

Technical Bulletin

TB 0353 – Genics Fire Mesh

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Purpose

This technical bulletin provides construction, safety and general information regarding Genics Fire Mesh pole wrap.

Background

What is FireMesh?

Genics Fire Mesh™ is a fiberglass mesh pole wrap designed to protect wooden utility poles from fire. The mesh is coated with an intumescent coating that when exposed to flames or extreme heat, expands to fill in the mesh lattice. The coating is fire resistant which allows it to act as a protective barrier when activated, preventing naked flame from reaching the pole surface.

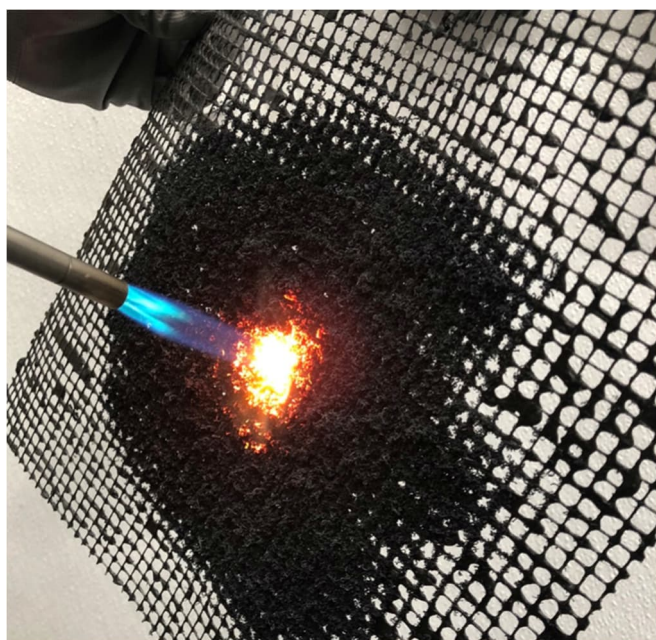


Figure 1 – Fire Mesh wrap activated by flame contact.

Why are we installing FireMesh?

Endeavour Energy uses predominantly timber poles, many of these fall within bushfire prone areas. In past major fire events, approximately 70% of the poles lost during the event were burnt at the ground line and subsequently failed. The application of Fire Mesh to timber poles in areas vulnerable to bushfire impact will

limit the amount of poles lost in a fire event. This will allow us to restore the network faster after a fire event, and better serve our impacted customers.

Technical Trial & Future Rollouts

In 2021 Endeavour Energy conducted a trial Fire Mesh program where 628 timber poles across the network were wrapped. Results from this trial program confirmed that Fire Mesh was effective at protecting wooden poles from groundline fire attack.



Figure 2 - Fire Mesh wrap installed on CCA pole.

Fire Mesh Activation from Trial Sample

In late 2023 a transmission pole wrapped in Fire Mesh on a 132kV feeder (98M) was impacted by a grass fire. Below are images showing the activated Fire Mesh protecting the pole.



Figure 3 – Transmission pole impacted by grass fire.



Figure 4 – Impacted transmission pole after Fire Mesh.

Installation Summary

Fire Mesh is supplied in rolls to be cut to size on-site to suit the pole diameter. 2 wraps are applied from ground level, with the bottom wrap buried 20cm below ground line. The mesh is affixed to the pole using standard Tek screws.

A short video has been created by the Technical Training Centre detailing the steps to apply fire mesh to a pole.

Technical Training Centre video:

[QuickByte - 25 - Installation of Fire Mesh \(youtube.com\)](https://www.youtube.com/watch?v=QuickByte-25-Installation-of-Fire-Mesh)

Appendix A details the general arrangement of Fire Mesh installed on a pole.

Safety

Standard PPE is required for handling, installation or disposal of Fire Mesh as per the below Safe Work Method Statement (SWMS). Installation of Fire Mesh is to be carried out under the following SWMS:

[SWM 6.021am05 Pole Dressing](#)

The Safety Data Sheet (SDS) for Fire Mesh has been added to Chemwatch Gold FFX, and attached to this Technical Bulletin as Appendix B.

OLI/GLI Inspections

Sounding of wooden poles can be carried out through the Fire Mesh. Where pole drilling is required, a small window is to be cut in the Fire Mesh and resecured after using Tek screws.

Disposal of Activated Mesh

Fire Mesh is a single use product. When exposed to a fire the product activates, expanding to protect the pole from the fire. Once activated the mesh requires removal and replacement. The activated mesh is safe to handle and should be disposed of as general waste.

Implementation

Currently Fire Mesh is being installed at sites identified by the Reliability & Resilience team which are then released as projects. At this time no design standards are impacted and Fire Mesh does not have to be installed as part of new designs. Subsequently the product will become a stock item and further proactive programs have been identified for application of Fire Mesh within the network.

Impacted Standards

The standards impacted by this change are

- MCI 0005 – Overhead distribution constructions standards manual

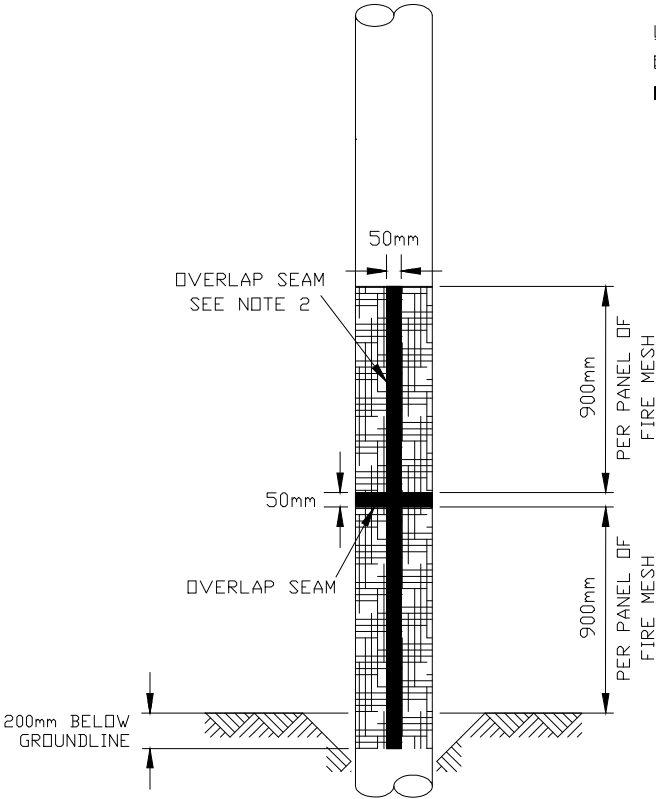
Contacts

For further information contact:

- Mitchel Alker (0436 297 549) – Resilience & Bushfire Engineer
- Anthony Baerwinkel (0400 483 365) – Lead Resilience & Bushfire Engineer

AMENDMENTS		NOTES		ITEM No	DESCRIPTION	SAP MATERIAL CODE
A	ORIGINAL ISSUE			1	GALVANISED HEX-HEAD TEK SCREWS	1000001070
Job No.	N/A			2	FIRE MESH	

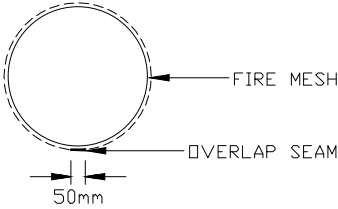
- 1). PERFORM POLE INSPECTION PRIOR TO FIRE MESH INSTALLATION. CLEAR ALL SURFACES OF LOOSE DEBRIS.
- 2). SECURE POLE INFRASTRUCTURE (E.G. PVC CONDUIT, UG CABLE, GUARD) WITH FIRE MESH PRIOR TO INSTALLING POLE CIRCUMFERENCE WRAP.
- 3). CUT THE FIRE MESH AT A LENGTH EQUIVALENT TO THE POLE CIRCUMFERENCE PLUS AN ADDITIONAL 50mm TO ACCOMMODATE FOR AN OVERLAP ON THE SEAM BETWEEN PANELS.
- 4). FIRE MESH TO BE SECURED WITH GALVANISED SCREWS AT INTERVALS OF A MAXIMUM OF 200mm ALONG THE SEAM AND AROUND THE TOP AND BOTTOM OF THE FIRE MESH, ENSURING A TIGHT AND UNIFORM INSTALL. SCREWS TO BE APPROXIMATELY 13mm AWAY FROM THE EDGE OF MESH.
- 5). ENSURE THE OVERLAP OF THE SEAM FROM ONE PANEL OF FIRE MESH TO THE NEXT IS SUCH THAT THE TOP PANEL IS TUCKED INTO THE PANEL BELOW IT.
- 6). ENSURE THE FIRE MESH IS SUFFICIENTLY FASTENED AROUND BASE AND, AT A MINIMUM, 200mm BELOW GROUNDLINE.



LEGEND

FIRE MESH

OVERLAP SEAM



SECTION AA

GENICS - FIRE MESH FOR WOOD POLES
CONSTRUCTION ARRANGEMENT AND
INSTALLATION METHODOLOGY

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ORIGINAL SCALE N.T.S.	APPROVED	REFERENCE DRAWINGS	
DRAWN S.L.		DO NOT SCALE DIMENSIONS IN MILLIMETRES	AUTHORISED
DATE 4-7-2024		DESIGN	Rev.
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SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name GENICS FIRE MESH
Synonyms WFS-03 - PRODUCT CODE

1.2 Uses and uses advised against

Uses FIRE BARRIER • FIRE RETARDANT

1.3 Details of the supplier of the product

Supplier name THE ENERGY NETWORK PTY LTD (TEN GROUP)
Address 65 Wentworth Place, Banyo, Queensland, 4014, AUSTRALIA
Telephone (07) 3212 8999
Fax (07) 3212 8998
Email sales@tengroup.com.au
Website <http://www.tengroup.com.au>

1.4 Emergency telephone numbers

Emergency (07) 3212 8999

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

2.2 GHS Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

2.3 Other hazards

No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
QUARTZ (CRYSTALLINE SILICA)	14808-60-7	238-878-4	<1%
ACRYLIC COPOLYMER	-	-	35 to 56%
WIRE MESH/FIBRE	-	-	30 to 49%
POLYPHOSPHORIC ACIDS, AMMONIUM SALTS	68333-79-9	269-789-9	3 to 21%
SULPHURIC ACID, COMPOUND WITH GRAPHITE	12777-87-6	235-819-4	3 to 21%

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye Exposure is considered unlikely unless solid is cut or damaged and dusts generated. Hold eyelids apart and flush the eye continuously with running water for at least 15 minutes.

Inhalation Exposure is considered unlikely. If inhaled (solid is cut or damaged and dusts generated) remove from contaminated area.

Skin Exposure is considered unlikely unless solid is cut or damaged and dusts generated. Gently flush affected

PRODUCT NAME GENICS FIRE MESH

areas with water. Seek medical attention if irritation develops.

Ingestion

For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). Due to product form and application, ingestion is considered unlikely.

First aid facilities

None allocated.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Water fog. Prevent contamination of drains and waterways.

5.2 Special hazards arising from the substance or mixture

Self extinguishing. Burning or smouldering will cease shortly after the heat source is removed. This product is fire resistant.

5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

5.4 Hazchem code

None allocated.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

6.2 Environmental precautions

Prevent product from entering drains and waterways.

6.3 Methods of cleaning up

Collect and reuse where possible.

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from moisture, incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Large storage areas should have appropriate ventilation systems.

7.3 Specific end uses

No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m ³	ppm	mg/m ³
Quartz (respirable dust)	SWA [AUS]	--	0.05	--	--
Quartz (respirable dust)	WorkSafe VIC	--	0.05	--	--

Biological limits

No biological limit values have been entered for this product.

8.2 Exposure controls

Engineering controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

PPE

Eye / Face	Not required under normal conditions of use.
Hands	Not required under normal conditions of use.
Body	Not required under normal conditions of use.
Respiratory	Not required under normal conditions of use.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	DARK GREY TO BLACK MESH
Odour	ODOURLESS
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	NOT AVAILABLE
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	7.0
Vapour density	NOT AVAILABLE
Specific gravity	NOT AVAILABLE
Solubility (water)	NOT AVAILABLE
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

10. STABILITY AND REACTIVITY

10.1 Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2 Chemical stability

Stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions

Polymerization will not occur.

10.4 Conditions to avoid

Avoid contact with incompatible substances.

10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and hot caustic solutions.

10.6 Hazardous decomposition products

May evolve toxic gases if heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity	Based on available data, the classification criteria are not met.
Skin	Not classified as a skin irritant. Dust or fumes generated during cutting or heating may cause mild irritation.
Eye	Not classified as an eye irritant. Due to the product form, the potential for exposure is reduced, unless cut or heated and dust or fumes generated.
Sensitisation	Not classified as causing skin or respiratory sensitisation.
Mutagenicity	Not classified as a mutagen.
Carcinogenicity	Not classified as a carcinogen.
Reproductive	Not classified as a reproductive toxin.
STOT - single exposure	Exposure considered unlikely. An inhalation hazard is not anticipated unless cut, drilled or sanded with dust generation, which may result in irritation of the nose and throat. If heated, over exposure to fumes may result in irritation of the nose and throat, with nausea and headache.
STOT - repeated exposure	Not classified as causing organ damage from repeated exposure.
Aspiration	Not classified as causing aspiration.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No information provided.

12.2 Persistence and degradability

No information provided.

12.3 Bioaccumulative potential

No information provided.

12.4 Mobility in soil

No information provided.

12.5 Other adverse effects

No information provided.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal	Reuse where possible. No special precautions are normally required when handling this product.
Legislation	Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	None allocated.	None allocated.	None allocated.
14.2 Proper Shipping Name	None allocated.	None allocated.	None allocated.
14.3 Transport hazard class	None allocated.	None allocated.	None allocated.
14.4 Packing Group	None allocated.	None allocated.	None allocated.

14.5 Environmental hazards

Not a Marine Pollutant

14.6 Special precautions for user

Hazchem code None allocated.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Poison schedule	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
Classifications	Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.
Inventory listings	AUSTRALIA: AICS (Australian Inventory of Chemical Substances) All components are listed on AICS, or are exempt.

16. OTHER INFORMATION

Additional information RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m ³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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