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| Contract No. | |
| Customer | HYUNDAI CORPORATION |
| L/C No. | |
| P/O No. | 32201601C111 |
| Commodity | H-BEAM |
| Specification | ASTM A572 G50/A992/GSA G 40.21-13 50WM(345WM) |

INSPECTION CERTIFICATE



| | |
|-----------------|--|
| Head Office | 63, Jungbong-daero, Dong-gu, Incheon, 401-712, S. Korea |
| Certificate No. | IH20160201768 - 3 |
| Class Cert. No. | |
| Date of Issue | 2016-02-16 |

EN 10204(2004) TYPE 3.1

| 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 | | % | | (^o) | °C | | | |
| 10X8X39 40.00 FT | D 132364 | 13 9,204 | 16 | 15 | 58 | 27 | 3 | 28 9 | 2 17 | 3 2 | 14 | 12 | 32 | 521 524 | 411 414 | 24.5 24.0 | 0.79 0.79 | | | | | |
| 10X8X39 40.00 FT | D 132365 | 1 708 | 17 | 18 | 63 | 28 | 5 | 22 7 | 2 20 | 3 3 | 16 | 10 | 34 | 537 533 | 426 420 | 24.0 25.0 | 0.79 0.79 | | | | | |
| 12X8X40 40.00 FT | E 187569 | 7 5,082 | 19 | 15 | 64 | 27 | 9 | 23 8 | 2 12 | 3 16 | 2 | 9 | 35 | 518 522 | 391 396 | 26.0 25.5 | 0.76 0.76 | | | | | |
| 12X8X40 40.00 FT | E 187570 | 69 50,094 | 18 | 14 | 64 | 25 | 7 | 21 7 | 2 12 | 2 15 | 2 | 8 | 34 | 521 517 | 394 393 | 25.5 26.0 | 0.76 0.76 | | | | | |
| 12X8X40 40.00 FT | E 187571 | 19 13,794 | 18 | 14 | 64 | 22 | 9 | 22 7 | 2 13 | 2 13 | 1 | 8 | 34 | 523 516 | 391 392 | 26.0 26.5 | 0.75 0.76 | | | | | |
| 12X8X40 40.00 FT | E 187572 | 5 3,630 | 18 | 19 | 66 | 21 | 6 | 24 9 | 2 15 | 3 14 | 1 | 13 | 35 | 526 527 | 418 422 | 25.5 26.0 | 0.80 0.80 | | | | | |
| 12X8X40 40.00 FT | E 187573 | 1 726 | 18 | 16 | 65 | 25 | 9 | 19 9 | 2 17 | 3 14 | 1 | 9 | 35 | 524 529 | 417 420 | 26.0 25.5 | 0.80 0.79 | | | | | |
| 12X8X40 40.00 FT | E 187574 | 1 726 | 18 | 16 | 64 | 23 | 6 | 19 9 | 3 20 | 3 14 | 1 | 9 | 35 | 541 536 | 410 406 | 26.0 26.5 | 0.76 0.76 | | | | | |
| 12X8X45 40.00 FT | E 187576 | 38 31,008 | 18 | 16 | 64 | 22 | 11 | 18 8 | 2 20 | 2 14 | 1 | 9 | 35 | 567 561 | 440 437 | 23.0 22.5 | 0.78 0.78 | | | | | |
| SUB TOTAL | | 154 114,972 | | | | | | | | | | | | | | | | | | | | |

(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