CUSTOMER: SIN GHEE HUAT CORPORATION LTD

SUPPLIER:

HYO SUNG CORP.

630

PURCHASE ORDER NO. :

REF.CD:SG1304 STEEL GRADE :

SIZE

ARTICLE

SG1304

DIAMETER 41.28 MM

TOTAL

35

2,186

4.819

ROUND BARS

SPECIALTY STEEL

147 Jeokhyeon-ro, Seongsan, Changwon, Gyeongnam, Korea

INSPECTION-CERTIFICATE

CERT. NO.

130829-2205

MANUFACTURE NO. :

KR2AD20AA3020

ASTM A564 SPECIFICATION MELTING PROCESS :

E01T10N/ADDENDA

STATE OF DELIVERY :

02A

SMOOTH TURNED

SOLUTION & AGING(H1075)

V.O.D.

E.A.F.

INGOT CASTING

| Heat No. | | | Chemical Composition(wt.%) | | | | | | | | | | | | | | | | | | | | |
|----------|------|------|----------------------------|----------|----------|-------|-------|---------|------|-------------|---|--|--|---|-----------------------------|----|-----|------|-------|----|----|----|---|
| | | C | SI | MN | Р | S | NI | CR | MO | CU | | | | | Non-Metallic Inclusion Test | | | | | | | | |
| Spec | MIN. | | | | | | 3.000 | 15.000 | | 3.000 | | | | | | | | ASTN | I-E45 | | | | |
| | MAX. | .070 | 1.000 | 1.000 | .0400 | .0300 | 5.000 | 17.500 | | 5.000 | | | | | TA | ТВ | TC | | HA | НВ | HC | HN | |
| N030 | 011 | .032 | .416 | .647 | .0266 | .0019 | 4.099 | 15.177 | .086 | 3.157 | | | | 0 | .5 | | | | 0.0 | | | | |
| | | | Tor | sile Pro | nortino. | | | ardnoon | | Import Tout | 4 | | | | | | 1.1 | | | | | | _ |

| MIN. 125 | Y.S.(KSI) | T.S (KSI) | EL. | R.A. | Body | | CHADOV. | 12 | D | | t | | |
|----------------|-----------|--------------|------|------|------|-------|----------|-------|------------|-------|---------------|--|--|
| 0. MIN. 128 | | (KSI) | 141 | | | | CHARPY-V | | Depth (mm) | | Grain Size | Additional Tests Ultrasonic test: GOOD | |
| NIN. 125 | | | (%) | (%) | HRc | +25°C | | FT-LB | TOTAL | FERR. | No. | | |
| | 25.0 | 145.0 | 13.0 | 45.0 | 32.0 | | 20 | | | | | | |
| Spec. MAX. | | | | | | | | | | | | | |
| 9000-1 157 | 57.0 | 161.0 | 17.0 | 64.0 | 35.4 | 61 | 56 | 56 | | | 8.0 | | |

| Lot No. | Bundle No. | Length (mm) | Number | Wei | ght | Additional Tells (D. 1) | | | | | |
|--------------------------|----------------------------|-----------------|----------|----------------|-----|--|--|--|--|--|--|
| Lut No. | Sulturo No. | Cengtii (iiiii) | of Qt. | Kg | lb | Additional Tests / Remarks | | | | | |
| 3045179000 3045179000 | 30451790001 30451790002 | 6000 6000 | 18 17 | 1,124 1,062 | - 1 | LADLE(%): NB+TA 0.2751 Solution: 1040°C, 1:00Hrs, Fan cooling Aging: 580°C, 4:30Hrs, Air cooling ROLLING RATIO = 267:1 EN 10204 Type 3.1 / NO REPAIR WELDING. FREE FROM MERCURY CONTAMINATION. | | | | | |

CERTIFIED TRUE COPY

SIN GHEE HUAT CORPORATION LTD.

We here certify, that the material described above has been tested and complies with the terms of the order contract. Our quality system is certified in accordance with ISO 8001: 2008 by DNV.

General manager, Quality Technology Department

DATE : AUG. 30, 2013