

PRODUCT TEST RESULTS SHEET



Product Description: **EmphaCHEM™** 300 denier Polyester woven fabric, with waterproof, breathable, and liquid chemical splash resistant membrane and a nylon tricot knit seam sealable backing. Also available as a coated 2 ply option.

Product Code: 1055CL-YEL **EmphaCHEM™**
JOB NUMBER: 923839



The information contained in this bulletin is believed to be true and correct at the date of issue, however Specialty Group reserves the right to alter this document without prior notice.

TEST	METHOD	UNIT	REQUIREMENT	RESULT
Width:	AS-2001.2.12	mm	> 1450	1450
Mass:	AS-2001.2.13	g/m ²	290 – 345	305
Wing Rip Tear: WARP: WEFT:	AS-2001.2.10	N	> 60 > 55	105 68
Static Waterhead:	AS-2001.2.17	kPa	> 250	250
3 Machine Wash			> 100	150
Moisture Vapour Resistance:	ISO-11092	m ² Pa/W (R _{et})	< 25	20.6
Water Repellancy: (Shower Rating)	AS-2001.2.16	%	100	100
3 Wash-Dry Cycle			100	100
5 Wash-Dry Cycle			90	90

It is recommended that personnel using **EmphaCHEM** be trained in the safe use of this product, as part of the Occupational Health and Safety education compulsory with operators encountering Hazardous Substances, for whom the Personal Protective Equipment is intended to protect.

The suitability of this product for use in any environment representing the potential for chemical encounter by an operator should be established by a trained professional in OH&S or Industrial Hygiene.

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EmphaCHEM fabric offers resistance to penetration through corrosive liquid chemical contact such as acids, alkaline and fuels. The fabric has been tested by Underwriters Laboratories (UL) and fully complies with the requirements of **NFPA 1992-2012 Liquid Splash Protection Levels B & C**

The product is used to make chemical resistant clothing and fully protective sealed suits for use in chemical mixing, mining, agriculture and refuelling applications.

The products benefit is that it can be machine washed and reused and is fully breathable.

This test regime is the International benchmark for Chemical resistance level of performance. Potential users should satisfy themselves that other fabric offers this level of critical worker

protection.

A copy of the complete Test Report is available upon request

The following tests were conducted

1. Chemical Penetration Resistance after flexing and abrasion
2. Burst Strength
3. Cold Temperature Performance
4. Puncture Propagation Tear Resistance

1. Chemical Penetration Resistance after flexing and abrasion

Requirements: No penetration of test liquids shall appear for **at least one hour**. One or more test failures of any specimen against any liquid shall constitute non-compliance of the material.

<u>Chemical</u>	<u>Holdout</u>	<u>Result</u>
Acetone	Min 60 mins	PASS
Toluene	Min 60 mins	PASS
Ethyl Acetate	Min 60 mins	PASS
50% Sodium Hydroxide	Min 60 mins	PASS
93.1% Sulphuric Acid	Min 60 mins	PASS
Dimethyl Formamide	Min 60 mins	PASS
Nitrobenzene	Min 60 mins	PASS

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2. Burst Strength Test

Requirement: Specimens shall have an average burst strength greater than 134N

Average result 1602.15N

3. Cold Temperature Performance Test

Requirement : Specimens shall have an average bending moment of not greater than 0.057 Nm at an angular deflection of 60 degrees and -25C

Average result Warp direction 0.002034
 Weft direction 0.000791

4. Puncture Propagation Tear Resistance Test

Requirement : Specimens shall have an average puncture resistance of not less than 25N in either weave direction

Average Result Warp direction 123.81N
 Weft direction 231.23N

It can be seen that **EmphaCHEM** significantly exceeds the requirements of **NFPA 1992-2012**, thus ensuring optimum wearer protection, subject to suitable garment design, and adherence to fabric maintenance guidelines and work site care in handling.

EmphaCHEM fabric offers limited protection against occasional exposure to droplets or low pressure splashes of specific chemicals. The product is not suitable for application as protection against escaping liquids from pressurized systems or to volatile liquids with a high order of toxicity.

EmphaCHEM is a 'breathable' fabric. This property allows humidity from the wearer's body to escape through the fabric to the outside, without allowing outside water to pass to the inside of the garment. This means improved wearer comfort in comparison to non-breathable garments.

EmphaCHEM

is designed for garment application and field use in areas where comfort in conjunction with limited chemical resistance is required.

As a reflection of this statement, **EmphaCHEM** exhibits the following features:

- High resistance to chemical penetration in compliance to NFPA 1992-2012
- Significantly exceeding Burst strength, Cold temperature performance, and Puncture Propagation tear resistance tests in NFPA 1992-2012
- High performance rainwear, exhibiting optimum waterproof and water-repellant properties.

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- Multi-purpose protective wear, affording limited protection not only against chemical hazards, but also appropriate as foul weather gear.
- Lightweight, with a soft drape (handle) fabric for fabrication into a low-stress work suit.
- Long-life, reusable ensemble fabric.
- Available in High Visibility colours, conforming to Australian and New Zealand Standards.
- Breathable (Moisture Vapour Permeable) to optimize wearer comfort without degrading chemical and water resistance, in the preservation of garment integrity.
- Anti-Static fabric option available for Refueller and Mine worker protection

EmphaCHEM is manufactured from quality materials, to ensure that a quality garment fabric is produced.

EASYCARE / CLEANING INSTRUCTIONS:

To keep this quality fabric in prime condition, and ensure garment life, please follow the following easycare instructions:

- After contact with chemicals and prior to removal by wearer, garment should be sprayed with copious amounts of water to purge chemical excess from the surface of the fabric. Sprays may contain diluted non-biological detergents, but any residual soap should be rinsed from garment prior to removal.
- Garment should only be stowed in a thoroughly dry and clean condition. Chemical residues or storage when wet will lead to damage to the resistance properties of the fabric.
- Wash on wool cycle at 40°C [maximum]. May be dry-cleaned with perchlorethylene systems only.
- Do not abrade fabric when cleaning, avoid persistent rubbing.
- Do not tumble dry.
- Check the fabric regularly and perform regular maintenance to ensure that optimum wearer safety and comfort are preserved. Restoration of the chemical and water repellency of the fabric may be accomplished by ironing. Degradation of this repellency can be established when beading of water fails to develop when wet.

