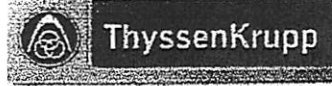


# 114877

ThyssenKrupp VDM

Page 1 of 2  
printed: 31 JAN 2012



Inspection certificate 98935/0  
DIN EN 10204/01.05 3 1  
Order No 393768 Delivery No 34295 Purchase Order No #26353/#523468

ThyssenKrupp VDM USA, Inc. for  
National Specialty Alloys  
306 Columbia Turnpike  
USA -07932 Florham Park

Trademark  
NICORROS  
2.4360

EN ISO 9001, AS 9100  
LRQA Approval  
KLN 4000941/E

Product  
Bar round hot rolled stress relieved peeled

Specification

ASTM B 164-03 (reapproved 08)  
ASME SB 164-2009b  
QQ-N-281D Amd. 2 Class A / Form 1 10 85  
NACE MR0175-2003  
NSA-MSR Material Spec Requirements Rev 3 4/3/07  
Exception: packaging;  
AMS 4675 B only Analysis

Material

UNS-N04400  
UNS N04400  
Class A

UNS N04400

Item	Pcs	Wht [kg]	Dimension [mm]	Cast	Lot
13	6	1019	76 20 Ø x 3657,6-4267,2	114877	103547906   3.000" dia x 12-14' NL

Analysis (weight %)

LE=combustion analysis  
OE=optical emission analysis  
RF=XRF

ASTM B 164-03 (reapproved 08); ASME SB 164-2009b; AMS 4675 B only Analysis

Cast	Melting Pr.	C	S	Ni	Mn	Si	Cu	Fe	Co	
114877	EFVD	top Meth	0,13 LE	<0,002 LE	R63,93 RF	1,08 RF	0,14 RF	32,56 RF	1,90 RF	0,03 RF

LE=combustion analysis  
OE=optical emission analysis  
RF=XRF

QQ-N-281D Amd. 2 Class A / Form 1 10.85

Cast	Melting Pr.	C	S	Ni	Mn	Si	Ti	Cu	Fe	P	Al	Pb	
114877	EFVD	top Meth	0,1 LE	<0,002 LE	63,88 RF	1,1 RF	0,1 RF	0,040 RF	R32,52 RF	1,9 RF	0,002 RF	0,050 RF	<0,001 OE

Cast	Melting Pr.	Sn	Zn	Co	
114877	EFVD	top Meth	<0,002 OE	<0,01 RF	0,03 RF

Sample Condition		Tensile Test						Hardness Test	
stress relieved		1 ASTM E 8 / longitudinal specimen						1 ASTM E 18	
Lot	Sample No.	Temp [°C]	Yield 2% [ksj]	Yield 1.0% [ksj]	Tensile [ksj]	Elongation A [%]	RoA A [%]	HRBW	
103547906	1-A1	1	RT	43,2	86,0	4D	5C	1   79 Surf.: 0° 90°	

Item	Lot	Test
13	103547906	Ultrasonic Examination acc to ASTM A 388 Test on 100% of surface: satisfactory

Heat Treatment	Lot
550°C/0:30h/air	103547906

We herewith certify that the material is in conformance with the above mentioned specifications  
 Tel. +49 2392 552056  
 Fax +49 2392 552827  
 EMail thomas.gymnich@thyssenkrupp.com  
 Date of release: 01 02 2012  
 Thomas Gymnich, authorized inspection representative  
 Mark of the Inspector P  
 Q

\*98935 - O - E\*

This certified test report shall not be reproduced except in full, without the written approval of ThyssenKrupp VDM. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law

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# Thyssenkrupp VDM

Inspection certificate 98935/0

DIN EN 10204/01 05 3 1

Order No. 393768  
Delivery No. 34295  
Purchase Order No. #26353/#523468

Spectrographic analytical mixup test: without objection  
Dimensional and visual inspection performed: without objection  
No mercury contamination; no Radium, Luminous or Alpha source materials were used in the manufacture or testing of the items furnished  
No weld repairs performed  
Products are free from mercury and radio-active contamination  
Country of Origin and Melt: Germany  
The pyrometry of heat treatment is in accordance with AMS 2750  
The material was produced without ozone depleting substances  
SAMPLE LOCATION: all samples were taken from a prolongation of the bars  
Hot Forming: Reduction ratio: 46,63 : 1  
Material has been melted in a qualified country as defined within DFARS 252 225-7014, Alt I

Thyssenkrupp

