pass	ASTM D2671
Electric Strength After UV Exposure	Pass (Black highest stability)	IEC 60684
Tracking Resistance (CTI)	Good	IEC 60112
Corona Resistance	Suitable for LV applications	IEC 60243
Breakdown Voltage (Short Segment)	High	ASTM D149
Arc Resistance	Good	ASTM D495 (reference)
Continuity of Insulation After Shrink	No cracks, pinholes, or voids	Visual Inspection
Electrical Stability at Elevated Temperature	Stable	IEC 60216
Dielectric Strength After Chemical Exposure	Pass	ASTM D149 (post-immersion)

THERMAL PROPERTIES

Property	Typical Value	Test Method / Standard
Continuous Operating Temperature	-55°C to +125°C	IEC 60684
Minimum Shrink Temperature	70°C	SAE-AMS-DTL-23053/5

Full Recovery Temperature	100–120°C	SAE-AMS-DTL-23053/5
Maximum Short-Term Temperature	200°C (brief exposure)	IEC 60684
Heat Shock (250°C, 4 hrs)	No cracking, dripping, or flowing	ASTM D2671
Heat Ageing (158°C, 168 hrs)	Tensile ≥ 7 MPa; Elongation ≥ 100%	ASTM D2671
Brittleness Temperature	–55°C	ASTM D746
Thermal Class	Class 125°C	IEC 60085
Melting Point (Base Polymer, Pre-Crosslink)	120–130°C	DSC Method
Thermal Conductivity	~0.25 W/m·K	ASTM E1530 (reference)
Coefficient of Thermal Expansion (CTE)	120–180 × 10 ⁻⁶ /°C	ASTM E831 (reference)
Thermal Endurance Index	≥ 20,000 hrs at 125°C	IEC 60216
Cold Bend Performance	No cracking at –55°C	ASTM D2671
Heat Resistance After Recovery	Stable dimensional performance	SAE-AMS-DTL-23053/5
Flammability	Black: VW-1; Colours: Low-flammability (Class 3)	UL 224
Smoke Emission (General)	Low	IEC 61034
Oxygen Index (LOI)	28–32%	ASTM D2863 (reference)

CHEMICAL RESISTANCE

Chemical / Substance	Resistance Level	Test Method / Standard
Diesel Fuel	Excellent	ISO 1817
Petrol / Gasoline	Good	ISO 1817
Hydraulic Oil	Excellent	ISO 1817
Engine Oil	Excellent	ISO 1817
Transmission Fluid	Excellent	ISO 1817
Brake Fluid (Non-silicone)	Good	ISO 1817
Ethanol / Alcohols	Good	ISO 1817
IPA (Isopropyl Alcohol)	Excellent	ISO 1817

Acids (Dilute)	Good	ISO 175
Acids (Strong)	Fair	ISO 175
Alkalis (Dilute)	Good	ISO 175
Alkalis (Strong)	Fair	ISO 175
Salt Spray / Saline Solution	Excellent	ASTM B117
Water / Humidity	Excellent	ASTM D570
Lubricants & Greases	Excellent	ISO 1817
Coolants (Glycol-Based)	Good	ISO 1817
Solvents (Light / Aliphatic)	Good	ISO 1817
Solvents (Aromatic)	Fair	ISO 1817
Cleaning Detergents	Excellent	ISO 175
Oxidising Agents	Fair	ISO 175

PROCESSING AND APPLICATION CONSIDERATIONS

- Use a clean, dry, dust-free workspace to prevent contamination inside the tubing before installation.
- Cut tubing cleanly using sharp shears or a precision cutter to avoid angled or jagged edges.
- Ensure the selected tubing size provides adequate clearance over the component before shrinking (typically 20–40% oversize).
- Position the tubing evenly over the joint, connector, or cable segment to maintain uniform recovery.
- Apply heat gradually using a controlled heat gun, starting at the centre and moving toward both ends to avoid air entrapment.
- Maintain a safe distance between the heat source and the tubing to prevent scorching or uneven shrink.
- Rotate the cable or assembly during heating to ensure full 360° recovery.

- Allow the tubing to cool naturally; do not force-cool with air or water, as this may induce stress.
- For large diameters or thicker-wall sections, use higher airflow settings or industrial heat-shrink ovens for consistent results.
- Inspect for uniform wall thickness, full recovery, smooth surface finish, and absence of cracks or voids.

HANDLING CONSIDERATIONS BEFORE INSTALLATION

- Store tubing in a cool, dry environment away from direct sunlight, heat sources, and moisture.
- Keep tubing in sealed packaging until use to avoid dust and contamination.
- Avoid bending or creasing tubing before shrinking, as this may mark the recovered surface.
- Do not expose tubing to oils, solvents, or chemicals prior to shrinking; contamination can affect surface finish.
- Verify the correct colour and size before installation, especially for phase-identification work.
- Ensure cables, connectors, and surfaces are clean, dry, and free from sharp burrs before sliding tubing into place.
- Check for adequate clearance between the tubing and adjacent components to allow full recovery without obstruction.
- For field installations, protect tubing from prolonged ambient UV exposure (use sleeves from sealed bags immediately).
- Confirm compatibility with downstream processes such as cable marking, printing, or additional sleeving.

BEST-PRACTICE GUIDE FOR HEAT-SHRINK PERFORMANCE

1. Select the Correct Size

- Choose tubing with an expanded I.D. 20–40% larger than the component to ensure easy installation.
- Confirm that the recovered I.D. will fully seal around the smallest diameter in the assembly.
- Use colour selection to support phase marking, polarity identification, and wiring organisation.

2. Prepare the Component

- Ensure cables, connectors, and terminals are clean, dry, and free from burrs or sharp edges.
- Remove oils, dust, and contaminants that may affect adhesion or create surface imperfections.
- For soldered joints, allow sufficient cooling before sliding tubing into position.

3. Cut the Tubing Correctly

- Use sharp shears or a precision cutter to create straight, clean edges.
- Avoid crushing, ovalising, or creasing the tubing, which may affect recovered uniformity.
- Maintain adequate length to ensure full coverage over joints and mechanical stress points.

4. Position Before Heating

- Centre the tubing over the component to prevent uneven shrink.
- Verify alignment on connectors and terminations to ensure proper strain relief.
- For multi-layer applications, position the inner layers first and sequence outward.

5. Apply Heat Evenly

- Use a controlled industrial heat gun with variable temperature and airflow.
- Begin heating from the centre and work gradually toward both ends to prevent trapped air.
- Rotate the cable or assembly to achieve full 360° shrink coverage.
- Maintain a safe stand-off distance to avoid scorching, bubbling, or uneven recovery.
- For large-diameter tubing, increase airflow and heat progressively to ensure uniform shrink.

6. Monitor Shrink Behaviour

- Look for smooth, uniform recovery with no wrinkles, cracks, or cold spots.
- Ensure the tubing fully conforms to contours, connectors, and irregular shapes.
- Confirm that adhesive (if applicable) flows correctly and forms a clean seal.

7. Cooling and Post-Shrink Handling

- Allow tubing to cool naturally to stabilise mechanical and electrical performance.
- Avoid bending or stressing tubing immediately after recovery.
- Do not quench or force-cool, which may induce residual stress or deformation.

8. Inspect the Finished Work

- Check for complete recovery around the entire circumference.
- Verify that wall thickness is consistent and the surface finish is smooth.
- Confirm that no gaps, voids, bubbles, or unshrunk areas remain.
- Ensure colour marking is visible, clean, and unobstructed.

9. Environmental Considerations

- Use black tubing where maximum UV stability is required.
- Protect stored tubing from prolonged sunlight and moisture.
- Verify tubing performance where chemical exposure or abrasion is expected.

10. Safety Practices

- Keep heat tools clear of nearby wiring harnesses and combustible materials.
- Wear gloves when handling hot tubing.
- Avoid overheating tubing beyond its maximum rated temperatures.

ENVIRONMENTAL COMPLIANCE

Compliance Area	Status	Standard / Reference
RoHS (Restriction of Hazardous Substances)	Compliant – No restricted heavy metals or prohibited substances	EU Directive 2011/65/EU & 2015/863
REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals)	Compliant – No SVHCs above 0.1%	Regulation (EC) No 1907/2006
Halogen Content	Halogen-free (typical for cross-linked polyolefin)	IEC 61249-2-21
Low Smoke Emissions	Low smoke generation	IEC 61034
Ozone-Depleting Substances	None used in manufacturing	Montreal Protocol

Persistent Organic Pollutants (POPs)	Compliant – No regulated POPs present	EU Regulation 2019/1021
PAHs (Polycyclic Aromatic Hydrocarbons)	Within allowable limits	EU 1272/2013
WEEE (Waste Electrical and Electronic Equipment)	Suitable for use in compliant assemblies	Directive 2012/19/EU
PFOS / PFOA	Not detected	EU 757/2010 & EU 2017/1000
Heavy Metals	Below regulated thresholds	IEC 62321
Cadmium Content	< 0.01%	IEC 62321-5
Lead Content	< 0.1%	IEC 62321-5
Mercury Content	< 0.1%	IEC 62321-4
Hexavalent Chromium	Not detected	IEC 62321-7-1
Brominated Flame Retardants (PBB/PBDE)	Not present	IEC 62321-6

SUSTAINABILITY AND ENVIRONMENTAL IMPACT

- Halogen-Free Material**
 Manufactured from cross-linked polyolefin that contains no halogenated flame retardants, reducing toxic emissions during use and disposal.
- Low-Smoke Characteristics**
 Produces low levels of smoke when exposed to fire, supporting safer use in enclosed electrical environments, transport systems, and public infrastructure.
- Reduced Environmental Hazard**
 Contains no heavy metals, ozone-depleting substances, POPs, or restricted chemicals, minimising long-term environmental impact.
- Chemically Stable Polymer System**
 Resistant to degradation from oils, solvents, and moisture, reducing the release of micro-debris or polymer breakdown products during service life.
- Non-Corrosive Composition**
 Will not corrode metals or react with typical wiring materials, ensuring long-term system reliability without contributing to component deterioration.

- **Efficient Application Process**
Requires only controlled heat for installation—no adhesives, solvents, or curing agents—reducing workplace chemical exposure and energy consumption.
- **Durable, Long Service Life**
High mechanical and electrical stability reduces the need for premature replacement, contributing to lower material consumption over time.
- **Minimal Waste Generation**
Offcuts are small and inert, and the product does not degrade into harmful particulates under normal service conditions.
- **Recycling Considerations**
Due to cross-linking, the material is not recyclable in conventional thermoplastic streams; disposal should follow local regulations for non-hazardous industrial plastics.
- **Packaging Sustainability**
Supplied in recyclable cardboard and plastic packaging where possible. Bulk coil and spool options minimise packaging waste.

SAFETY INFORMATION

- **Non-Hazardous Classification**
CB-HFT-600 heat shrink tubing is considered a non-hazardous article under normal handling and intended use. It does not contain toxic additives, heavy metals, or restricted substances.
- **General Handling**
Handle tubing with clean, dry hands or gloves to prevent contamination of the interior surface. Avoid bending, creasing, or flattening the tubing prior to installation, as deformation may affect recovery performance.
- **Cutting and Preparation Safety**
Use sharp, appropriate cutting tools to reduce slippage and minimise risk of personal injury. Maintain proper cutting technique and secure cables while trimming tubing to the required length.
- **Thermal Safety During Shrinking**
Use only controlled industrial heat guns or calibrated heating devices. Avoid open flames or uncontrolled heat sources. Maintain a safe distance between the heat gun and the tubing to prevent overheating or ignition of adjacent materials.
- **Heat Exposure Precautions**
Do not exceed the recommended heating parameters (typically 100–120°C for full recovery). Excessive temperatures can degrade the polymer and release irritating fumes. Stop shrinking immediately if scorching, blistering, or smoke is observed.
- **Ventilation**
Ensure adequate airflow when applying heat, especially in enclosed switchboards,

pits, electrical rooms, or vehicle interiors. Adequate ventilation minimises the risk of inhaling fumes if material is overheated.

- **Personal Protective Equipment (PPE)**

Wear heat-resistant gloves, safety glasses, and long sleeves when shrinking tubing. Avoid direct skin contact with freshly shrunk material until it has cooled to ambient temperature.

- **Electrical Safety Precautions**

Always isolate electrical circuits before installation. Ensure that no component is energised during positioning or heating. Verify that tubing does not trap moisture around terminations before re-energising equipment.

- **Chemical Safety**

Although chemically resistant, tubing should not be intentionally exposed to aggressive solvents, fuels, or corrosive cleaners before shrinking. If soiled, wipe with isopropyl alcohol (IPA) and allow to dry completely before installation.

- **Fire Safety**

Although flame-retardant (black meets VW-1), the tubing must not be exposed directly to flames or spark-producing equipment. Keep flammable materials clear of the heating process.

- **Mechanical Safety Post-Installation**

Avoid bending, tensioning, or mechanical loading of the tubing immediately after shrink. Allow sufficient time for cooling to achieve full mechanical strength and dimensional stability.

- **Storage Conditions**

Store in a dry, cool, and well-ventilated area away from direct sunlight, heaters, and moisture. Extended exposure to UV light before installation may affect surface appearance, especially in coloured tubing.

- **Shelf Life Considerations**

While highly stable, long-term storage should be in sealed packaging to prevent dust accumulation. Heat shrink performance remains reliable when stored under recommended conditions.

- **Waste Management and Disposal**

Offcuts and used tubing may be disposed of as non-hazardous industrial polymer waste. Product does not contain regulated chemicals, halogens, or heavy metals. Follow local waste regulations for thermoset/cross-linked polymers.

- **Emergency Situations**

In the unlikely event of overheating, remove the heat source immediately. Allow the tubing to cool fully before further handling. If fumes are produced, ventilate the area and avoid inhalation.

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

WARRANTY

MISCO Australia Pty Ltd ("MISCO") warrants that the CB-HFT-600 Heat Shrink Tubing supplied by MISCO will, at the time of delivery, conform to MISCO's published specifications and will be free from defects in material and workmanship under normal use and intended application.

1. Warranty Coverage

This warranty applies solely to the product as delivered by MISCO and covers:

- a) Manufacturing defects;
- b) Material non-conformance; and
- c) Supply errors directly attributable to MISCO.

2. Warranty Exclusions

This warranty does not apply to defects, damage, or failure resulting from:

- a) Improper handling, cutting, storage, or installation;
- b) Use of open flame, excessive heat, or temperatures beyond the stated service range;
- c) Exposure to incompatible chemicals, solvents, or environmental conditions outside the recommended limits;
- d) Normal wear, cosmetic imperfections, or surface markings that do not affect performance;
- e) Misuse, alteration, or modification of the product after delivery; or
- f) Processing, assembly, or installation carried out by third parties.

3. Conditions of Claim

- a) The product must be inspected upon receipt and prior to installation.
- b) Any claim under this warranty must be made in writing within the warranty period and must include supporting evidence, batch details, and proof of purchase.
- c) MISCO reserves the right to inspect, test, or request return of the product to verify the claim.

4. Remedies

If a product is found by MISCO to be defective within the scope of this warranty, MISCO's sole obligation and the customer's exclusive remedy shall be, at MISCO's election:

- a) Replacement of the product; or
- b) Issuance of a credit to the value of the original product purchase.

5. Limitation of Liability

To the fullest extent permitted by law:

- a) MISCO excludes all liability for indirect, incidental, special, or consequential losses, including but not limited to labour, installation, removal, re-work, downtime, or loss of profit;
- b) MISCO's total liability in connection with the supply of the product shall not exceed the purchase price paid for the specific goods giving rise to the claim; and
- c) No other warranties, express or implied (including warranties of merchantability or fitness for purpose), shall apply unless expressly stated in writing by MISCO.

6. Governing Law

This warranty shall be governed by and construed in accordance with the laws of the State of Victoria, Australia. Any disputes shall be subject to the exclusive jurisdiction of the courts of Victoria.

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 – Technical Department	Initial release of Data Sheet for CB-HFT-600 Heat Shrink Tubing	Director, MISCO Australia

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End of Technical Data Sheet.