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| Contract No. | |
| Customer | DUFERCO |
| L/C No. | |
| P/O No. | 32201408C331 |
| Commodity | H-BEAM |
| Specification | ASTM A572 G50/A992/ CSA 350W |

MILL TEST CERTIFICATE



| | |
|-----------------|--|
| Head Office | 63, Jungbong-daero, Dong-gu, Incheon, 401-712, S. Korea |
| Certificate No. | IH20140801606 - 1 |
| Class Cert. No. | |
| Date of Issue | 2014-08-11 |

| 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 Ni | Mo Cr | Al V | Nb | Sn | CE ⁽¹⁾ | Tensile Strength | Yield point | Elongation ⁽²⁾ | Yield Ratio | AVG | 1 | 2 | | 3 | |
| | | | ×100 | | | ×1000 | | ×100 | | ×1000 | | | ×100 | N/mm ² | | % | | C | | | | | |
| 27X10X84 40.00 FT | N 025245 | 1 1,524 | 18 | 17 | 66 | 24 | 12 | 23 8 | 2 10 | 3 22 | | 5 | 12 | 34 | 599 593 | 440 438 | 21.5 22.0 | 0.74 0.74 | | | | | |
| 27X10X84 40.00 FT | N 025246 | 20 30,480 | 19 | 18 | 67 | 23 | 12 | 24 7 | 2 11 | 5 24 | | 5 | 11 | 35 | 597 592 | 443 437 | 22.0 22.5 | 0.74 0.74 | | | | | |
| 27X10X84 40.00 FT | N 025247 | 2 3,048 | 18 | 22 | 67 | 24 | 8 | 19 7 | 3 14 | 5 23 | | 6 | 18 | 35 | 591 593 | 447 449 | 22.5 22.0 | 0.76 0.76 | | | | | |
| 27X10X84 40.00 FT | N 025248 | 1 1,524 | 18 | 13 | 67 | 28 | 10 | 20 8 | 2 18 | 4 23 | | 6 | 10 | 35 | 587 582 | 443 440 | 22.5 23.0 | 0.76 0.76 | | | | | |
| 27X10X84 40.00 FT | N 025249 | 14 21,336 | 18 | 15 | 67 | 20 | 10 | 19 9 | 3 16 | 4 24 | | 6 | 11 | 35 | 598 592 | 446 443 | 21.5 22.0 | 0.75 0.75 | | | | | |
| 27X10X84 40.00 FT | N 025250 | 15 22,860 | 18 | 17 | 65 | 22 | 11 | 23 8 | 2 14 | 4 23 | | 6 | 11 | 35 | 610 602 | 440 438 | 21.0 21.5 | 0.72 0.73 | | | | | |
| 27X10X84 40.00 FT | N 025251 | 14 21,336 | 19 | 15 | 65 | 22 | 11 | 22 7 | 2 14 | 4 25 | | 7 | 10 | 35 | 589 595 | 445 443 | 23.0 23.5 | 0.76 0.74 | | | | | |
| 27X10X84 40.00 FT | N 025252 | 4 6,096 | 18 | 14 | 66 | 24 | 8 | 21 7 | 2 15 | 4 23 | | 6 | 9 | 35 | 602 605 | 441 443 | 21.5 22.0 | 0.73 0.73 | | | | | |
| 27X10X84 40.00 FT | N 025253 | 1 1,524 | 19 | 14 | 65 | 24 | 12 | 23 8 | 2 13 | 4 23 | | 5 | 14 | 35 | 590 584 | 446 444 | 22.5 23.0 | 0.76 0.76 | | | | | |
| TOTAL | | 72 109,728 | | | | | | | | | | | | ===== E N D ===== | | | | | | | | | |

ORIGINAL

(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

J. C. Ahn
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

