

Ecully, 14 avril 2000

Our own ref : LD/AO

Your letter of :

Ref :



**DUDLEY DUNCAN**

**DOUBLE 'D' KNITTING & GLOVE INC**  
22500 JAMESON DRIVE  
CALABASAS, CALIFORNIA 91302-5852  
U.S.A.

## TEST REPORT N° 1006

Sample supplied on 16/03/2000 parcel 7008

Purpose of the request : General requirement according to EN 420,  
Mechanical test according to EN 388.  
on protective glove.

Deputy Manager

**Jacques POULENARD**

Responsible for the test

**Lionel DUCLAUX**

The copy of this report is permitted only under the complete version.  
It includes 13 pages and 3 annexe(s).

\*The COFRAC agreement is available only for the test methods covered by the accreditation.

On the assumption that a test report is written in a foreign language, only the document written in french shall be deemed authentic.

GENERAL CONDITIONS : ART 1 -Any testing or study inquiry should be formulated in written form. Any inquiry should clearly mention requester identity and address, the number, nature, designation and references of submitted samples, scope of work required. ART 2 -Inquiries are classed in receipt order and works are to be carried out in that order. In an emergency and only in this particular instance a work having been given priority over the others may be carried out. In that case, INSTITUT TEXTILE DE FRANCE will put a surcharge on the normal price deemed to be known and accepted by the requester. ART 3 -Reports and comments only are valid for samples which were submitted to the INSTITUT TEXTILE DE FRANCE : A control sample with the seal of INSTITUT TEXTILE DE FRANCE attached to the report could be delivered to the requester. ART 4 -INSTITUT TEXTILE DE FRANCE may not be accountable for the different interpretations of reports and comments that could be made. On the other hand the use of the name INSTITUT TEXTILE DE FRANCE is subordinated to the prior and written agreement of INSTITUT TEXTILE DE FRANCE's regional direction concerned. Art 5 -The unused part of the samples is kept for a minimum three month period, starting from the date of the report, to the exception of materials or products liable to alteration. Art 6 -Works are to be paid net, in full without any discount.

DIRECTION RÉGIONALE **LYON**

AVENUE GUY DE COLLONGUE - BP 60 - 69132 ÉCULLY CEDEX  
TÉL. (33) 04 72 86 16 00 - TÉLÉCOPIE (33) 04 78 43 39 66

SIRET 775 722 416 00085 - APE 731 Z  
CENTRE TECHNIQUE INDUSTRIEL (LOI DU 22 JUILLET 1948 - ARRÊTÉ DU 4 MAI 1950)

**PROTECTIVE GLOVES AGAINST MECHANICAL RISKS**

NF EN 388

COFRAC Pr 123

Ref. of the glove MAX PRO DD 7

For Sizing- WF 2X400)

*Abrasion resistance*

	<u>Number of cycles</u>	<u>Level</u>
Abrasion tester type Martindale	100	1
4 test specimen taken from 4 gloves of the same glove series	500	2
Abradant : Abrasive paper EAC 117 glass grade F2 GRIT 100	2000	3
Pressure : 9 kPa	8000	4

Classification is made by the lowest value

Number of cycles				Level
2000	1500	2500	3000	2

*Blade cut resistance*

2 test specimen taken from the palm area of 2 gloves of the same glove series	Index $\geq 20$ : level 5
5 tests on each test specimen	Index $\geq 10$ : level 4
Load : 5 N	Index $\geq 5$ : level 3
Maxi cutting speed : about 10 cm/s	Index $\geq 2,5$ : level 2
	Index $\geq 1,2$ : level 1

**RESULTS**

Test 1	Test 2	Test 3	Test 4	Test 5	Average	Level
47,6	54,3	40,2			47,4	5

Test can't be done according EN 388 – Level 5 according to expert opinion

*Tear resistance*

	<u>Resistance in N</u>	<u>Level</u>
4 test specimen taken from 4 gloves of the same glove series		
2 in the direction fo the glove from cuff to finger tips	10	1
2 perpendicularly	25	2
The tear resistance is taken as the highest peak recorded	50	3
Classification is determined by taking the lowest value	75	4

## Resistance in N

	Resistance in N		Level
	Lengthwise	Widthwise	
External layer	*500,3	*428,5	4
* break of a tongue		446,0	483,5

*Puncture resistance*

	<u>Resistance in N</u>	<u>Level</u>
4 circular test specimen with a diameter of 40 mm taken from 4 gloves of the same glove series		
Speed 100 mm/min	20	1
	60	2
Classification is determined by the lowest value	100	3
	150	4

Resistance in N				Level
55,7	52,0	43,7	59,8	1

- **Performance levels obtained** are as follows :

- General requirements, comfort and efficiency : EN 420 :

. General requirements :	pH :	pass
. Comfort and efficiency :	Sizes :	<b>6, 7, 8, 9, 10*</b>
	Dexterity :	level 3
	Water vapour permeability :	X

\* *Sizes according the opinion of an expert.*

- Mechanical tests : EN 388 :

. Abrasion resistance :	level 2
. Cut resistance:	level 5
. Tear resistance :	level 4
. Puncture resistance :	level 1

- **EC Marking** is made on a label sewn into the overedge color and is as follows :

DOUBLE "D" Knitting & GLOVE INC.  
MAX PRO  
**CE**  
6(XS) or 7(S) or 8(M) or 9(L) or 10 (XL)

- The compliance with the essential requirements as listed in Appendix II of the directive 89/686, subsection 1.1 - 1.2 - 1.3 - 1.4 - 2.2 - 3.3 was controlled by using the following harmonised standards :

- . EN 420 for general requirements
- . EN 388 for protection against mechanical risks

All alteration of the product has to be the subject of a revision, recorded in the life document enclosed in annex.

Date 2000 April the 19<sup>th</sup>

Manager of I T F - DR Lyon



INSTITUT TEXTILE  
DE FRANCE

Michelle JARRIGEON

BP 60 69132 ECULLY CEDEX

Tél. (33) 04 72 86 16 00 Fax. (33) 04 78 43 39 66

**N.B. :** Any modification brought to a brandnew material which is the purpose of the present EC Type Examination Certificate should be brought to the knowledge of the entitled organisation in pursuance of the section R 233-62 of the Labour and Social Welfare laws.



# PROTECTIVE GLOVES AGAINST MECHANICAL RISKS

NF EN 388

COFRAC Pr 123

Ref. of the glove MAX PRO DD 7

For Sizing- WF 2X400)

## Abrasion resistance

	<u>Number of cycles</u>	<u>Level</u>
Abrasion tester type Martindale	100	1
4 test specimen taken from 4 gloves of the same glove series	500	2
Abradant : Abrasive paper EAC 117 glass grade F2 GRIT 100	2000	3
Pressure : 9 kPa	8000	4

Classification is made by the lowest value

Number of cycles				Level
2000	1500	2500	3000	2

## Blade cut resistance

2 test specimen taken from the palm area of 2 gloves of the same glove series	Index $\geq 20$ : level 5
5 tests on each test specimen	Index $\geq 10$ : level 4
Load : 5 N	Index $\geq 5$ : level 3
Maxi cutting speed : about 10 cm/s	Index $\geq 2,5$ : level 2
	Index $\geq 1,2$ : level 1

## RESULTS

Test 1	Test 2	Test 3	Test 4	Test 5	Average	Level
47,6	54,3	40,2			47,4	5

Test can't be done according EN 388 – Level 5 according to expert opinion

## Tear resistance

	<u>Resistance in N</u>	<u>Level</u>
4 test specimen taken from 4 gloves of the same glove series	10	1
. 2 in the direction fo the glove from cuff to finger tips	25	2
. 2 perpendicularly	50	3
The tear resistance is taken as the highest peak recorded	75	4
Classification is determined by taking the lowest value		

## Resistance in N

	Lengthwise		Widthwise		Level
External layer	*500,3	*428,5	446,0	483,5	4
* break of a tongue					

## Puncture resistance

	<u>Resistance in N</u>	<u>Level</u>
4 circular test specimen with a diameter of 40 mm taken from 4 gloves of the same glove series	20	1
Speed 100 mm/min	60	2
Classification is determined by the lowest value	100	3
	150	4

Resistance in N				Level
55,7	52,0	43,7	59,8	1