

MILL TEST CERTIFICATE

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| Contract No. | |
| Customer | DUFERCO |
| L/C No. | |
| P/O No. | 32201207CF02 |
| Commodity | H-BEAM |
| Specification | ASTM A36/A572 G50/A992/ CSA350W |

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| H HYUNDAI STEEL | |
| Head Office | 1, Songhyeon-dong, Dong-gu, Incheon, 401-712, S. Korea |
| Certificate No. | IH20120901288 - 14 |
| Class Cert. No. | |
| Date of Issue | 2012-09-11 |

| Dimensions & Length | Heat No. | Pieces Weights (kg) | Chemical Composition (%) | | | | | | | | | | | Tensile Test | | | Yield Ratio | Impact Test (V-notch) | | | | Remarks (Impact Specimen Size) |
|---------------------------|----------|---------------------------|--------------------------|----|-------|----|------|----------|----------|---------|------|----|-------------------|---------------------|-------------|---------------------------|-------------|-----------------------|---|---|---|-----------------------------------|
| | | | C | Si | Mn | P | S | Cu Ni | Mo Cr | Al V | Nb | Sn | CE ⁽¹⁾ | Tensile Strength | Yield point | Elongation ⁽²⁾ | | AVG | 1 | 2 | 3 | |
| | | | ×100 | | ×1000 | | ×100 | | ×1000 | | ×100 | | N/mm ² | % | | () | | °C | | | | |
| 21X12-1/4X111 40.00 FT | N 017084 | 1 2,014 | 18 | 16 | 72 | 26 | 10 | 20 9 | 2 11 | 13 | 17 | 11 | 35 | 522.7 | 388.3 | 24.5 | 0.74 | | | | | |
| 21X12-1/4X111 40.00 FT | N 017085 | 1 2,014 | 18 | 20 | 73 | 35 | 14 | 23 11 | 2 12 | 14 | 17 | 12 | 35 | 540.3 | 389.3 | 25.5 | 0.72 | | | | | |
| 24X9X68 40.00 FT | N 017287 | 8 9,872 | 18 | 20 | 64 | 27 | 13 | 24 9 | 2 13 | 2 | 13 | 11 | 34 | 543.3 | 404.0 | 25.5 | 0.74 | | | | | |
| 24X9X68 40.00 FT | N 017288 | 31 38,254 | 19 | 19 | 68 | 33 | 15 | 26 10 | 2 12 | 3 | 15 | 10 | 36 | 533.5 | 394.2 | 26.0 | 0.74 | | | | | |
| 24X9X68 40.00 FT | N 017289 | 15 18,510 | 20 | 18 | 69 | 33 | 12 | 28 12 | 3 14 | 5 | 18 | 13 | 38 | 546.2 | 407.0 | 25.0 | 0.74 | | | | | |
| 24X9X68 40.00 FT | N 017290 | 15 18,510 | 18 | 15 | 63 | 32 | 14 | 24 22 | 5 26 | 4 | 15 | 11 | 38 | 539.4 | 399.1 | 25.0 | 0.74 | | | | | |
| 24X9X76 40.00 FT | N 016835 | 3 4,137 | 18 | 15 | 69 | 32 | 17 | 24 8 | 2 11 | 5 | 17 | 16 | 34 | 516.8 | 379.5 | 27.0 | 0.73 | | | | | |
| 24X9X76 40.00 FT | N 016938 | 2 2,758 | 16 | 17 | 93 | 29 | 14 | 21 9 | 2 16 | 17 | 15 | 14 | 37 | 542.3 | 421.7 | 24.3 | 0.78 | | | | | |
| 24X9X76 40.00 FT | N 017292 | 22 30,338 | 19 | 20 | 70 | 35 | 17 | 28 12 | 2 17 | 3 | 15 | 13 | 37 | 541.3 | 423.6 | 24.0 | 0.78 | | | | | |
| SUB TOTAL | | 98 126,407 | | | | | | | | | | | | | | | | | | | | |

(Note) (1) Ceq: (CE=C+Mn/6+Cr/5+V/50+Mo/5+Ni/15+Cu/15) (2) Gauge length : 200 mm (3) Yield Ratio = YP/TS

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| K.S. Shim | 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 |
| General Manager of Q.A Team | |