

Vostro ord./Your order

Nr. **121468-C2F11A**Data/Date **26/06/2012**

Ns. Bolla/Delivery note

Nr. **122130**Data/Date **01/10/2012**

Cliente/Customer

DESMET BALLESTRA S.p.A.**VIA PORTALUPPI,17****20138 MILANO**

Materiali e valori conformi alle norme ASME

Materials and values in conformity with standards ASME

DESTINAZIONE MATERIALE : NIGERIA

Pos/item.	Materiale/Materials	Descrizione/Description	Misure/sizes	Quantità/Quantity
1)	ASME SA193/B7	TIRANTI/STUD BOLT	1/2" unc X 65-70	NR. 88 / 95
1)	ASME SA193/B7	TIRANTI/STUD BOLT	1/2" unc X 75	NR. 37
2)	ASME SA193/B7	TIRANTI/STUD BOLT	5/8" unc X 85-95	NR. 46 / 107
2)	ASME SA193/B7	TIRANTI/STUD BOLT	5/8" unc X110-145	NR. 24 / 24
2)	ASME SA193/B7	TIRANTI/STUD BOLT	5/8" unc X 150	NR. 55
3)	ASME SA193/B7	TIRANTI/STUD BOLT	3/4" unc X 100	NR. 134
3)	ASME SA193/B7	TIRANTI/STUD BOLT	3/4" unc X 120	NR. 10
3)	ASME SA193/B7	TIRANTI/STUD BOLT	3/4" unc X 160	NR. 62

ANALISI CHIMICA/CHEMICAL ANALYSIS

		%C	%Mn	%Si	%P	%S	%Ni	%Cr	%Mo	%Al
Req.	Min	0,370	0,650	0,150				0,750	0,150	
Req.	Max	0,490	1,100	0,350	0,035	0,040		1,200	0,250	
p/i	Colata/heat									
1)	AG2189	0,435	0,770	0,240	0,008	0,025		1,040	0,170	
2)	230087	0,405	0,780	0,220	0,014	0,021		1,050	0,200	
3)	AE0217	0,425	0,850	0,210	0,011	0,024		1,000	0,180	

CARATTERISTICHE MECCANICHE/MECHANICAL PROPERTIES

	R	R 0.2	A	Z	HB	HB*	Impact test KV	Proof. L=
	Mpa – N/mm ²	Mpa – N/mm ²	%	%	Min. Max	24 h	-27JMIN-101°C	
Required	860	720	16	50	321			
Pos/item								
1)	967	778	20	62,5	292			
2)	946	766	21,7	62,7	285			
3)	970	768	16,8	61	293			

Note: VISUAL DIMENSIONAL TEST = **SATISFACTORY** Heat treat. **Quenched Tempered**

BULLONERIA VILLA S.p.A.

Quality control



We hereby certify that materials described in this certificate have been tested and comply with the terms of the order and of specification. * = hardness heat treatment at 540/590°C

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VIA PORTALUPPI,17
20138 MILANOMateriali e valori conformi alle norme ASME
Materials and values in conformity with standards ASMEDESTINAZIONE MATERIALE : NIGERIA

Pos/item.	Materiale/Materials	Descrizione/Description	Misure/sizes	Quantità/Quantity
1)	ASME SA193/B7	TIRANTI/STUD BOLT	1/2" unc X 75-80	NR. 59 / 53
2)	ASME SA193/B7	TIRANTI/STUD BOLT	5/8" unc X 95-105	NR. 12 / 7
2)	ASME SA193/B7	TIRANTI/STUD BOLT	5/8" unc X110-150	NR. 28 / 10
2)	ASME SA193/B7	TIRANTI/STUD BOLT	5/8" unc X 170	NR. 10
3)	ASME SA193/B7	TIRANTI/STUD BOLT	3/4" unc X 115	NR. 106
3)	ASME SA193/B7	TIRANTI/STUD BOLT	3/4" unc X 130	NR. 19
3)	ASME SA193/B7	TIRANTI/STUD BOLT	3/4" unc X170-205	NR. 19 / 10

TRATT./TREATMENTZINCAT.-ZINC-PLATED - CR3**ANALISI CHIMICA/CHEMICAL ANALYSIS**

		%C	%Mn	%Si	%P	%S	%Ni	%Cr	%Mo	%Al
Req.	Min	0,370	0,650	0,150				0,750	0,150	
Req.	Max	0,490	1,100	0,350	0,035	0,040		1,200	0,250	
p/i	Colata/heat									
1)	AG2189	0,435	0,770	0,240	0,008	0,025		1,040	0,170	
2)	230087	0,405	0,780	0,220	0,014	0,021		1,050	0,200	
3)	AE0217	0,425	0,850	0,210	0,011	0,024		1,000	0,180	

CARATTERISTICHE MECCANICHE/MECHANICAL PROPERTIES

	R	R 0.2	A	Z	HB	HB*	Impact test KV -27JMIN-101°C	Proof. L=
	Mpa – N/mm ²	Mpa – N/mm ²	%	%	Min. Max	24 h		
Required	860	720	16	50	321			
Pos/item								
1)	967	778	20	62,5	292			
2)	946	766	21,7	62,7	285			
3)	970	768	16,8	61	293			

Note: VISUAL DIMENSIONAL TEST = **SATISFACTORY** Heat treat. **Quenched Tempered**

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Pos/item.	Materiale/Materials	Descrizione/Description	Misure/sizes	Quantità/Quantity
1)	ASME SA193/B7	VITI T.E./SCREWS	1/2" unc X 30	NR. 37
1)	ASME SA193/B7	VITI T.E./SCREWS	1/2" unc X 35	NR. 19
2)	ASME SA193/B7	VITI T.E./SCREWS	5/8" unc X 40	NR. 28
2)	ASME SA193/B7	VITI T.E./SCREWS	5/8" unc X 45	NR. 10
3)	ASME SA193/B7	VITI T.E./SCREWS	3/4" unc X 50	NR. 19
4)*	ASME SA193/B7	VITI T.E./SCREWS	1/2" unc X 30-35	NR. 37 / 10
5)*	ASME SA193/B7	VITI T.E./SCREWS	5/8" unc X 40-45	NR. 37 / 10
6)*	ASME SA193/B7	VITI T.E./SCREWS	5/8" unc X 50	NR. 28
<u>TRATT./TREATMENT</u> * <u>ZINCAT.-ZINC-PLATED - CR3</u>				

ANALISI CHIMICA/CHEMICAL ANALYSIS

Req.		%C	%Mn	%Si	%P	%S	%Ni	%Cr	%Mo	%Al
Min		0,370	0,650	0,150				0,750	0,150	
Max		0,490	1,100	0,350	0,035	0,040		1,200	0,250	
p/i	Colata/heat									
1)	AG2189	0,435	0,770	0,240	0,008	0,025		1,040	0,170	
2)	138123	0,430	0,800	0,230	0,009	0,021		1,040	0,180	
3)	138537	0,410	0,770	0,240	0,012	0,022		1,030	0,180	
4)	AG2189	0,435	0,770	0,240	0,008	0,025		1,040	0,170	
5)	138123	0,430	0,800	0,230	0,009	0,021		1,040	0,180	
6)	138123	0,430	0,800	0,230	0,009	0,021		1,040	0,180	

CARATTERISTICHE MECCANICHE/MECHANICAL PROPERTIES

	R	R 0.2	A	Z	HB	HB*	Impact test KV -27JMIN-101°C	Proof. L=
	Mpa – N/mm2	Mpa – N/mm2	%	%	Min. Max	24 h		
Required	860	720	16	50	321			
Pos/item								
1)	967	778	20	62,5	292			
2)	921	751	17,0	56,0	295			
3)	980	824	16,5	56	272			
4)	967	778	20	62,5	292			
5)	921	751	17,0	56,0	295			
6)	921	751	17,0	56,0	295			

Note: VISUAL DIMENSIONAL TEST = **SATISFACTORY** Heat treat. **Quenched Tempered**

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20138 MILANO

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DESTINAZIONE MATERIALE : NIGERIA

Pos/item.	Materiale/Materials	Descrizione/Description	Misure/sizes	Quantità/Quantity
1)	ASME SA194/2H	DADI E./HEX.NUTS	1/2" unc	NR. 440
2)	ASME SA194/2H	DADI E./HEX.NUTS	5/8" unc	NR. 512
3)	ASME SA194/2H	DADI E./HEX.NUTS	3/4" unc	NR. 412
4)*	ASME SA194/2H	DADI E./HEX.NUTS	1/2" unc	NR. 224
5)*	ASME SA194/2H	DADI E./HEX.NUTS	5/8" unc	NR. 134
6)*	ASME SA194/2H	DADI E./HEX.NUTS	3/4" unc	NR. 308

TRATT./TREATMENT * **ZINCAT.-ZINC-PLATED - CR3****ANALISI CHIMICA/CHEMICAL ANALYSIS**

Req. Min		%C	%Mn	%Si	%P	%S	%Ni	%Cr	%Mo	%Al
Req. Max		0,400	1,000	0,400	0,040	0,050				
p/i	Colata/heat									
1)	AG5433	0,450	0,690	0,280	0,016	0,014				
2)	AH2284	0,450	0,650	0,230	0,017	0,015				
3)	AG5936	0,450	0,750	0,230	0,017	0,014				
4)	AG5433	0,450	0,690	0,280	0,016	0,014				
5)	AH2284	0,450	0,650	0,230	0,017	0,015				
6)	AG5936	0,450	0,750	0,230	0,017	0,014				

CARATTERISTICHE MECCANICHE/MECHANICAL PROPERTIES

Required	R	R 0.2	A	Z	HB	HB*	Impact test KV	Proof. L=
	Mpa – N/mm2	Mpa – N/mm2	%	%	Min. Max	24 h	-27JMIN-101°C	
Pos/item					248-327			
1)					300/303	270		POSIT
2)					270/278	240		POSIT
3)					301/307	272		POSIT
4)					300/303	270		POSIT
5)					270/278	240		POSIT
6)					301/307	272		POSIT

Note: VISUAL DIMENSIONAL TEST = **SATISFACTORY** Heat treat. **Quenched Tempered**

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