

MILL TEST CERTIFICATE



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|---------------|---------------------------------|
| Contract No. | |
| Customer | DUFERCO |
| L/C No. | |
| P/O No. | 32201308C100 |
| Commodity | H-BEAM |
| Specification | ASTM A572 G50/A992/ CSA 350W |

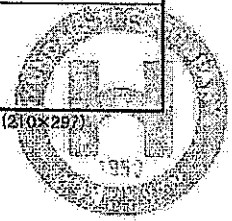
| | |
|-----------------|---|
| Head Office | 1, Songhyeon-dong, Dong-gu, Incheon, 401-712, S. Korea |
| Certificate No. | IH20130900893 - 2 |
| Class Cert. No. | |
| Date of Issue | 2013-09-05 |

| Dimensions & Length | Heat No. | Places Weights (kg) | Chemical Composition (%) | | | | | | | | | | | Tensile Test | | | Impact Test (V-notch) | | | | Remarks (Impact Specimen Size) | | | | |
|---------------------------|----------|---------------------------|--------------------------|----|-----|-------|----|----|------|------|-------|-------|-------------------|---------------------|-------------|---------------------------|-----------------------|-------------------|------|------|-----------------------------------|---|--|--|--|
| | | | C | Si | Mn | P | S | Cu | Mo | Al | Nb | Sn | CE ⁽¹⁾ | Tensile Strength | Yield point | Elongation ⁽²⁾ | Yield Ratio | AVG | 1 | 2 | | 3 | | | |
| | | | ×100 | | | ×1000 | | | ×100 | | | ×1000 | | | ×100 | | | N/mm ² | | | | % | | | |
| 24X12-3/4X162 40.00 FT | N 021315 | 7 20,573 | 18 | 15 | 108 | 27 | 9 | 22 | 7 | 0.03 | 0.005 | 0.005 | 0.005 | 0.005 | 0.005 | 0.005 | 568.8 | 412.5 | 23.5 | 0.78 | | | | | |
| 24X12-3/4X162 40.00 FT | N 021316 | 23 67,597 | 19 | 15 | 103 | 29 | 11 | 22 | 7 | 0.03 | 0.005 | 0.005 | 0.005 | 0.005 | 0.005 | 0.005 | 568.8 | 393.2 | 23.5 | 0.69 | | | | | |
| 24X12-3/4X162 40.00 FT | N 021317 | 8 23,512 | 19 | 13 | 104 | 27 | 19 | 23 | 7 | 0.03 | 0.005 | 0.005 | 0.005 | 0.005 | 0.005 | 0.005 | 568.8 | 404.0 | 23.0 | 0.70 | | | | | |
| TOTAL | | 141 322,976 | | | | | | | | | | | | | | | | | | | | | | | |

(Note) (1) Ceq: (CE=C+Mn/6+Cr/5+V/6+Mo/5+Ni/15+Cu/15) (2) Gauge length: 200 mm (3) Yield Ratio = YP/TS

K.S. Shim
General Manager of O.A Team

WE HEREBY CERTIFY THAT THE MATERIAL HAS BEEN MADE AND TESTED IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND ALSO WITH THE REQUIREMENTS CALLED FOR THE ABOVE ORDER



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