



OSVĚDČENÍ o:

UDĚLENÍ HOMOLOGACE
ROZŠÍŘENÍ HOMOLOGACE
ODEJMUTÍ HOMOLOGACE
UKONČENÍ VÝROBY

COMMUNICATION concerning:

APPROVAL GRANTED
APPROVAL EXTENDED
APPROVAL WITHDRAWN
PRODUCTION DEFINITELY DISCONTINUED

**typu vybavení LPG podle Předpisu č. 67.01
of a type of LPG equipment pursuant to Regulation No. 67.01**

Homologace č.:
Approval No.: **67 R – 01 4449**

Rozšíření č.: –
Extension No.: **N/A**

**1. Uvažované vybavení LPG:
LPG equipment considered:**

Nádrž / Container

Příslušenství připojené k nádrži / Accessories fitted to the container:

80% uzavírací ventil / 80 per cent stop valve

stavežnak / level indicator

přetlakový ventil (odpoušt. ventil) / pressure relief valve (discharge valve)

přetlakové zařízení / pressure relief device

**Dálkově řízený provozní ventil s přepadovým ventilem
remotely controlled service valve with excess flow valve**

s/bez palivového čerpadla LPG / with/without LPG fuel pump

víceúčelový ventil, zahrnující následující příslušenství
multivalve, including the following accessories

plynotěsná skříňka / gas-tight housing

elektrická průchodka (čerpadlo/ovladače)
power supply bushing (pump/actuators)

Palivové čerpadlo / Fuel pump

Odpařovač/regulátor tlaku / Vaporizer/pressure regulator

Uzavírací ventil / Shut-off valve

Zpětný ventil / Non-return valve

Přetlakový ventil plynového potrubí / Gas-tube pressure relief valve

Servisní spojka / Service coupling

Ohebná hadice / Flexible hose

Vnější plnicí jednotka / Remote-filling unit

Zařízení pro vstřík plynů nebo vstříkovač / Gas injection device or injector

Palivová lišta / Fuel rail

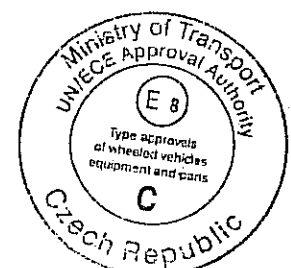
Dávkovací jednotka plynů / Gas dosage unit

Směšovač plynů / Gas mixing piece

Elektronická řídicí jednotka / Electronic control unit

Tlakový/teplotní snímač / Pressure/temperature sensor

Filtrační jednotka LPG / LPG filter unit



2. Obchodní název nebo značka:
Trade name or mark: **OMB**
- Typ: **B3**
Type:
3. Název a adresa výrobce:
Manufacturer's name and address: **OMB Saleri S.p.a**
Via Rose di Sotto 38/C
25126 Brescia (BS), Italy
4. Název a adresa zástupce výrobce:
If applicable, name and address
of manufacturer's representative: **Claudio Scarsetto**
Beranových 130
199 05 Praha 9, Czech Republic
5. Předloženo k homologaci dne:
Submitted for approval on: **30 June 2006**
6. Homologační zkušebna:
Technical service responsible
for conducting approval tests: **E8/C: TÜV UVMV s.r.o.**
Novodvorská 994/138
142 21 Praha 4
Czech Republic
7. Datum protokolu, vydaného touto zkušebnou:
Date of report issued by that service: **16 October 2006**
8. Číslo protokolu, vydaného touto zkušebnou:
Number of report issued by that service: **12827 – 06 – TÜV UVMV**

9. **HOMOLOGACE UDĚLENA / ODMÍTNUTA / ROZŠÍŘENA / ODEJMUTA**
APPROVAL IS GRANTED / REFUSED / EXTENDED / WITHDRAWN

10. Důvod(y) pro rozšíření homologace:
Reason(s) for extension: **-**
N/A

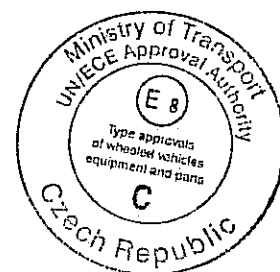
11. Místo:
Place: **Praha**

12. Datum:
Date: **18 October 2006**

13. Podpis:
Signature:



Tomáš Vít



14. Homologační dokumentace je uložena u homologačního orgánu a lze ji obdržet na vyžádání.
The information package lodged with the approval authority may be obtained on request.



67R-014449

TÜV UVMV s.r.o.
ECE/UN Technical Service No. E8/C

UVMV

Technical Report No.: 12827 – 06 – TÜV UVMV
 ECE Regulation No.: 67.01
 Manufacturer: OMB Saleri S.p.a, Via Rose di Sotto 38/C
 25126 Brescia (BS), Italy
 Type: Remotely controlled service valve with excess flow valve, type: B3

1/2

protis_ECE_04.v07

06_12827.doc

TECHNICAL REPORT
No. 12827 – 06 – TÜV UVMV

Test according to ECE Regulation No. 67.01

Uniform provisions concerning:

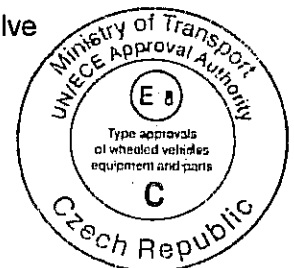
- I. Approval of specific equipment of motor vehicles using liquefied petroleum gases in their propulsion system
- II. Approval of a vehicle fitted with specific equipment for the use of liquefied petroleum gases in its propulsion system with regard to the installation of such equipment

ECE No. 67.00 of
 1 June 1987
 including all amendments up to and including
 ECE No. 67.01, Supplement 4 of
 4 April 2005

Objectives: Document for issue of approval

I. **Technical data**

0.1. Make (trade name of manufacturer): OMB
 0.2. Type: B3
 0.2. 1. Commercial name: N/A
 0.3. Means of identification of type: Indicated on the body
 0.3.1. Location of that marking: On the body of service valve
 0.4. Class of component: 3
 0.5. Name and address of manufacturer: OMB Saleri S.p.a
 Via Rose di Sotto 38/C
 25126 Brescia (BS), Italy
 0.8 Address of assembly plant: Not applicable
 0.9. Location of the approval mark: On the body of the service valve

TÜV UVMV s.r.o.
TÜV SÜD GroupPhone: +420 239 046 911
Fax: +420 239 046 915Novodvorská 994/138
142 21 Praha 4
Czech RepublicTesting laboratory No. 1107
accredited by ČIA
according to the ISO/IEC 17025Id.No. 63993040
VAT Id.No. CZ63993040

www.tuv-sud.cz



UVMV

Technical Report No. : 12827 – 06 – TÜV UVMV
ECE Regulation No. : 67.01
Manufacturer : OMB Saleri S.p.a, Via Rose di Sotto 38/C
25126 Brescia (BS), Italy
Type : Remotely controlled service valve with excess flow valve, type: B3
2/2

II. Test report

The approval tests of submitted samples were conducting in collaboration with Aeronautical Research and Test Institute in Prague. The technical data and the test results are indicated in enclosure of this Technical Report.

III. Manufacturer's information folder Application for approval
15 pages total of 30 June 2006

IV. Enclosures

Test report No. D28050/06 5 pages

Test equipment, facilities and test site meet the requirements of the applicable legislation.

This report must never be reproduced incomplete without a written agreement of the testing laboratory (exemption is the use of testing results in approval documentation).

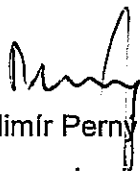
V. Final confirmation

The described sample

complies

with the requirements of ECE Regulation No. 67.01
for
issue of approval

The technical report consists of pages No. 1 to 2
and of 5 pages of enclosures.

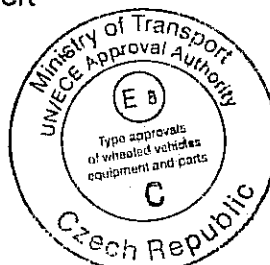

Vladimír Perný

Officially recognized expert


Vít Dvořák

Head of Group of experts

Prague, 16 October 2006



Order: D28050/06	ECE Regulation 67.01
Test Report No.: D28050/06	Page: 1/5

Test Report

REMOTELY CONTROLLED SERVICE VALVE WITH EXCESS FLOW VALVE

(Annex 3 - para. 4.)

Mark: OMB SALERI
Type: B3
Manufacturer: OMB SALERI SpA
 Via Rose di Sotto 38/C
 25126 Brescia (BS)
 Italy
Samples: 3 - No.: 1,2,3
Date of the tests: 15.08.2006 - 15.09.2006

Classification of component: Class 3
Classification pressure: 3000 kPa
Design temperatures: - 20°C to + 65°C

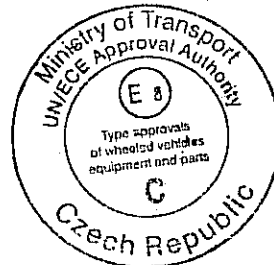
General design rules:

Para. 6.15.2.	It must have the electrical system isolated from the body. Isolation resistance shall be >10 MΩ.	N/A
Para. 6.15.2.2.	It shall comply with insulation class IP 54 (IEC 529).	N/A
Para. 6.15.3.1.	The valve shall be in „closed“ position when its power is switched off.	yes
Odst. 6.15.13.2.1	The excess flow valve shall be mounted inside the container.	yes
Odst. 6.15.13.2.2	The excess flow valve shall be designed with a bypass to allow for equalization of pressures.	yes


Applicable test procedures according to Annex 15, para.:

4. Over pressure test under hydraulic conditions	yes
5. External leakage test	yes
6. High temperature test	yes
7. Low temperature test	yes
8. Seat leakage test	yes
9. Endurance test	yes
10. Operational test	yes
11. LPG compatibility test for synthetic materials	yes
12. Corrosion resistance	yes
13. Resistance to dry-heat	yes
14. Ozone ageing	yes
15. Creep	yes
16. Temperature cycle test	N/A

Note: N/A = not applicable



N/A
 N/A

Date: 15.09.2006	Worked up by: Dlouhý	Signature: 
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Order:	D28050/06	ECE Regulation 67.01
Test Report No.:	D28050/06	Page: 2/5

Annex 15, para. 4: Over pressure test under hydraulic conditions

Test pressure 6750 kPa during 1 minute

	Requirement	Samples			
		1	2	3	
Rupture	no	no	no	no	
Permanent distortion	no	no	no	no	

Annex 15, para. 5: External leakage test

Test pressure 0 to 6750 kPa during 1 minute

	Temperature	Requirement	Samples			
			1	2	3	
External leakage	+ 20°C	< 15 cm ³ /h	0 cm ³ /h	0 cm ³ /h	0 cm ³ /h	
	- 20°C	< 15 cm ³ /h	0 cm ³ /h	0 cm ³ /h	0 cm ³ /h	
	+ 65°C	< 15 cm ³ /h	0 cm ³ /h	0 cm ³ /h	0 cm ³ /h	

Annex 15, para. 6: High temperature test

Test pressure 6750 kPa during 1 minute by + 65°C (8 hours of tempering)

	Requirement	Samples			
		1	2	3	
Leakage	≤ 15 cm ³ /h	0 cm ³ /h	0 cm ³ /h	0 cm ³ /h	

Annex 15, para. 7: Low temperature test

Test pressure 6750 kPa during 1 minute by - 20°C (8 hours of tempering)

	Requirement	Samples			
		1	2	3	
Leakage	≤ 15 cm ³ /h	0 cm ³ /h	0 cm ³ /h	0 cm ³ /h	

Annex 15, para. 8: Seat leakage test

Test pressure 0 to 3000 kPa during 1 minute

	Requirement	Samples			
		1	2	3	
Leakage	0 cm ³ /h	0 cm ³ /h	0 cm ³ /h	0 cm ³ /h	

Annex 15, para. 9: Endurance test

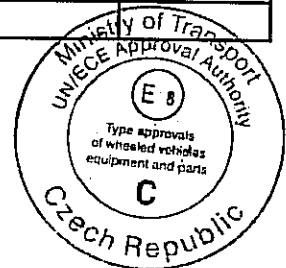
6000 cycles of valve opening and closing - Samples No.: 3

Test pressure: 3000 kPa

Temperature: + 20°C

Rate: 10 cycles/minute


Testing medium: n-hexan



External leakage test (Annex 15, para. 5) after Endurance test

Test pressure 0 to 6750 kPa during 1 minute

	Temperature	Requirement	Samples			
			3			
External leakage	+ 20°C	< 15 cm ³ /h	0 cm ³ /h			
	- 20°C	< 15 cm ³ /h	0 cm ³ /h			
	+ 120°C	< 15 cm ³ /h	0 cm ³ /h			

Date: 15.09.2006	Worked up by: Dlouhý	Signature: 
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Order:	D28050/06	ECE Regulation 67.01
Test Report No.:	D28050/06	Page: 3/5

Seat leakage test (Annex 15, para. 8) after Endurance test
Test pressure 0 to 3000 kPa during 1 minute

		Samples			
	Requirement	3			
Leakage	0 cm ³ /h	0 cm ³ /h			

Annex 15, para. 10.2.: Operational test

Samples No.: 1,2,3

Closing flow capacity specified by the manufacturer: 5000 cm³/min

Testing medium: water

Temperature: + 18°C

		Samples		
	Requirement	1	2	3
Closing flow capacity	≤ 8000 cm ³ /min	5200 cm ³ /min	5240 cm ³ /min	5280 cm ³ /min
Permitted variation of closing flow capacity	≤ + 10 %	+4,0 %	+4,8 %	+5,6 %
	≥ - 20 %			
Required pressure difference before closing	≤ 90 kPa	53 kPa	58 kPa	55 kPa
Flow through the by-pass at a differential pressure of 700 kPa at the cut-off position	≤ 500 cm ³ /min	180 cm ³ /min	210 cm ³ /min	180 cm ³ /min

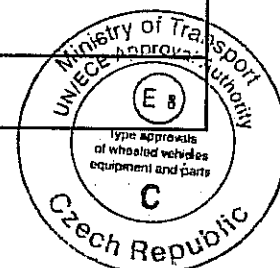
Annex 15, para. 11: LPG compatibility test for synthetic materials

Samples:

1 - O-ring Ø 12,42 x 1,78 - position 7

Seat sealing Ø 7,2 x 2,2 – position 11

		Samples	
	Requirement	1	2
Maximum change in volume	20 %	4,07 %	0,68%
Change of mass after air tempering	≥ - 5 %	0,05 %	-0,01 %



Annex 15, para. 12: Corrosion resistance


Salt spray (144 hours) according to ISO 9227 - Sample No.: 1

Immersion in Ammonia (24 hours) according to ISO 6957 - Sample No.: 2

Over pressure hydrostatic test (Annex 15, para. 4) after Corrosion resistance test

Test pressure 6750 kPa during 1 minute

		Samples	
	Requirement	1	2
Rupture	no	no	no
Permanent distortion	no	no	no

Date: 15.09.2006	Worked up by: Dlouhý	Signature: 
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External leakage test (Annex 15, para. 5) after Corrosion resistance test
 Test pressure 0 to 6750 kPa during 1 minute

		Samples		
		Requirement	1	2
External leakage	+ 20°C	< 15 cm ³ /h	0 cm ³ /h	0 cm ³ /h
	- 20°C	< 15 cm ³ /h	0 cm ³ /h	0 cm ³ /h
	+ 65°C	< 15 cm ³ /h	0 cm ³ /h	0 cm ³ /h

High temperature test (Annex 15, para. 6) after Corrosion resistance test
 Test pressure 6750 kPa during 1 minute by + 65°C (8 hours of tempering)

		Samples		
		Requirement	1	2
Leakage		≤ 15 cm ³ /h	0 cm ³ /h	0 cm ³ /h

Low temperature test (Annex 15, para. 7) after Corrosion resistance test
 Test pressure 6750 kPa during 1 minute by - 20°C (8 hours of tempering)

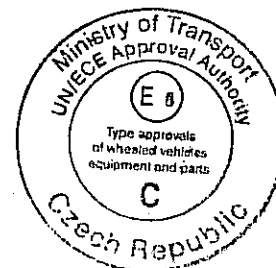
		Samples		
		Requirement	1	2
Leakage		≤ 15 cm ³ /h	0 cm ³ /h	0 cm ³ /h


Annex 15, para. 13: Resistance to dry-heat

Samples:

1 - O-ring Ø 12,42 x 1,78 - position 7

		Samples		
		Requirement	1	2
Allowable change in tensile strength		≤ + 25 %	+21 %	
Allowable change in ultimate elongation		≤ + 10 % ≥ - 30 %	+3 %	



Date: 15.09.2006	Worked up by: Dlouhý	Signature: 
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Order:	D28050/06	ECE Regulation 67.01
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Annex 15, para. 14: Ozone ageing

Samples:

1 - O-ring Ø 12,42 x 1,78 – position 7

		Samples	
	Requirement	1	
Cracking of test piece	no	no	

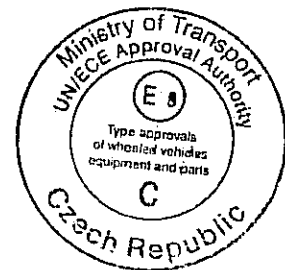
Presented results are only applicable to samples, which have been tested.
 This test report shall not be reproduced except in full without a written approval
 of the Departmental Test-room 1401 testing laboratory.

The tests results and examinations according to ECE Regulation No. 67.01 were handed
 over to the Motor Vehicle Research Institute, Ltd, CZ 180 68 Praha 9, Lihovarská 12.
 This Institute has authorised the Departmental Test-room 1401 of Aeronautical Research
 and Test Institute to carry out approval tests under the Contract of Agreement.



.....
 Dipl. Ing. Karel Sejk
 Head of Departmental Test-room 1401

Prague, 15 September 2006



Date: 15.09.2006	Worked up by: Dlouhý	Signature:
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E8

67R-014449

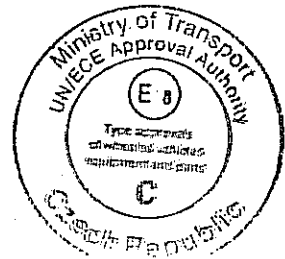
	<p>OMB SALERI SpA Via Rose di Sotto 38/C, 25126 Brescia (BS) Italy TEL: +39/030-3195801 FAX: +39/030-3732872 E-MAIL: info@omb-saleri.it VAT/P.IVA: IT01538780170, Reg. soc. Trib. BS 171913, CCIAA 243222 Capitale Sociale 1.500.000. € i.v.</p>	  
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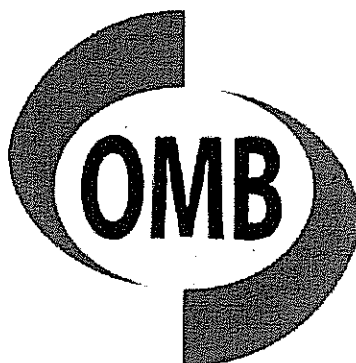
Brescia, 30/06/2006
Our reference: OM06E112

APPLICATION FOR APPROVAL OF THE REMOTELY CONTROLLED SERVICE VALVE WITH EXCESS FLOW VALVE, FOR AUTOMOTIVE LPG SYSTEMS TYPE B3, PURSUANT TO THE REGULATION N. 67 REVISION 1.

NAME OF THE COMPANY: OMB Saleri S.p.a
DATE OF APPLICATION: 30/06/2006
COMPANY'S REPRESENTATIVES:
NAME: SANTULLI RENATO
FUNCTION: R&D MANAGER

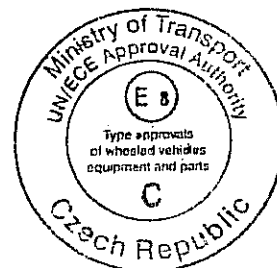
SIGNATURE: *Renato Santulli*





OMB SALERI S.p.A
Via Rose di Sotto 38/C
25126 BRESCIA - ITALY
P.C. e C.F. 01538780170

***REMOTELY CONTROLLED
SERVICE VALVE WITH
EXCESS FLOW VALVE FOR
AUTOMOTIVE LPG
SYSTEMS
Type B3***



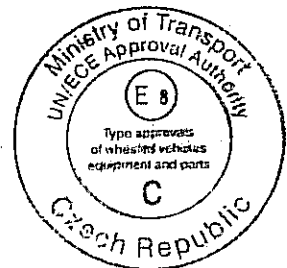
Our Reference: OM06E112
 Brescia 30/06/06

TECHNICAL DATA SHEET

**REMOTELY CONTROLLED SERVICE VALVE WITH EXCESS FLOW VALVE
 TYPE B3 FOR AUTOMOTIVE LPG SYSTEMS**

SUMMARY

1. INTRODUCTION	2
2. CLASSIFICATION OF THE SOLENOID VALVES	2
3. SERVICE VALVE WITH EXCESS FLOW VALVE	2



1. Introduction

The remotely controlled service valve with excess flow valve called **OMB Saleri** type B3 is intended to be fitted on LPG containers for automotive application.

The valve is pursuant to ECE-ONU R.67-01 Regulation, and it carries out the following functions:

- to allow the establishment and interruption of LPG supply to the evaporator/pressure regulator, the valve is controlled by the electronic control unit.
- to limit the flow of LPG by an excess flow valve.

Versions

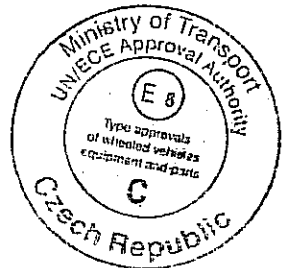
The type B3 service valve should be provided with different coils electric connection, coils colours and with coils marked with different customers logo inscription.

In chapter 2 it is reported the classification of the device R.67-01 Regulation.

In chapter 3 it is reported the description of the service valve functioning.





2. Classification of the service valve

Functioning features	
Component classification	classe 3
Pressure classification	3000 kPa
Working temperature	-20°C ÷ +120°C



3. Service valve with excess flow valve

Referring to drawing 66004050-SK the service valve TYPE B3 is composed of a coil (3) which, when activated by a direct current, raises the piston valve conical (8) and the pipe stopper gasket (11) which is connected to the piston, the piston valve then rises also the floating piston valve (12) and the Pipe stopper gasket (13). When the pipe stopper gasket (11) and (13) raise, they allow the fuel to flow towards the solenoid valve output.

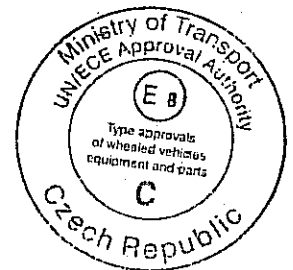
	<p>OMB SALERI SpA Via Rose di Sotto 38/C 25126 Brescia (BS) Italy TEL.: 030-3195801 FAX: 030-3732872 E-MAIL: info@nb-saleri.it VAT/P.IVA: IT01538780170, Reg. soc. Trib. BS 17913, CCIAA 243222 Capitale Sociale 1.100.000. €i.v.</p>	   
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The service valve B3 is “usually closed” and it is activated by the electronic fuel management device only when the engine uses LPG.

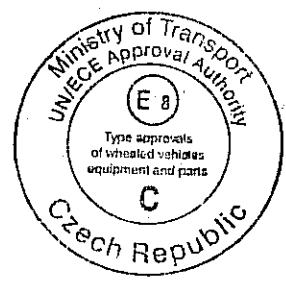
The service valve is closed in the following cases:

- When the vehicle uses gasoline
- When the engine, using LPG, stops
- In case of a car accident, if the vehicle uses LPG

Referring to drawing 66004050-SK the excess flow valve is composed of a spring (15) and a cut off plate (16) with calibrated holes so that the LPG in transit can achieve a maximum flow of 5 l/min at a pressure difference over the valve of 90KPa. When these values are overachieved, the cut off plate (16) wins the strength of the spring (15) and shuts fuel delivery. When the excess flow valve is at cut-off position, the valve allows a maximum flow of 0.5l/min at a differential pressure of 700Kpa.

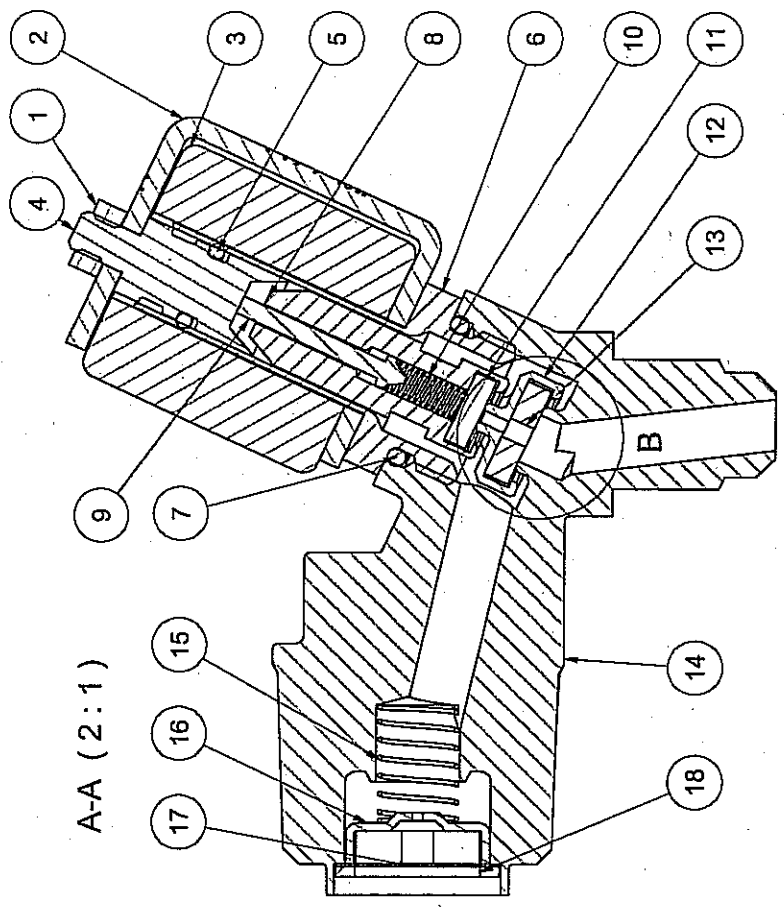
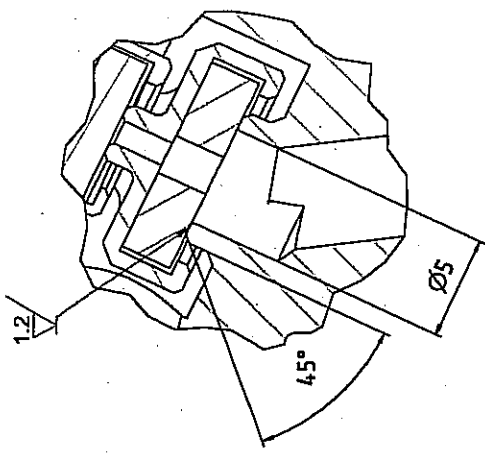


Elenco parti				
POS	DESCRIZIONE	QTA	MATERIALE	CODICE
1	NUT M4x0.7 UNI 5588-65-6S	1	11SMnPb30	660.62.004
2	Coil Armature Zinc. Plate	1	P01 AM	660.06.119
3	Coil 12V 11W connector AMP/DELPHI	1	COMPOSITO	660.06.061
4	Magnetic stop conical	1	9SMnPb36	660.06.019
5	OR 6X1.5	1	FLUOROELAS TOMERO	660.06.013
6	Central body M15x1.25	1	CW614N	660.06.015
7	OR 12.42X1.78	1	FLUOROELAS TOMERO	660.06.012
8	Piston valve conical	1	9SMnPb36	660.06.025
9	Pin for spring	1	CW614N	660.06.024
10	Spring	1	ALSI 302	660.06.017
11	Pipe stopper gasket 7.2x2.2	1	Viton 75 Sh. A	660.06.022
12	Floating piston valve	1	CW614N	660.06.021
13	Pipe stopper gasket 10x2x2.5	1	VITON 75 Sh.A	660.06.020
14	Valve body seat 5	1	CW617N	660.01.009
15	Excess flow spring	1	ALSI 302	660.06.082
16	Excess flow cut off plate	1	CW506L	660.06.083
17	Excess flow filter	1	Acciaio inox	660.06.105
18	Washer 12x15.8x1	1	CW617N	660.06.084

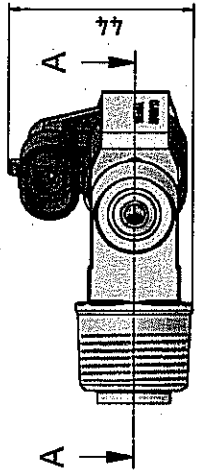
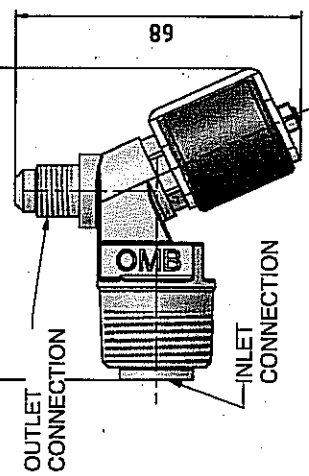


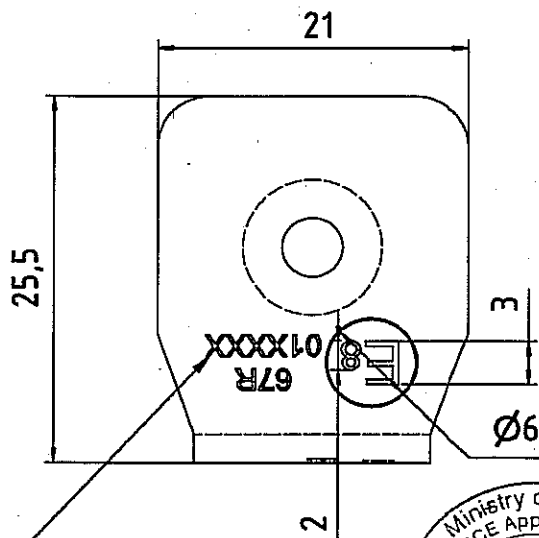
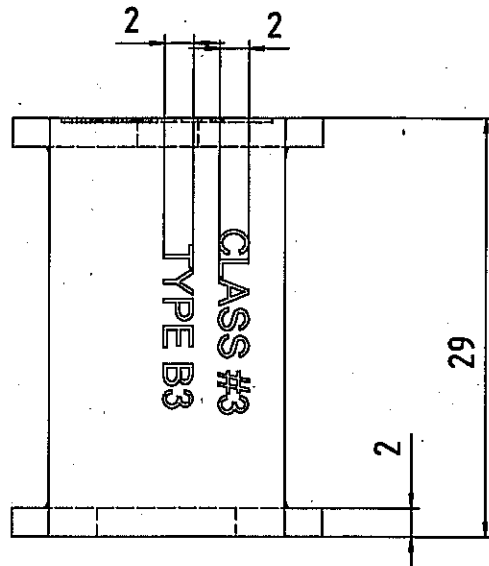
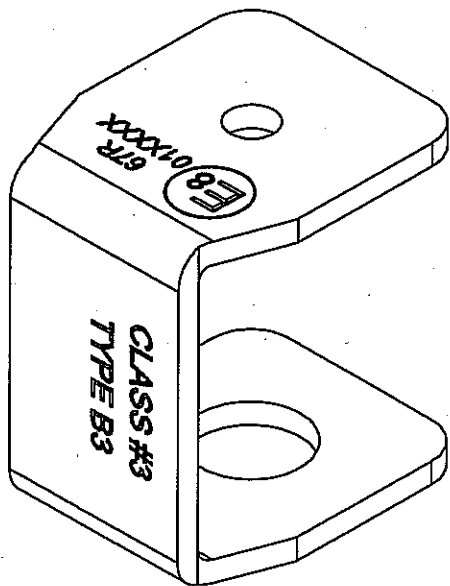
TOLLERANZE GENERALI UNI EN 22768 cl. IT		CODICE PRIMA DEL TRATTAMENTO	
DESCRIZIONE MODIFICA		DATA	DATA
NON INTERPRETARE I DISegni SE ANVERE DUBBI CHIEDETE	FORMATO FOLIO A3	SCALA 4:5	21/06/06
DENOMINAZIONE		MATERIALE	
Elettrovalvola serbatoio, maggiorata, inclinata, attacco bombola 3/4-14 NPT, uscita 1/2-20 UNF		R.S.	
GRUPPO		Cut off GPL MAGIX	
CODICE DISEGNO		660.04.050-SK	

B (4:1)

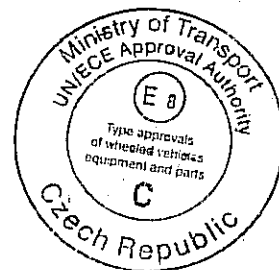


A-A (2:1)





Omologation Number

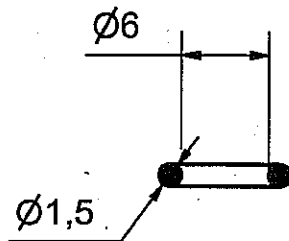


	CRITICO MODIFICA							TOLLERANZE GENERALI UNI EN 22768 cl. m	
								CODICE PRIMA DEL TRATTAMENTO	
	SECONDARIO IMPORTANTE RIPRODUZIONE E/O DIFFUSIONE VIETATA A TERMINI DI LEGGE	N°	DESCRIZIONE MODIFICA		DATA	FIRMA	VISTO	TRATTAMENTO	MASSA
		NON INTERPRETATE I DISEGNI SE AVETE DUBBI CHIEDETE	FORMATO FOGLIO RICAVATO DA:	A4	SCALA 2:1	DATA 22/06/06	DISEGN. B.N.	CONTR. R.S.	Zinc. Plate
		DENOMINAZIONE Coil Armature						MATERIALE P01 AM	
		GRUPPO SERVICE VALVE GPL						CODICE DISEGNO 660.06.019-SK	

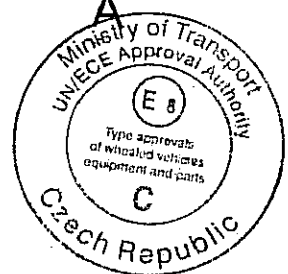
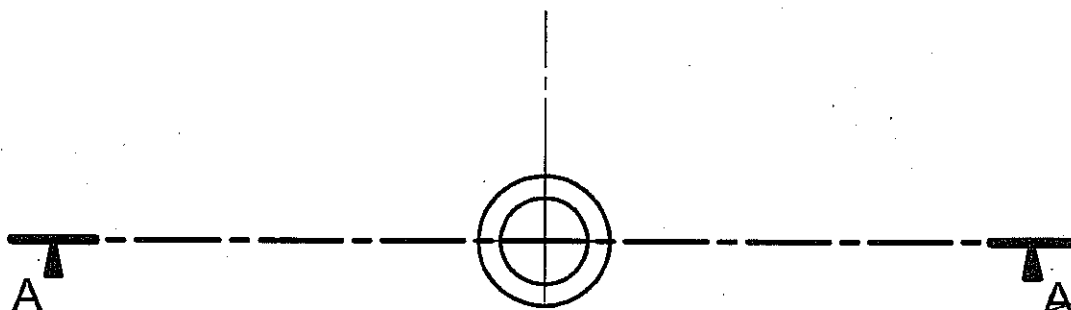


IL PRODOTTO FINITO DEVE ESSERE CONFORME ALLA SPECIFICA INTERNA MATERIALE:

COLORE PREFERENZIALE:MARRONE



A-A (2:1)



Tolleranze sulla dimensione della corda						
Diametro della sezione (mm)	1,80	2,65	3,55	5,30		
Tolleranza (mm)	±0,08	±0,09	±0,1	±0,13		
Tolleranze sulla dimensione del diametro interno						
Diametro interno (mm)	1,8 a 6,3	6,7 a 11,2	11,8 a 21,2	22,4 a 40,0	41,2 a 80,0	82,5 a 160
Tolleranza (mm)	± 0.13 mm	± 0.16 mm	± 0.19 mm	± 0.95% ± 0.86% ± 0.78%		
del corrispettivo diametro interno						

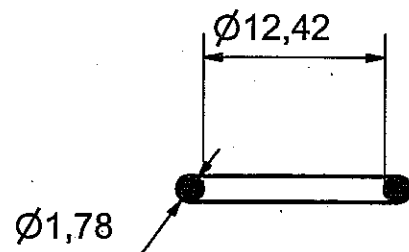
CRITICO	MODIFICA	2	RIFATTO GRAFICO RDM06-101		12/05/06	F.M.	R.S.	TOLLERANZE GENERALI UNI EN 22768 cl. m	
		N°	DESCRIZIONE MODIFICA		DATA	FIRMA	VISTO	CODICE PRIMA DEL TRATTAMENTO	
SECONDARIO/IMPORTANTE	RIPRODUZIONE E/O DIFFUSIONE VIETATA A TERMINI DI LEGGE	NON INTERPRETATE I DISEGNI SE AVETE DUBBI CHIEDETE		FORMATO FOGLIO: A4	SCALA: 2:1	DATA: 02/02/06	DISEGN. CONTR. R.S.	TRATTAMENTO	MASSA: 0 kg
		RICAVATO DA:		DENOMINAZIONE: OR 6X1.5		MATERIALE: FLUOROELASTOMERO		VITON 9754-80 sh A	
SECONDARIO/IMPORTANTE	RIPRODUZIONE E/O DIFFUSIONE VIETATA A TERMINI DI LEGGE	OMB S.p.A. BRESCIA ITALY		GRUPPO: Cut off GPL		CODICE DISEGNO: 660.06.013			



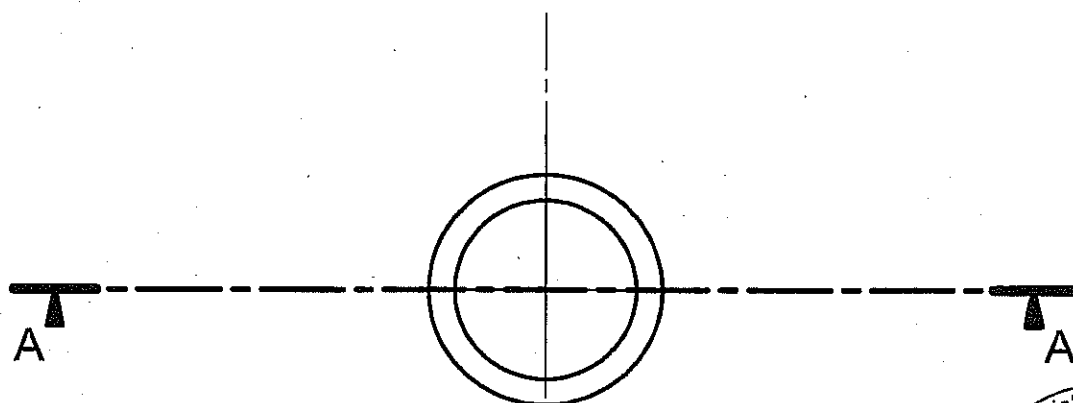


IL PRODOTTO FINITO DEVE ESSERE CONFORME ALLA SPECIFICA INTERNA MATERIALE:

COLORE PREFERENZIALE:MARRONE



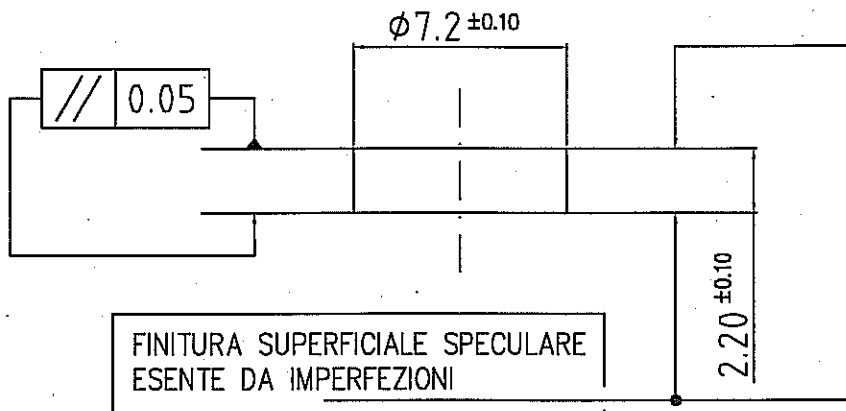
A-A (2:1)



Tolleranze sulla dimensione della corda						
Diametro della sezione (mm)	1,80	2,65	3,55	5,30		
Tolleranza (mm)	±0,08	±0,09	±0,1	±0,13		
Tolleranze sulla dimensione del diametro interno						
Diametro interno (mm)	1,8 a 6,3	6,7 a 11,2	11,8 a 21,2	22,4 a 40,0	41,2 a 80,0	82,5 a 160
Tolleranza (mm)	± 0.13 mm	± 0.16 mm	± 0.19 mm	± 0.95%	± 0.86%	± 0.78%
del corrispettivo diametro interno						

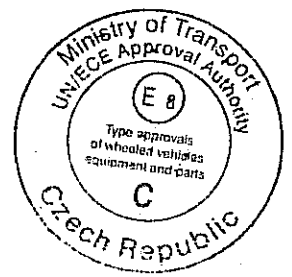
	CRITICO MODIFICA	2	RIFATTO GRAFICO RDM06-101		12/05/06	F.M.	R.S.	TOLLERANZE GENERALI UNI EN 22768 cl. M	
		DESCRIZIONE MODIFICA		DATA		FIRMA	VISTO	CODICE PRIMA DEL TRATTAMENTO	
	SECONDARIO RIPRODUZIONE E/O DIFFUSIONE VIETATA A TERMINI DI LEGGE	NON INTERPRETATE I DISEGNI SE AVETE DUBBI CHIEDETE		FORMATO FOGLIO RICEVATO DA: A4	SCALA 2:1	DATA 02/02/06	DISEGN. R.S.	CONTR. -	TRATTAMENTO MASSA 0 kg
				DENOMINAZIONE OR 12.42X1.78			MATERIALE FLUOROELASTOMERO VITON 9754-80 sh A		
		GRUPPO Cut off GPL			CODICE DISEGNO 660.06.012				



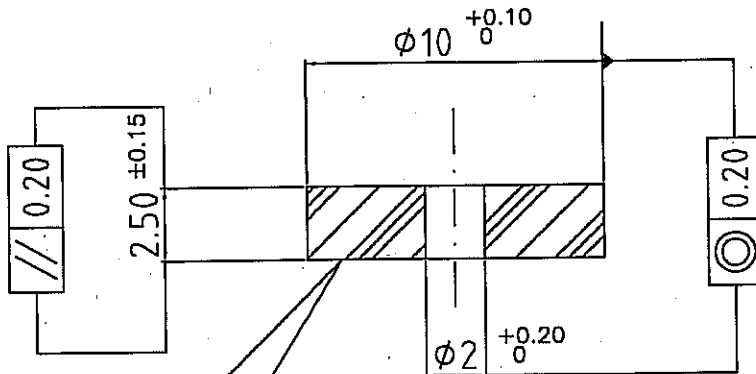


FINITURA SUPERFICIALE SPECULARE
ESENTE DA IMPERFEZIONI

Materiale : Fluoroelastomero Viton 75 Sh. A
Busak+Shamban 9775 colore NERO

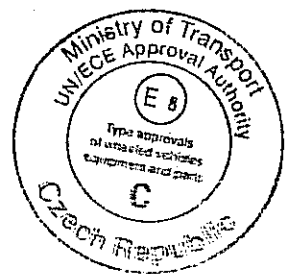


RIPRODUZIONE E/O DIFFUSIONE VIETATA A TERMINI DI LEGGE	MODIFICA						FORMATO DISEGNO	A4
	N°	DESCRIZIONE MODIFICA			DATA	FIRMA	VISTO	TOLLERANZE GENERALI UNI EN 22768 cl. m
	1	XX			XX	XX		
	NON INTERPRETATE I DISEGNI SE AVETE DUBBI CHIEDETE	RICAVATO DA: x	SCALA 2:1	DATA 090106	DISEGN. RS	CONTR.	TRATTAMENTO	PESO XXgr
		DENOMINAZIONE DISCO DI TENUTA Diam. 7.2x2.2					MATERIALE vedi nota	
		GRUPPO CUT-OFF GPL					CODICE DISEGNO 660.06.022	



FINITURA SUPERFICIALE SPECULARE
ESENTE DA IMPERFEZIONI

Materiale : Fluoroelastomero Viton 75 Sh. A
Busak+Shamban 9775 colore NERO



RIPRODUZIONE E/O DIFFUSIONE VIETATA A TERMINI DI LEGGE	MODIFICA	3						FORMATO DISEGNO	A4	
		2						TOLLERANZE GENERALI	UNI EN 22768 cl. m	
		1	XX		XX	XX				
	N°	DESCRIZIONE MODIFICA			DATA	FIRMA	VISTO	TRATTAMENTO	PESO	
		NON INTERPRETATE I DISEGNI SE AVETE DUBBI CHIEDETE	RICAVATO DA:	SCALA	DATA	DISEGN.	CONTR.		XXqr	
			x	2:1	090106	RS		MATERIALE	vedi nota	
			DENOMINAZIONE				CODICE DISEGNO			
			DISCO DI TENUTA				660.06.020			
		Diam. 10x2x2.5								
		GRUPPO								
		CUT-OFF GPL								

Busak Shamban

Busak+Shamban S.p.A.

SCHEDA MATERIALE

DATA SHEET

Data

Date

02/01/03

Rev.:

MATERIALE

Material

FKM 9754-S

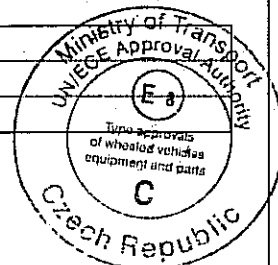
Materiale a base di elastomero fluorurato. / *The material is a fluorocarbon elastomer based compound.*

Temperature di servizio - 20° ÷ 200°C dipende dalle condizioni di servizio e dal fluido operativo.

*Service temperature range - 20° ÷ 200°C which is dependant upon medium to be sealed and conditions of service.*Colore rosso-marrone / *Red-brownish colour*

PROPRIETÀ FISICHE <i>Physical Properties</i>	UNITÀ <i>Units</i>	NORMATIVA <i>Test Method</i>	SPECIFICHE <i>Specifications</i>
DUREZZA <i>Hardness</i>	ShA	ASTM D2240 / 86	77 ÷ 83
PESO SPECIFICO <i>Specific Gravity</i>	g/cm ³	ASTM D1817 / 81	2.20 ± 0.02
CARICO A ROTTURA <i>Tensile Strength</i>	MPa	ASTM D412 C / 87	> 10
ALLUNGAMENTO A ROTTURA <i>Elongation at break</i>	%	ASTM D412 C / 87	> 150
C. SET 22 h a 200 °C	%	ASTM D395 B / 89	< 15

INVECCHIAMENTO IN <i>Aged in</i>	TEMPO <i>Time</i> h	TEMP. <i>Temp.</i> °C	DUREZZA <i>Hardness</i> ShA	CARICO <i>Tensile</i> %	ALLUNGAMENTO <i>Elongation</i> %	VOLUME <i>Volume</i> %
ARIA <i>Air</i>	70	250	0 ÷ + 10	0 ÷ - 25	0 ÷ - 25	
ASTM FUEL C	70	23	0 ÷ - 25	0 ÷ - 20	- 5 ÷ + 5	0 ÷ + 10



Le informazioni presenti sono basate sulle nostre conoscenze tecniche. La Busak+Shamban S.p.A non garantisce l' idoneità del materiale per qualsiasi applicazione. Il cliente dovrebbe effettuare le proprie verifiche per accertarsi della validità del materiale nelle specifiche condizioni operative.

The information herein is accurate to the extent of our current technical knowledge. Busak+Shamban S.p.A. makes no warranty that the material is suitable for all applications. Customers should undertake their own tests to ensure suitability for particular conditions of operation.

Rev.:	IT/EN	Date/Date
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<u>CLAUSES</u>	<u>UNITS</u>	<u>SPECIFICATION</u>
<u>Physical Properties :</u>		
Hardness	IRHD	75 +5/-4
Tensile Strength	N/mm ²	10.0 min.
Elongation @ Break	%	150 min.
<u>Compression Set :</u>		
22 hrs @ 200°C	%	20.0 max.
<u>Air Ageing :</u>		
70 hrs @ 250°C		
Hardness Change	IRHD	+/-5 max.
Tensile Change	%	-25 max.
Elongation Change	%	-25 max.
<u>Fluid Resistance : Fuel C</u>		
70 hrs @ 23°C		
Hardness Change	IRHD	- 5 max.
Volume Change	%	+10 max.
<u>Fluid Resistance : FAM 'A' Fuel</u>		
70 hrs @ 60°C		
Hardness Change	IRHD	-15 max.
Volume Change	%	+20 max.
<u>Fluid Resistance : FAM 'B' Fuel</u>		
70 hrs @ 60°C		
Hardness Change	IRHD	-25 max.
Volume Change	%	+35 max.
<u>Low Temperature Retraction :</u>		
TR 10	°C	-14 or colder

NOTE : 1) All tests were carried out on 2mm test sheets, except for compression set (buttons).

2) All tests carried out to ASTM procedure.

