



ATTESTATION

ITA n° 40.99.3138/a

Ref. R3318/GG

The undersigned G.GRASSELLI, Surveyor of Bureau Veritas Italia at Rome Inspection Center, acting within the scope of the general conditions of the Industrial Branch of Bureau Veritas and upon request *

of Messrs, **I.M.M. S.r.l.**

Order R7137 dtd. 26.08.99

certify

that attended from 22.09.99 to 27.09.99 at I.M.M. s.r.l. workshop zona industriale est 66043, Casoli (CH) Italy the under mentioned bursting tests

IMM HYDRAULIC HOSE FITTINGS

Ferrule p/n	Technical sheet	Rev	Insert p/n	Technical sheet	Rev
0022-04	0022	0	0185-04-18	0185	0
0022-05	0022	0	0185-05-18	0185	0
0022-06	0022	0	0185-06-18	0185	0
0022-08	0022	0	0185-08-22	0185	0
0022-10	0022	0	0085-10-26	0085	0
0022-12	0022	0	0084-12-36	0084	0
0022-16	0022	0	0084-16-42	0084	0
0011-20	0011	0	0050-20-20	0050	0
0011-24	0011	0	0050-24-24	0050	0
0011-32	0011	0	0050-32-32	0050	0

Hose fittings material type : 9SMnPb36 UNI 4338

in accordance to :

- IMM internal procedure N° 01SPE rev.0 for Hoses and fitting assembling
- DIN 20024 February 1987 only for Bursting Tests paragr. 6.3.3



DETAIL OF TESTS and ASSEMBLING of SAMPLES :

The bursting tests have been performed on number 3 samples each composed by two IMM fittings and one hose (not supplied by IMM) as follow :

IMM Fittings		Hoses (Not manufactured by IMM)					BURSTING TEST				
Ferrule P/n	Insert P/n	Type hose	Size	DN	Inch	Torque Nm	Min Burst Request Bar	1 Sample Burst Bar	2 Sample Burst Bar	3 Sample Burst Bar	Avg Burst Bar
0022-04	0185-04-18	1SN DIN 20 022	04	06	1/4	22	900	1076	1032	1090	1066
0022-05	0185-05-18	1SN DIN 20 022	05	08	5/16	22	850	1063	1004	1030	1032
0022-06	0185-06-18	1SN DIN 20 022	06	10	3/8	22	720	820	815	773	803
0022-08	0185-08-22	1SN DIN 20 022	08	12	1/2	32	640	704	697	689	697
0022-10	0085-10-26	1SN DIN 20 022	10	16	5/8	44	520	589	576	592	586
0022-12	0084-12-36	1SN DIN 20 022	12	20	3/4	57	420	533	539	549	540
0022-16	0084-16-42	1SN DIN 20 022	16	25	1	66	350	388	389	389	389
0011-20	0050-20-20	1SN DIN 20 022	20	32	1.1/4	62	250	308	311	314	311
0011-24	0050-24-24	1SN DIN 20 022	24	40	1.1/2	70	200	268	270	269	269
0011-32	0050-32-32	1SN DIN 20 022	32	50	2	82	160	252	254	258	255

After satisfactory results of the above mentioned bursting tests and documentation review , we have no further comments.

The present Report is issued for the ends and purpose which is intended for.

Casoli (CH) on , 27.09.1999

BV.Stamp :



Issued by :

G.GRASSELLI



Inspection Center :

Terni office

Diffusion

Client

Note: (1) Identify the requesting party and its purpose



**BUREAU
VERITAS**

ATTESTATION
ITA n° 40.99.3138/b
Ref. R3319/GG

The undersigned G.GRASSELLI, Surveyor of Bureau Veritas Italia at Rome Inspection Center, acting within the scope of the general conditions of the Industrial Branch of Bureau Veritas and upon request *

of Messrs, **I.M.M. S.r.l.**
Order R7137 dtd. 26.08.99

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that attended from 22.09.99 to 27.09.99 at I.M.M. s.r.l. workshop zona industriale est 66043, Casoli (CH) the under mentioned bursting tests

IMM HYDRAULIC HOSE FITTINGS

Ferrule p/n	Technical sheet	Rev	Insert p/n	Technical sheet	Rev
0022-04	0022	0	0185-04-18	0185	0
0022-05	0022	0	0185-05-18	0185	0
0022-06	0022	0	0185-06-18	0185	0
0022-08	0022	0	0185-08-22	0185	0
0022-10	0022	0	0085-10-26	0085	0
0022-12	0022	0	0084-12-36	0084	0
0022-16	0022	0	0084-16-42	0084	0
0021-20	0021	0	0050-20-20	0050	0
0021-24	0021	0	0050-24-24	0050	0
0021-32	0021	0	0050-32-32	0050	0

Hose fittings material type : 9SMnPb36 UNI 4338

in accordance to :

- IMM internal procedure N°01SPE rev.0 for Hoses and fitting assembling
- DIN 20024 ed. February 1987 only for Bursting Tests paragr. 6.3.3



DETAIL OF TESTS and ASSEMBLING of SAMPLES :

The bursting tests have been performed on number 3 samples each composed by two IMM fittings and one hose (not supplied by IMM) as follow :

IMM Fittings		Hoses (Not manufactured by IMM)					BURSTING TEST				
Ferrule P/n	Insert P/n	Type hose	Size	DN	inch	Torque Nm	Min Burst Request Bar	1 Sample Burst Bar	2 Sample Burst Bar	3 Sample Burst Bar	Avg Burst Bar
0022-04	0185-04-18	2SN DIN 20 022	04	06	1/4	22	1600	1856	1730	1873	1819
0022-05	0185-05-18	2SN DIN 20 022	05	08	5/16	22	1400	1667	1567	1661	1632
0022-06	0185-06-18	2SN DIN 20 022	06	10	3/8	22	1320	1493	1528	1567	1516
0022-08	0185-08-22	2SN DIN 20 022	08	12	1/2	32	1100	1227	1247	1258	1244
0022-10	0085-10-26	2SN DIN 20 022	10	16	5/8	44	1000	1089	1164	1121	1125
0022-12	0084-12-36	2SN DIN 20 022	12	20	3/4	57	850	934	951	933	939
0022-16	0084-16-42	2SN DIN 20 022	16	25	1	66	650	720	721	700	714
0021-20	0050-20-20	2SN DIN 20 022	20	32	1.1/4	62	500	566	567	573	569
0021-24	0050-24-24	2SN DIN 20 022	24	40	1.1/2	70	360	443	452	438	444
0021-32	0050-32-32	2SN DIN 20 022	32	50	2	82	320	371	364	400	378

After satisfactory results of the above mentioned bursting tests and documentation review , we have no further comments.

The present Report is issued for the ends and purpose which is intended for.

Casoli (CH) on , 27.09.1999

BV.Stamp :



Issued by :

G.GRASSELLI



Inspection Center :

Terni office

Diffusion

Client

Note: (1) Identify the requesting party and its purpose



**BUREAU
VERITAS**

ATTESTATION

ITA n° 40.99.3138/c
Ref. R3320/GG

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Order **R7137** dtd. 26.08.99

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IMM HYDRAULIC HOSE FITTINGS

Ferrule p/n	Technical sheet	Rev	Insert p/n	Technical sheet	Rev
0019-04	0019	0	0150M04 -04	0150M	0
0009-06	0009	0	0185-06-18	0185	0
0009-08	0009	0	0185-08-22	0185	0
0009-10	0009	0	0085-10-26	0085	0
0009-12	0009	0	0084-12-36	0084	0
0009-16	0009	0	0084-16-42	0084	0
0009-20	0009	0	0050-20-20	0050	0
0009-24	0009	0	0050-24-24	0050	0

Hose fittings material type : 9SMnPb36 UNI 4338

in accordance to :

- IMM internal procedure N° 01SPE rev.0 for Hoses and fitting assembling
- DIN 20024 ed. February 1987 only for Bursting Tests paragr. 6.3.3



DETAIL OF TESTS and ASSEMBLING of SAMPLES :

The bursting tests have been performed on number 3 samples each composed by two IMM fittings and one hose (not supplied by IMM) as follow :

I.M.M. Fittings		Hoses (Not manufactured by IMM)				BURSTING TEST					
Ferrule P/n	Insert P/n	Type hose	Size	DN	Inch	Torque Nm	Min Burst Request Bar	1 Sample Burst Bar	2 Sample Burst Bar	3 Sample Burst Bar	Avg Burst Bar
0019-04	0150M04-04	4SP DIN 20 023	04	06	1/4	16	1800	1990	2268	2211	2156
0009-06	0185-06-18	4SP DIN 20 023	06	10	3/8	22	1780	2070	2009	2029	2036
0009-08	0185-08-22	4SP DIN 20 023	08	12	1/2	32	1660	1994	1971	1914	1960
0009-10	0085-10-26	4SP DIN 20 023	10	16	5/8	44	1400	1868	1608	1794	1690
0009-12	0084-12-36	4SP DIN 20 023	12	20	3/4	57	1400	1573	1646	1570	1596
0009-16	0084-16-42	4SP DIN 20 023	16	25	1	66	1120	1409	1391	1235	1345
0009-20	0050-20-20	4SP DIN 20 023	20	32	1. 1/4	62	840	1031	1101	1069	1067
0009-24	0050-24-24	4SP DIN 20 023	24	40	1. 1/2	70	740	958	881	872	904

After satisfactory results of the above mentioned bursting tests and documentation review , we have no further comments.

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Casoli (CH) on , 27.09.1999

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G. GRASELLI	
Inspection Center :	
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Diffusion	
<input checked="" type="checkbox"/> Client	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Note: (1) Identify the requesting party and its purpose