



INSPECTION CERTIFICATE acc to
EN 10204 3.1

Bandak Lunde AS
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3825 LUNDE I TELEMARK
NORWAY

Customer References		Sandvik References						
823563	Customer order 2017-01-05	Order No. 465009	Subs No. 622299 ABSMT No. 284-26629					
125-06911	SVERDRUP S	ABSMT Dispatch note 45831/53 C.Code 40						
Material description HOT WORKED STAINLESS BAR STEEL ROLLED ANNEALED & STRAIGHTENED PEEL TURNED AND POLISHED		Steel/material Designations Sandvik UNS SANMAC 2205 S31803/S32205 EN no 1.4462						
Steel making process E+AOD+LRF								
Technical requirements EN 10088-3:-2005, ASTM A-479-16A, ASME SA-479-ED-15, ASTM A-276-16, NACE MR0175/ISO 15156-3:2009, NACE MR0103:2012 Norsok Standard M-630-ED.6 for MDS D47-REV.5, Suitable for manufacturing of components in acc. with ASTM A-182-15, F51/F60								
EXTENT OF DELIVERY								
It	Product designation	Heat	Lot	Pieces	Kg			
02	MBR-SANMAC2205-80	547559	47852	1	270.0			
			Total	1	270.0			
TEST RESULTS								
Chemical composition (weight%)								
Heat	PRE							
547559	35.3							
Heat	C	Si	Mn	P	S	Cr	Ni	Mo
547559	0.018	0.37	0.83	0.024	0.0033	22.23	5.38	3.09
	N							
547559	0.178							
Quality assurance - Viktor Hellberg/QA-manager Primary Products MTC Service / Certificates								


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Tensile test at room temperature

Longitudinal

	Yield strength		Tensile strength	Elongation		Red.of Area
	MPa	MPa	MPa	%	%	%
Lot	Rp0.2	Rp1.0	Rm	A	2"	Z
47852	502	570	726	40	40	78

Hardness test

	Min	Max
Lot	HRC	HRC
47852	19	19

Impact test, J, -50°C. Longitudinal.

Lot	Single values			Average
	Joule			Joule
47852	330	344	318	331

Lateral expansion

Lot	mm		
47852	2.47	2.44	2.52

Corrosion test

According to ASTM G-48A, 25°C for 24 hours.

No pitting corrosion found at 20x enlargement.

Specimen weight loss

Lot	g/m2
47852	0.00

Ferrite acc to ASTM E-562

Lot	%
47852	46.7

Following controls/tests have been satisfactorily performed:

- Intergranular corrosion test acc. to EN ISO 3651-2 B
- Material Identification.
- Ultrasonic test acc to EN 10228-4, Scan coverage 1, Quality Class 3, Tab 4 and ASTM A-388.
- Visual inspection and dimensional control.

Heat Treatment:

1060°C/60 minutes. Quenched in water.

The raw material is free from radioactive contamination.

Microscopic Examination X 500: Free from grain boundary carbides and intermetallic phases

Material free from mercury contamination.

No welding or weld repair.

NORSOK M-650 ED-4 QTR NO: 22 Cr Duplex SS

The delivered products comply with the specifications and requirements of the order.



The material is manufactured according to a Quality system, approved and registered to ISO 9001:2008.

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