

Vostro ord./Your order  
Nr. **121865-C2F11A**  
Data/Date **08/08/2012**Ns. Bolla/Delivery note  
Nr. **122129**  
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	5/8" unc X 80-95	NR. 5 / 5
1)	ASME SA193/B7	TIRANTI/STUD BOLT	5/8" unc X 110	NR. 9
2)	ASME SA193/B7	VITI T.E./SCREWS	1/2" unc X 30	NR. 9
3)	ASME SA193/B7	VITI T.E./SCREWS	5/8" unc X 40-45	NR. 4 / 31
4)	ASME SA194/2H	DADI E./HEX.NUTS	5/8" unc	NR. 38

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

Req. Min		%C	%Mn	%Si	%P	%S	%Ni	%Cr	%Mo	%Al
Req. Max		0,370	0,650	0,150				0,750	0,150	
		0,490	1,100	0,350	0,035	0,040		1,200	0,250	
p/i	Colata/heat									
1)	230087	0,405	0,780	0,220	0,014	0,021		1,050	0,200	
2)	AG2189	0,435	0,770	0,240	0,008	0,025		1,040	0,170	
3)	138123	0,430	0,800	0,230	0,009	0,021		1,040	0,180	
Req. Min		0,400								
Req. Max			1,000	0,400	0,040	0,050				
4)	AH2284	0,450	0,650	0,230	0,017	0,015				

**CARATTERISTICHE MECCANICHE/MECHANICAL PROPERTIES**

	R	R 0.2	A	Z	HB	HB*	Impact test KV	Proof. L=
	Mpa – N/mm <sup>2</sup>	Mpa – N/mm <sup>2</sup>	%	%	Min. Max	24 h	-27JMIN-101°C	
Required	860	720	16	50	321			
Pos/item								
1)	946	766	21,7	62,7	285			
2)	955	818	19,0	58,0	280			
3)	921	751	17,0	56,0	295			
4)					Min. Max	240		POSIT
					248-327			
					270/278			

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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DESTINAZIONE MATERIALE : NIGERIA

Pos/item.	Materiale/Materials	Descrizione/Description	Misure/sizes	Quantità/Quantity
1)	ASME SA193/B7	TIRANTI/STUD BOLT	1/2" unc X 70	NR. 6
2)	ASME SA193/B7	TIRANTI/STUD BOLT	5/8" unc X 85-95	NR. 9 / 9
3)	ASME SA193/B7	VITI T.E./SCREWS	5/8" unc X 40	NR. 4
3)	ASME SA193/B7	VITI T.E./SCREWS	5/8" unc X 45	NR. 9
4)	ASME SA194/2H	DADI E./HEX.NUTS	1/2" unc	NR. 12
5)	ASME SA194/2H	DADI E./HEX.NUTS	5/8" unc	NR. 36

**ANALISI CHIMICA/CHEMICAL ANALYSIS**

Req. Min		%C	%Mn	%Si	%P	%S	%Ni	%Cr	%Mo	%Al
Req. Max		0,370	0,650	0,150				0,750	0,150	
		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)	138123	0,430	0,800	0,230	0,009	0,021		1,040	0,180	
Req. Min		0,400								
Req. Max			1,000	0,400	0,040	0,050				
4)	AG5433	0,450	0,690	0,280	0,016	0,014				
5)	AH2284	0,450	0,650	0,230	0,017	0,015				

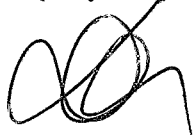
**CARATTERISTICHE MECCANICHE/MECHANICAL PROPERTIES**

Required	R	R 0.2	A	Z	HB	HB*	Impact test KV	Proof. L=
	Mpa – N/mm <sup>2</sup>	Mpa – N/mm <sup>2</sup>	%	%	Min. Max	24 h	-27JMIN-101°C	
Pos/item	860	720	16	50	321			
1)	967	778	20	62,5	292			
2)	946	766	21,7	62,7	285			
3)	921	751	17,0	56,0	295			
					Min. Max			
					248-327			
4)					300/303	270		POSIT
5)					270/278	240		POSIT

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

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Quality control



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