# MILL TEST CERTIFICATE

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| Contract No. | |
| Customer | DUFERCO |
| L/C No. | |
| P/O No. | 32201305C100 |
| Commodity | H-BEAM |
| Specification | ASTM A572 G50/A992/ CSA 350W |

HYUNDAI STEEL

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|---|---|
| Head Office | 1, Songhyeon-dong, Dong-gu, Incheon, 401-712, S. Korea |
| Certificate No. | IH20130701409 - 11 |
| Class Cert. No. | |
| Date of Issue | 2013-07-09 |

| Dimensions & Length | Heat No. | Pieces / Weights (kg) | Chemical Composition (%) C | Si | Mn | P | S | Cu / Ni | Mo / Cr | Al / V | Nb | Sn | CE(1) | Tensile Test: Tensile Strength | Yield point | Elongation(2) | Yield Ratio | Impact Test (V-notch): AVG | 1 | 2 | 3 | Remarks (Impact Specimen Size) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ×100 | | | ×1000 | | ×100 | | ×1000 | | | ×100 | N/mm² | | % | | ( ) | C | | | |
| 21X12-1/4X122 40.00 FT | N 020778 | 5 17,712 | 18 | 15 | 70 | 26 | 20 | 28 8 | 2 9 | 3 | 16 | 15 | 34 | 535.4 538.4 | 382.5 385.4 | 25.0 24.5 | 0.71 0.72 | | | | | |
| 21X12-1/4X122 40.00 FT | N 020792 | 2 4,428 | 20 | 14 | 103 | 31 | 17 | 30 9 | 2 13 | 3 24 | | 13 | 43 | 534.5 536.4 | 404.6 409.9 | 24.0 23.5 | 0.76 0.76 | | | | | |
| 24X9X68 40.00 FT | N 020277 | 2 2,468 | 18 | 14 | 64 | 30 | 14 | 25 8 | 5 14 | 8 | 14 | 10 | 34 | 548.2 541.3 | 416.8 414.8 | 25.0 25.5 | 0.76 0.77 | | | | | |
| 24X9X68 40.00 FT | N 020278 | 22 27,148 | 18 | 16 | 64 | 33 | 14 | 27 8 | 2 18 | 5 | 16 | 12 | 35 | 551.1 547.2 | 419.7 414.8 | 24.5 25.0 | 0.76 0.76 | | | | | |
| 24X9X68 40.00 FT | N 020280 | 28 34,552 | 20 | 15 | 63 | 33 | 20 | 28 8 | 2 15 | [redacted] | 14 | 11 | 36 | [redacted] | 423.6 421.7 | 24.5 25.0 | 0.77 0.77 | | | | | |
| 24X9X76 40.00 FT | N 020282 | 19 26,201 | 18 | 17 | 68 | 25 | 19 | 30 8 | 2 13 | [redacted] | 17 | 13 | 36 | [redacted] | 392.3 397.2 | 27.5 27.0 | 0.75 0.75 | | | | | |
| 24X9X76 40.00 FT | N 020283 | 20 27,560 | 17 | 14 | 65 | 30 | 17 | 28 7 | 2 11 | [redacted] | 15 | 10 | 33 | [redacted] | 393.2 395.2 | 26.0 26.5 | 0.75 0.75 | | | | | |
| 24X9X76 40.00 FT | N 020284 | 5 6,895 | 19 | 17 | 69 | 28 | 18 | 24 7 | 2 12 | 3 | 17 | 10 | 35 | 526.6 527.6 | 399.1 400.1 | 25.5 26.0 | 0.76 0.76 | | | | | |
| 24X9X94 40.00 FT | N 020274 | 19 32,414 | 17 | 14 | 104 | 22 | 20 | 28 8 | 2 9 | 4 33 | 22 | 11 | 40 | 575.7 571.7 | 427.6 423.6 | 22.0 22.5 | 0.74 0.74 | | | | | |
| SUB TOTAL | | 125 179,998 | | | | | | | | | | | | | | | | | | | | |

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

K. S. Shim

General Manager of Q.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

HMS I 102(A)-3a ※ 현대제철은 검사증명서를 사본으로 제출하지 않습니다. 사본일 경우, 현대제철과 협력소로 확인하시기 바랍니다. 문의)02-772-2125 2010044 A4(210×297)