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LAB N° 0033 L

Test Report 20RA12593

of 04/12/2020

Messrs
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ADANA - TR

Samples and identifications

Sample 20LA20683

Receipt date: **14/10/2020**

Sample receiving date: **05/10/2020**

Description

Description: **Protective coverall item TP64 manufactured in nonwoven fabric**

Color: **White**

Composition: **100% polypropylene + polyethylene film**

Mass per unit area:**60** g/m^2

Sampling carried out by: **customer**

Sample 20LA20683/01

Sample 20LA20683 - Permeation by liquids on nonwoven fabric - H2SO4 30%

Sample 20LA20683/02

Sample 20LA20683 - Permeation by liquids on nonwoven fabric - NaOH 10%

Sample 20LA20683/03

Sample 20LA20683 - Permeation by liquids on taped seams - H2SO4 30%

Sample 20LA20683/04

Sample 20LA20683 - Permeation by liquids on taped seams - NaOH 10%

Sample 20LA20683/05

Sample 20LA20683 - Taped seams

This Test Report consists of the following results

70605 Protective clothing. Penetration by spray
70503 Protective clothing. Permeation by liquids
70340 Protective clothing. Seam tensile properties. Grab method

Results contained in this report refer only to tested manufacts.
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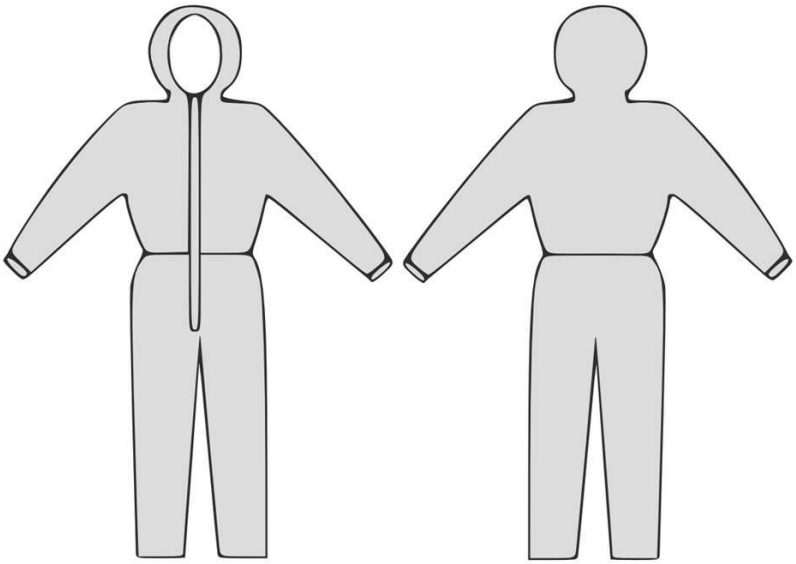
Protective clothing. Penetration by spray

Product standard	UNI EN 14605:2009
Test method	UNI EN ISO 17491-4:2008 + UNI EN 14605:2009 Par. 4.3.4
Test method	Method B
Test equipment	Turn-table and system of hydraulic nozzles with angle spray at 75°
Test liquid	Aqueous solution with dye water-soluble, with surface tension of (30±5)x10§U-3§ N/m
Undergarment	white with hood (Nowoven fabric)
Spray pressure	3 bar
Flow	(1.14 ± 0.10) l/min
Type of hydraulic nozzle	hollow-cone
Preliminary test	Execution sequence of movements (7 step)
Stain sample	1 cm²
maximum area of stains	3 x 1 cm²
Size	L
Height of wearer	173 cm
Chest of wearer	91 cm
Additional protective accessories	latex gloves, mask, waterproof overalls, face shield

Test began on: **05/11/2020** Test ended on: **05/11/2020**

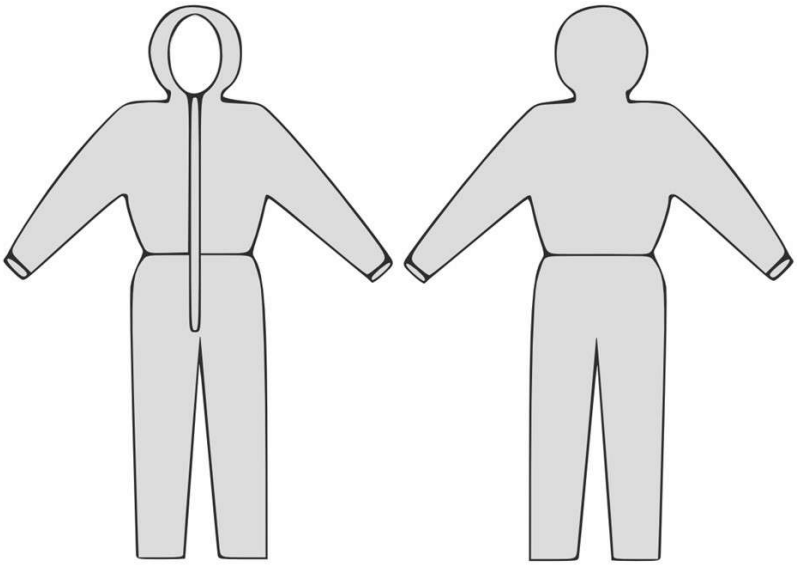
Results for sample	20LA20683	*	UM	result

Test 1



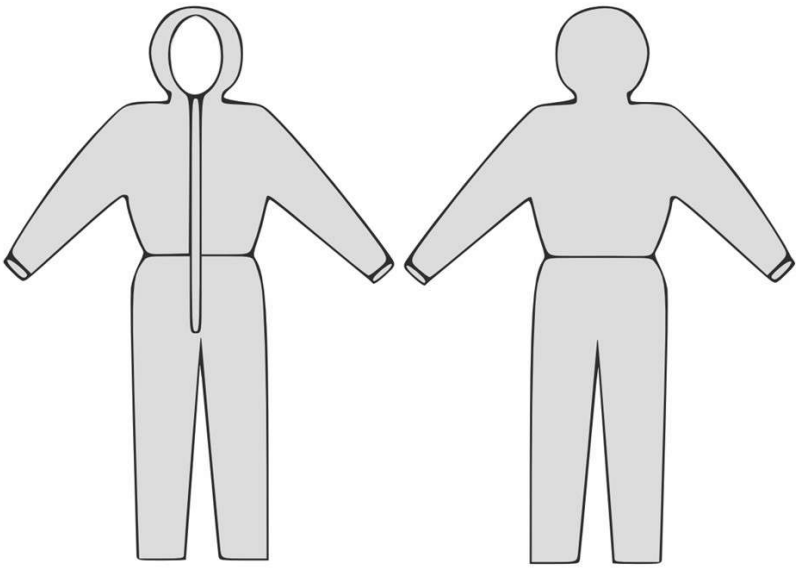
Total number of points penetration		**0**
Total area of penetration	cm²	**0**

Test 2



Total number of points penetration		**0**
Total area of penetration	cm²	**0**

Test 3



Total number of points penetration		**0**
Total area of penetration	cm²	**0**

Protective clothing. Permeation by liquids

Product standard	UNI EN 14605:2009
Test method	UNI EN ISO 6529:2003 + UNI EN 14325:2005 Par. 4.11 + UNI EN 14605:2009 Par. 4.2
Method	Method A
Test temperature	(20 ± 1)°C
Test duration	8 h
Storage medium	Deionized water - 10 mL / min
System Configuration	Open loop
Analytical technique	Conductimetry
Minimum detectable permeation rate	0.03 µg/(min x cm2)
Normalized permeation rate	1.0 µg/(min x cm2)

Test began on: **02/12/2020** Test ended on: **03/12/2020**

Results for sample **20LA20683/01** ***** **UM** **result**

Sample 20LA20683 - Permeation by liquids on nonwoven fabric - H2SO4 30%

Results table

Acido solforico 30% / Sulphuric acid 30% **H2SO4 30%** **Tessuto nontessuto/ Nonwoven fabric**	Provino 1 *Specimen 1*	Provino 2 *Specimen 2*	Provino 3 *Specimen 3*	**Media** ***Average***
Massa areica (g/m^2) *Mass per unit area (g/m^2)*	62,2	60,0	59,8	60,7
Spessore (mm) *Thickness (mm)*	0,20	0,20	0,20	0,20
Tempo di rilevazione dell'attraversamento (min) *Breakthrough detection time (min)*	1	1	1	1
Tempo di rilevazione dell'attraversamento normalizzato (min) ***Normalized breakthrough detection time (min)***	**50**	**39**	**57**	**49**
Tempo di rilevazione dell'attraversamento massimo (min) *Maximum breakthrough detection time (min)*	480	480	480	480
Tasso di permeazione massimo (µg/(min x cm^2)) *Maximum permeation rate (µg/(min x cm^2))*	132,92	156,76	107,05	132,24
Condizioni del campione dopo contatto con il liquido di prova *Sample conditions following contact with the test chemical*	No changes in appearance			

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Results for sample **20LA20683/02** ***** **UM** **result**

Sample 20LA20683 - Permeation by liquids on nonwoven fabric - NaOH 10%

Results table

Idrossido di sodio 10% / Sodium hydroxide 10% NaOH 10% **Tessuto nontessuto/ Nonwoven fabric**	Provino 1 *Specimen 1*	Provino 2 *Specimen 2*	Provino 3 *Specimen 3*	**Media** ***Average***
Massa areica (g/m^2) *Mass per unit area (g/m^2)*	62,2	60,0	59,8	60,7
Spessore (mm) *Thickness (mm)*	0,20	0,20	0,20	0,20
Tempo di rilevazione dell'attraversamento (min) *Breakthrough detection time (min)*	> 480	> 480	> 480	> 480
Tempo di rilevazione dell'attraversamento normalizzato (min) ***Normalized breakthrough detection time (min)***	**> 480**	**> 480**	**> 480**	**> 480**
Tempo di rilevazione dell'attraversamento massimo (min) *Maximum breakthrough detection time (min)*	> 480	> 480	> 480	> 480
Tasso di permeazione massimo (µg/(min x cm^2)) *Maximum permeation rate (µg/(min x cm^2))*	< 0,03	< 0,03	< 0,03	< 0,03
Condizioni del campione dopo contatto con il liquido di prova *Sample conditions following contact with the test chemical*	No changes in appearance			

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Results for sample **20LA20683/03** ***** **UM** **result**

Sample 20LA20683 - Permeation by liquids on taped seams - H2SO4 30%

Results table

Acido solforico 30% / Sulphuric acid 30% **H2SO4 30%** **Cuciture nastrate / Taped seams**	Provino 1 *Specimen 1*	Provino 2 *Specimen 2*	Provino 3 *Specimen 3*	**Media** ***Average***
Massa areica (g/m^2) *Mass per unit area (g/m^2)*	62,2	60,0	59,8	60,7
Spessore (mm) *Thickness (mm)*	0,96	1,14	1,20	1,10
Tempo di rilevazione dell'attraversamento (min) *Breakthrough detection time (min)*	1	1	1	1
Tempo di rilevazione dell'attraversamento normalizzato (min) ***Normalized breakthrough detection time (min)***	**42**	**57**	**70**	**56**
Tempo di rilevazione dell'attraversamento massimo (min) *Maximum breakthrough detection time (min)*	480	480	480	480
Tasso di permeazione massimo (µg/(min x cm^2)) *Maximum permeation rate (µg/(min x cm^2))*	43,89	30,92	59,08	44,63
Condizioni del campione dopo contatto con il liquido di prova *Sample conditions following contact with the test chemical*	No changes in appearance			

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Results for sample **20LA20683/04** ***** **UM** **result**

Sample 20LA20683 - Permeation by liquids on taped seams - NaOH 10%

Results table

Idrossido di sodio 10% / Sodium hydroxide 10% **NaOH 10%** **Cuciture nastrate / Taped seams**	Provino 1 *Specimen 1*	Provino 2 *Specimen 2*	Provino 3 *Specimen 3*	**Media** ***Average***
Massa areica (g/m^2) *Mass per unit area (g/m^2)*	62,2	60,0	59,8	60,7
Spessore (mm) *Thickness (mm)*	0,96	1,14	1,20	1,10
Tempo di rilevazione dell'attraversamento (min) *Breakthrough detection time (min)*	> 480	14	13	-
Tempo di rilevazione dell'attraversamento normalizzato (min) ***Normalized breakthrough detection time (min)***	**> 480**	**> 480**	**204**	**-**
Tempo di rilevazione dell'attraversamento massimo (min) *Maximum breakthrough detection time (min)*	> 480	480	480	-
Tasso di permeazione massimo (µg/(min x cm^2)) *Maximum permeation rate (µg/(min x cm^2))*	< 0,03	0,65	1,16	-
Condizioni del campione dopo contatto con il liquido di prova *Sample conditions following contact with the test chemical*	No changes in appearance			

Protective clothing. Seam tensile properties. Grab method

Product standard	UNI EN 14605:2009
Test method	UNI EN ISO 13935-2:2014 + UNI EN 14325:2005 Par. 5.5 + UNI EN 14605:2009 Par. 4.2
Standard atmosphere in normal conditioning	(20±2)°C - (65±4)%R.H.
Rate of extension	(50 ± 10) mm/min
Length test	(100 ± 1) mm
Specimens dimensions	(100x350) mm
Seams ready done	yes
Number of measured specimens	3
Number of discarded specimens	0

Test began on: **02/11/2020** Test ended on: **02/11/2020**

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Results for sample 20LA20683/05	UM	result
Sample 20LA20683 - Taped seams		
Maximum force		
1st specimen	N	**77.5 c**
2nd specimen	N	**146 b**
3rd specimen	N	**87.2 c**
Average	N	**100**

a= fabric tear
b= fabric tear at the jaws
c= fabric tear at the seam
d= breakage of sewing threads
e= thread pull-out
f= any combination of these

(*): no accredited by Accredia

Sampling carried out by customer: results refer to the sample as received; data and information indicated in the description field are given by customer for which it will be responsible

Issue date
04/12/2020

PPE Laboratory Manager
dott.ssa Valeria Marangoni

End of Test Report **20RA12593**