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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 |

MILL TEST CERTIFICATE

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|  | |
| Head Office | 1, Songhyeon-dong, Dong-gu, Incheon, 401-712, S. Korea |
| Certificate No. | IH20130701409 - 9 |
| Class Cert. No. | |
| Date of Issue | 2013-07-09 |

| Dimensions & Length | Heat No. | Pieces 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 |
| | | | x100 | x1000 | x100 | x1000 | x100 | x100 | x1000 | x100 | x1000 | x100 | N/mm ² | % | % | () | C | | | | | |
| 21X6-1/2X44 40.00 FT | E 167592 | 43 34,314 | 20 | 9 | 79 | 19 | 17 | 21 | 2 | 3 | 11 | 10 | 36 | 559.0 | 435.4 | 23.5 | 0.78 | | | | | |
| 21X6-1/2X50 40.00 FT | E 167587 | 67 60,769 | 19 | 9 | 59 | 38 | 16 | 28 | 2 | 4 | 11 | 12 | 34 | 524.7 | 392.3 | 26.0 | 0.75 | | | | | |
| 21X6-1/2X50 40.00 FT | E 167588 | 6 5,442 | 16 | 12 | 65 | 27 | 13 | 26 | 2 | 2 | 10 | 11 | 34 | 543.3 | 434.4 | 26.5 | 0.80 | | | | | |
| 21X6-1/2X57 40.00 FT | E 167583 | 40 41,360 | 19 | 10 | 62 | 18 | 14 | 24 | 2 | 2 | 10 | 11 | 34 | 514.8 | 379.6 | 27.5 | 0.74 | | | | | |
| 21X6-1/2X57 40.00 FT | E 167584 | 20 20,680 | 19 | 9 | 63 | 18 | 16 | 27 | 2 | 2 | 11 | 10 | 34 | 529.8 | 421.7 | 26.0 | 0.80 | | | | | |
| 21X12-1/4X101 40.00 FT | N 020773 | 5 9,160 | 19 | 22 | 77 | 24 | 14 | 27 | 2 | 4 | 16 | 13 | 37 | 530.5 | 377.6 | 25.0 | 0.71 | | | | | |
| 21X12-1/4X101 40.00 FT | N 020784 | 2 3,664 | 18 | 20 | 94 | 27 | 19 | 27 | 2 | 4 | 13 | 13 | 39 | 530.5 | 408.0 | 24.0 | 0.77 | | | | | |
| 21X12-1/4X101 40.00 FT | N 020793 | 8 14,656 | 19 | 22 | 77 | 23 | 14 | 29 | 2 | 4 | 15 | 13 | 37 | 540.3 | 381.5 | 25.0 | 0.71 | | | | | |
| 21X12-1/4X101 40.00 FT | N 020795 | 5 9,160 | 21 | 16 | 74 | 23 | 19 | 26 | 2 | 4 | 13 | 13 | 39 | 557.0 | 404.0 | 26.0 | 0.72 | | | | | |
| SUB TOTAL | | 199,205 | | | | | | | | | | | | | | | | | | | | |

(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

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2010044 A4(210x297)