

**TEST REPORT**  
 Sample as Received

**Client:** Radiator Limited  
 5 Nairn Street  
 FREMANTLE WA 6160  
**Attention:** Bob Lushey  
**Phone:** (08) 9430 9739  
**Fax:** (08) 9430 7138

**Report:** 07/9565

**Date:** 7 December 2007  
**Page:** 1/1  
**Order No:**

**Sample Description:** Wetsuit fabric  
**Colour:** Gold coated inner face

**RMIT Ref. Number:** N1138

**SELECTION OF TESTS AND TEST METHODS AS ADVISED BY CLIENT**

Test Description

Test Method

**Measurement of thermal and water vapour resistance under steady state conditions (sweating guarded – hot plate test)†**

ISO 11092-1993

*Test conditions:*

*Ambient temperature: 20°C*

*Ambient relative humidity: 65%*

*Head temperature: 35°C*

*Guard temperature: 35°C*

Note: These results are the mean of one test on each of 3 specimens.

	<b>Thermal resistance</b>
Black face down	0.017 m <sup>2</sup> K/W
Gold face down	0.015 m <sup>2</sup> K/W

**Determination of thickness, compression & recovery characteristics †**

AS 2111.17-1996 (modified)

Thickness at 2 kPa	1.18 mm
Thickness at 20 kPa	1.02 mm
Compression between 2kPa and 20 kPa	0.16 mm

**Surface frictional properties of fabric †**

AS/NZS 4547.3-2004, (modified)  
**Method 3**

Note: Metallic coated (gold) mounted on the surface of a horizontal plane attached to base of testing machine. Standard Martindale abrasant fabric attached to the sled.

Gold side	Dry	Wet
Length	6.0 N	7.5 N
Width	6.3 N	6.3 N

† These tests were conducted by CSIRO Textile Testing Laboratory, Report 07-0749, dated 05/12/2007

**TEST REPORT**  
 Sample as Received

**Client** Radiator Limited  
 5 Nairn Street  
 FREMANTLE WA 6160

Attention: Bob Lushey  
 Phone: (08) 9430 9739  
 Fax: (08) 9430 7138

**Report:** 07/9566

**Date:** 7 December 2007  
**Page:** 1/1  
**Order No:**

**Sample Description:** Wetsuit fabric  
**Colour:** Silver coated inner face

**RMIT Ref. Number:** N1140

**SELECTION OF TESTS AND TEST METHODS AS ADVISED BY CLIENT**

Test Description

Test Method

**Measurement of thermal and water vapour resistance under Steady state conditions (sweating guarded – hot plate test)†**

ISO 11092-1993

*Test conditions:*

*Ambient temperature: 20°C*

*Ambient relative humidity: 65%*

*Head temperature: 35°C*

*Guard temperature: 35°C*

Note: These results are the mean of one test on each of 3 specimens.

	Thermal resistance
Black face down	0.021 m <sup>2</sup> K/W
Silver face down	0.018 m <sup>2</sup> K/W

**Determination of thickness, compression & recovery characteristics †**

AS 2111.17-1996 (modified)

Thickness at 2 kPa	1.29 mm
Thickness at 20 kPa	1.12 mm
Compression between 2kPa and 20 kPa	0.17 mm

**Surface frictional properties of fabric †**

AS/NZS 4547.3-2004, (modified)  
 Method 3

Note: Metallic coated (gold) mounted on the surface of a horizontal plane attached to base of testing machine. Standard Martindale abradant fabric attached to the sled.

Gold side	Dry	Wet
Length	5.5 N	4.3 N
Width	5.3 N	4.2 N

† These tests were conducted by CSIRO Textile Testing Laboratory, Report 07-0750, dated 05/12/2007

**TEST REPORT**  
 Sample as Received

**Client** Radiator Limited  
 5 Nairn Street  
 FREMANTLE WA 6160  
**Attention:** Bob Lushey  
**Phone:** (08) 9430 9739  
**Fax:** (08) 9430 7138

**Report:** 07/9567

**Date:** 5 December 2006  
**Page:** 1/1  
**Order No:**

**Sample Description:** Wetsuit fabric  
**Colour:** Gold coated inner face

**RMIT Ref. Number:** N1139

**SELECTION OF TESTS AND TEST METHODS AS ADVISED BY CLIENT**

Test Description Test Method

**Determination of Mass per unit area** **AS 2001.2.13-1987**

	Mean mass per unit area
N1139	274 g/m <sup>2</sup>

**Determination of Mass per unit area (wet)** **AS 2001.2.13-1987 (modified)**  
*Modification: Specimens were placed in approximately 3 litres distilled water containing wetting agent for 20 minutes. Specimens were then hung vertically to drain and then weighed at 30 minute intervals.*

Drying time	Mean mass per unit area wet	Moisture content
5 minutes	612 g/m <sup>2</sup>	124 %
30 minutes	574 g/m <sup>2</sup>	110 %
60 minutes	529 g/m <sup>2</sup>	94 %
90 minutes	489 g/m <sup>2</sup>	79 %
120 minutes	449 g/m <sup>2</sup>	64 %

**Determination of stretch & recovery of knitted fabric** **BS 4294-1968 (withdrawn)**  
 Load applied: 6 kgf

	Mean elongation at load	Mean residual extension
Length direction	207 %	+10 %
Width direction	142 %	+ 5 %

**Determination of stretch & recovery of knitted fabric** **BS 4294-1968 (withdrawn) (modified)**  
 Load applied: 6 kgf  
*Modification: 10 cycles of application of 60N load*

	Mean elongation at load	Mean residual extension
Length direction	210 %	+10 %
Width direction	148 %	+ 6 %

**TEST REPORT**  
 Sample as Received

**Client** Radiator Limited  
 5 Nairn Street  
 FREMANTLE WA 6160  
**Attention:** Bob Lushey  
**Phone:** (08) 9430 9739  
**Fax:** (08) 9430 7138

**Report:** 07/9568

**Date:** 5 December 2006  
**Page:** 1/1  
**Order No:**

**Sample Description:** Wetsuit fabric  
**Colour:** Silver coated inner face

**RMIT Ref. Number:** N1141

**SELECTION OF TESTS AND TEST METHODS AS ADVISED BY CLIENT**

Test Description

Test Method

Determination of Mass per unit area

AS 2001.2.13-1987

	Mean mass per unit area
N1141	260 g/m <sup>2</sup>

**Determination of Mass per unit area (wet)**

AS 2001.2.13-1987 (modified)

*Modification: Specimens were placed in approximately 3 litres distilled water containing wetting agent for 20 minutes. Specimens were then hung vertically to drain and then weighed at 30 minute intervals.*

Drying time	Mean mass per unit area wet	Moisture content
5 minutes	593 g/m <sup>2</sup>	128 %
30 minutes	539 g/m <sup>2</sup>	107 %
60 minutes	488 g/m <sup>2</sup>	88 %
90 minutes	446 g/m <sup>2</sup>	72 %
120 minutes	407 g/m <sup>2</sup>	56 %

**Determination of stretch & recovery of knitted fabric**

BS 4294-1968 (withdrawn)

Load applied: 6 kgf

	Mean elongation at load	Mean residual extension
Length direction	187 %	+7 %
Width direction	78 %	+ 3 %

**Determination of stretch & recovery of knitted fabric**

BS 4294-1968 (withdrawn)  
 (modified)

Load applied: 6 kgf

*Modification: 10 cycles of application of 60N load*

	Mean elongation at load	Mean residual extension
Length direction	183 %	+6 %
Width direction	78 %	+ 4 %