

## 2.750" Baker Male Adapter Ring



BGH Edelstahl Freital GmbH

BGH Edelstahl Freital GmbH Am Stahlwerk 1 01705 Freital

Earle M. Jorgensen Company

6201 Lumberdale  
77092 Houston, TX  
USAKunden-Bestell-Nr. P939654-453  
Customer order no.  
Cde. no. du client 506848BGH-Auftrags-Nr. 09328201/86148  
BGH works no.  
BGH référenceZeugnis-Nr. 252681  
Certificate no.  
No. de certificatBescheinigung über Werkstoffprüfung nach EN 10204  
Certificate of material tests according to EN 10204 3.1  
Certificat des essais des matériaux selon EN 10204Die Lieferung entspricht den vereinbarten Lieferbedingungen.  
Delivery in accordance with the agreed terms of delivery.  
La livraison correspond aux conditions de livraison convenues.Zeichen des Lieferwerkes Stempel des Werkstoffsachverständigen  
Trade mark Inspector's stamp  
Signe du fournisseur Poignon de l'inspecteur

|  |                                     |                     |           |   |                         |      |      |   |   |              |
|--|-------------------------------------|---------------------|-----------|---|-------------------------|------|------|---|---|--------------|
| Product Round bars, peeled   |                                     |                     |           |   |                         |      |      |   |   |              |
| Werkstoff / Quality 9Cr-1Mo (UNS K90841)   |                                     |                     |           |   |                         |      |      |   |   |              |
| Requirements ES-MA-2-R. E 2006<br>Rev. 920505 ES-MA 88-2 05/92<br>EMJ HT03 R.2 07/03<br>ES-MA-2-R. E sec. 1 - 6, excluding sec. 6.3                        |                                     |                     |           |   |                         |      |      |   |   |              |
| Beschulung und Maßnachprüfung<br>Inspection and dimensional control<br>Inspection et contrôle de dimension<br>without objection                            |                                     |                     |           | Brennprozess/Nachbehandlung<br>Melting process/secondary refining<br>Mode d'élaboration/traitement ultérieur<br>E - LF/VD |                         |      |      | Verwechslungsprüfung (spektralanalytisch)<br>Identification test (spectral-analysis)<br>Examination d'identification (analyse spectrale)<br>without objection |   |              |
| Pos. Item  | Anzahl Quantity                     | Abmessung Dimension |           |   |                         |      |      | Gewicht Weight  | Schmelz-Nr. Heat-No.                    |              |
| 1  | 27                                  | 2.75" dia.          |           |   |                         |      |      | 4852 kg   | 327475                                  |              |
| Schmelze Heat %  | C                                   | Si                  | Mn        | P   | S                       | Cr   | Mo   | Ni  | Cu                                      |              |
| 327475   | 0,123                               | 0,67                | 0,55      | 0,015   | 0,002                   | 8,25 | 0,93 | 0,13  | 0,05                                    |              |
| Condition of heat treat hardened + tempered + stress relieved<br>Traitement thermique 980°C 105'/Oil-oil + 660°C 210'/Luft-air + 610°C 6h/Luft-air (Bd/bd) |                                     |                     |           |   |                         |      |      |   |   |              |
| Probe-Nr. Test-No.   | Lage                                | Temp. °F            | Rp0,2 ksi |   | Rm ksi                  | A4 % | Z %  | Kerbschlagarbeit Impact value Ft-lbs  | Probenform Shape of test piece Charpy-V | Hardness HRC |
| Soll/Req.  | L                                   | RT                  | >=80      |   | >=95                    | >=20 | >=20 | >=15  | 32                                      | <=235 <=22   |
|  | L                                   | RT                  | <=110     |   |                         |      |      |   |   |              |
| 009FR4 /a  | L                                   | RT                  | 82        |   | 111                     | 27   | 69   | 56 64 55 0  |   |              |
| 009FR9 /b  | L                                   | RT                  | 84        |   | 113                     | 27   | 69   |   |   |              |
| The test results of this MTR meet the requirements of the above mentioned specifications.  |                                     |                     |           |   |                         |      |      |   |   |              |
| We are ISO 9001/2000 registered by LRQA accredited by UKAS.  |                                     |                     |           |   |                         |      |      |   |   |              |
| reduction ratio: 36:1  |                                     |                     |           |   |                         |      |      |   |   |              |
| Anlagen End. Annex   | US-certificate Hardness certificate |                     |           |   | Freitag, den 29.06.2007 |      |      | Abnahmebeauftragter Inspector representative Inspecteur de réception BERNDT   |   |              |

a/27/07

506848

327475

R 300075

(5)

Kunden-Bestell-Nr. P939654-453  
Customer order no.  
Cde. no. du client 506848BGH-Auftrags-Nr. 093282-01  
BGH works no.  
BGH référenceZeugnis-Nr. 252681  
Certificate no.  
No. de certificat

Erzeugnisform : Stab, rund  
Product : Round bars, peeled  
Werkstoff/Quality : 9Cr-1Mo (UNS K90941) charge: 327475  
Abmessung/Dimension : 2.75" dia.  
Anzahl/Quantity : 27 Gewicht kg/Weight kg : 4852  
Wärmebehandlungszustand : vergütet + spannungsarmgeglüht  
Condition of heat treat : hardened + tempered + stress relieved  
Traitement thermique : 980°C 105' / Öl-oil + 650°C 210' / Luft-air + 610°C 6h / Luft-air (Bd/bd)  
Prüfrichtlinie  
Specification  
US: nach ASTM/ASME A 388  
FBH (KSR) max. 2 mm  
Bearbeitungszustand : geschält  
Machining condition : peeled  
Prüfgerät : Deutsch-STPS-Echograph 1155  
Test equipment  
Prüfkopf : 15xTS12WB4  
Probe  
Kopplungsmittel : Wasser  
Coupling medium : water  
Prüfumfang : vollständig  
Extent of examination : completely  
Einschallrichtung : senkrecht und in Winkelschallung 40°  
Direction of incidence : perpendiculair and oblique incidence 40°  
Registr./Zuläss.-grenze : Prüfung und Justierung erfolgten gemäß obiger Spezifikation.  
Register/acceptance level : Test and adjustment acc.to a.m.specification.  
Befund : Es wurden keine registrierpflichtigen Anzeigen ermittelt.  
Result : There have not been found any reportable indications found  
Prüfdatum : 05.06.2007  
examination date

Freital, den  
Place and date  
Lieu et date  
29.06.07Prüfer  
Testing operator  
Opérateur  
Fischer J.  
Stufe 2 EN 473Abnahmebeauftragter  
Inspector representative  
Inspecteur de réceptionJUNGKUNZ  
Level III SNT-TC 1AOberwacher  
Supervisor  
Surveillleur

Das Zeugnis wurde maschinell erstellt und ist auch ohne Unterschrift gültig.

This certificate was generated by data system it must not be signed for validity as well.  
Ce certificat a été établi sur système informatique et est valable sans signature aussi.



# Hardness Report Bar Surface for Grade 1.7386 (9 Cr 1 Mo)

Hardness test with EQUOTIP :

Values in HRC/BHN

Order Number: 093282/1  
Test Number: 9FR  
certificate: 252681

| bar no. | bar end A | middle   | bar end B |
|---------|-----------|----------|-----------|
| 1       | 21,5/233  | 21/231   | 21/231    |
| 2       | 21,5/233  | 21,5/233 | 21,5/233  |
| 3       | 21,5/233  | 21,5/233 | 21,5/233  |
| 4       | 21/231    | 21/231   | 21/231    |
| 5       | 21,5/233  | 21,5/233 | 21/231    |
| 6       | 21,5/233  | 21,5/233 | 21,5/233  |
| 7       | 21,5/233  | 21,5/233 | 21,5/233  |
| 8       | 21,5/233  | 21,5/233 | 21,5/233  |
| 9       | 21/231    | 21/231   | 21/231    |
| 10      | 21/231    | 21/231   | 21/231    |
| 11      | 21/231    | 21/231   | 21,5/233  |
| 12      | 21/231    | 21/231   | 21,5/233  |
| 13      | 21/231    | 21,5/233 | 21,5/233  |
| 14      | 21/231    | 21,5/233 | 21,5/233  |
| 15      | 21,5/233  | 21,5/233 | 21,5/233  |
| 16      | 21,5/233  | 21,5/233 | 21,5/233  |
| 17      | 21,5/233  | 21,5/233 | 21,5/233  |
| 18      | 21,5/233  | 21,5/233 | 21,5/233  |
| 19      | 21,5/233  | 21,5/233 | 21,5/233  |
| 20      | 21,5/233  | 21,5/233 | 21,5/233  |
| 21      | 21,5/233  | 21,5/233 | 21,5/233  |
| 22      | 21/231    | 21,5/233 | 21,5/233  |
| 23      | 21/231    | 21,5/233 | 21,5/233  |
| 24      | 21/231    | 21,5/233 | 21,5/233  |
| 25      | 21/231    | 21,5/233 | 21,5/233  |
| 26      | 21/231    | 21,5/233 | 21,5/233  |
| 27      | 21/231    | 21/231   | 21,5/233  |



# CERTIFICATE OF TEST

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Certification Date  
2-OCT-2007

## CUSTOMER ORDER NUMBER

200314

6201 LUMBERDALE  
HOUSTON TX 77092

Invoice Number  
T577611

## CUSTOMER PART NUMBER

Ship# T577696

|                 |                           |                 |                           |
|-----------------|---------------------------|-----------------|---------------------------|
| <b>SOLD TO:</b> | B AND T OILFIELD PRODUCTS | <b>SHIP TO:</b> | B AND T OILFIELD PRODUCTS |
|                 | 421 E MAIN STREET         |                 | 421 E MAIN STREET         |
|                 | BROUSSARD LA 70518        |                 | BROUSSARD LA 70518        |

Description: 9CR-1MO HR HT RT BAR - ES-MA-2-7 - EMJ HT03  
2-3/4 RD X 20' R/L  
HEAT: 327475  
ITEM: 506848  
Line Total: 5364 LB

Specifications:  
HES ES-MA-2-7

### CHEMICAL ANALYSIS

|       |      |      |       |       |      |      |      |
|-------|------|------|-------|-------|------|------|------|
| C     | SI   | MN   | P     | S     | CR   | MO   | NI   |
| 0.123 | 0.67 | 0.55 | 0.015 | 0.002 | 8.25 | 0.93 | 0.13 |
| CU    |      |      |       |       |      |      |      |
| 0.05  |      |      |       |       |      |      |      |

RCPT: R300073  
MILL : BGH SPECIALTY STEEL INC  
COUNTRY OF ORIGIN : GERMANY

### MECHANICAL PROPERTIES

| DESCRIPTION | YLD STR<br>KSI | ULT TEN<br>KSI | %ELONG<br>IN 02 IN | %RED<br>IN AREA | HARDNESS<br>BHN |
|-------------|----------------|----------------|--------------------|-----------------|-----------------|
|             | 82.0           | 111.0          | 27.0               | 69.0            | 231             |

### COMMENTS

REDUCTION RATIO 36:1  
TENSILE SPECIMENT SIZE .500"  
TEST PIECE IS A PROLONGATION OF BAR  
HEAT TREATMENT  
HARDNED 980 DEG C OIL  
TEMPERED 560 DEG C 210/LUFT- AIR  
STRESS RELIEVED 610 DEG C 6H/LUF-AIR

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination.

We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description.

The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes.

Material did not come in contact with mercury while in our possession.

MICHAEL BOSCH

MANAGER, QUALITY ASSURANCE