



No. 1078788.5

(Please quote this number in all correspondence)

CLIENT:
Pan Products Ltd.
PO Box 396
Dargaville 0340

SAMPLE RECEIVED FROM:
Pan Products Ltd.

Date: 21.1.15

Attn: Nathan Cottle

SAMPLE DESCRIPTION:
One orange/navy fleece jacket, size S.

Client Order No.:

Client Reference:

1/4

NZ FORESTY GUIDELINES FOR HIGH VISIBILITY CLOTHING , NZFOA 2012

2.6 Design

Design of Garment Class FID (Daytime) and FIDN (Day and Night) garments shall comprise of a garment or combination of any desired type or style, which meets the following specifications:

Parameter and Specification		Conformance
Area Front Minimum area of 0.06 m² or 600 cm ² of fluorescent material on the front upper torso, not covered by any naming patches . ie: 20 cm x 30 cm or equivalent, in one or several blocks	Area of orange excluding pocket zip, front zip and collar (in its normal position – 0.23 m²)	Conforms
Area Back Minimum area of 0.06 m² or 600 cm ² of fluorescent material on the front upper torso, not covered by any naming patches. ie: 20 cm x 30 cm or equivalent, in one or several blocks	Area of yellow – 0.25 m²	Conforms
Minimum Block To be counted within the above minimum areas, fluorescent must be a solid block not less than 15 cm ² . (No dimension will be less than 1 cm within the solid block and widths of less than 1 cm are not included)	N/A	N/A
Retro Reflective Tape FIDN only Where reflective tape is applied on top of or covering the fluorescent material, that portion of the fluorescent material so covered shall not be counted towards meeting the minimum 600 cm ² total area requirement. Minimum area of 150 cm ² retro reflective tape on the front . " " " " " " " " " " " " " " back Where reflective tape is applied on top of or covering the fluorescent material, and as a result a block of fluorescent material that otherwise meets the minimum block dimension of 15 cm ² no longer meets that specification, that portion of the fluorescent material that remains uncovered in that block may still be counted towards the 600 cm ² total area requirement.	N/A	N/A
Logos, lettering, symbols The use of fluorescent logos, lettering and symbols under 15 cm ² may be used and are not included in the minimum 600 cm ² .	N/A	N/A



Tests indicated as not accredited are outside the scope of the laboratory's accreditation

"THIS REPORT APPLIES ONLY TO THE SAMPLES TESTED"

Except where the sample is drawn independently by NZWTA Ltd. NZWTA Ltd makes no warranty, implied or otherwise as to the source of the tested sample. The above test results are not certified due to the adoption of modified and/or non-standard procedures designed to provide THE CLIENT WITH GUIDANCE INFORMATION ONLY. Except where precluded by law, no responsibility can be accepted by NZWTA Ltd for any claim which may arise from any person acting on information contained herein.

L A Greer, Testing Manager
Signatory

28/01/2015

New Zealand Wool Testing Authority Ltd

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NZ FORESTY GUIDELINES FOR HIGH VISIBILITY CLOTHING, NZFOA 2012 SECTION 3.

Fluorescent Background Materials as per AS/NZS 1906.4 : 2010

Part 4: High-visibility materials for safety garments.

The colour measurement is not covered by IANZ accreditation

Section 2:- High daytime visibility (Class F) materials.

2.3 (a):- **Fluorescent Colour** (in accordance with appendix A)

Instrumentation used: Minolta Chroma Meter CR-210 (U.V. included)

Geometry: 0°/45° Illuminant: D65 Observer: 2 degrees Port size: 52 mm

NOTE: - It is not possible to calibrate in accordance with CIE 51 as per the Standard's instruction.

Number of layers of test fabric: 1

Backing fabric: Yes. Black – reflectance values from 0.37 to 2.67 (over 400 to 700nm)

Results are the average of three measurements

Sample Condition	Chromaticity Coordinates		Luminance Factor
	x	y	Y
*Dry	0.59	0.37	0.44
*Wet	0.59	0.37	0.40

* - results taken from report no. 13/133R

COMPLIANCE WITH AS/NZS 1906.4:2010, TABLE 2.2 AND FIGURE 2.1

Colour: Falls within the orange-red colour space.

Luminance

	Dry	Wet (tested if wet weather gear)
Luminance	Complies	Complies
Chromaticity Coordinates	Comply	Comply

Minimum luminance factor

	Orange-Red		Yellow	
	Dry	Wet	Dry	Wet
Luminance: -	0.40	0.34	0.70	0.59



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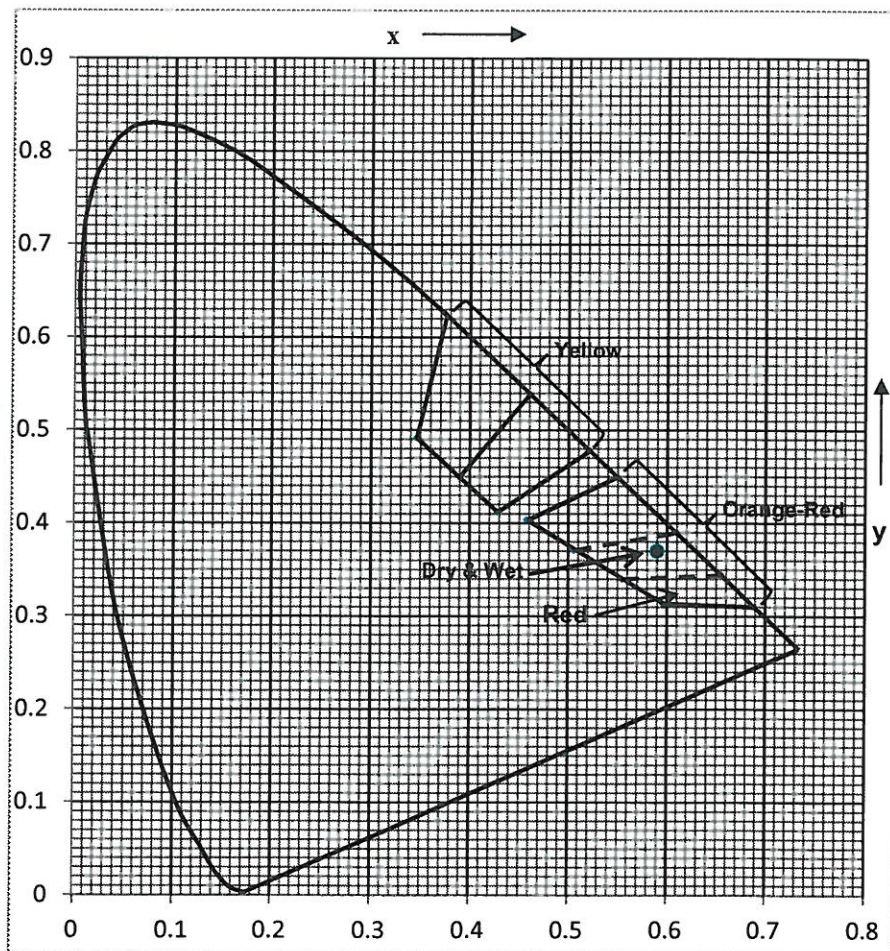
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Note: The specification of the fluorescent luminance factors restricts the use of fluorescent red which, although a part of the total orange red area, must not be used for NZFOA Guideline garments. Additionally fluorescent red will not meet the luminance specified for orange red.



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Verification Report Guidelines 2012

Date: 27/1/2015

Company Name:
Pan Products Ltd.
PO Box 396
Dargaville 0340

Attn.: Nathan Cottle

Garment Description:
Orange/navy fleece jacket, size S.

Test No. 1078788.5



Fabric Colour(s) Tested:
Orange Fleece Fabric

Test Measurements:

	Luminance Factor	Chromaticity Values	
		x	y
Dry	0.44	0.59	0.37
Wet	0.40	0.59	0.37

Verification:

The tested fleece fabric in this garment **meets** the specifications for *Fluorescent Colours (2.1)* and *Luminance Factor (2.2)* as set out in the *NZ Forestry Guidelines for High Visibility Clothing 2012*.

This verification report refers to the *NZ Forestry Guidelines for High Visibility Clothing 2012*, which should be read in conjunction with this report. The New Zealand Wool Testing Authority (NZWTA) accepts no liability for any injury or loss of damaged caused by or attributed to the use of this verification report. Further, the NZWTA disclaims all warranties (expressed or implied) that the subject of this report is suitable for a particular purpose, application, or use.

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