

|               |   |
|---------------|---|
| Contract No.  |   |
| Customer      | HYUNDAI CORPORATION                           |
| L/C No.       |   |
| P/O No.       | 32201606C821                                  |
| Commodity     | H-BEAM  |
| Specification | ASTM A572 G50/A992/CSA G 40.21-13 50WM(345WM) |

# INSPECTION CERTIFICATE

EN 10204(2004) TYPE 3.1

|                 |   |
|-----------------|---|
|                 |   |
| Head Office     | 63, Jungbong-daero, Dong-gu, Incheon, 22525, S. Korea |
| Certificate No. | IH20160800511 - 1                                     |
| Class Cert. No. |   |
| Date of Issue   | 2016-08-03  |



| Dimensions & Length     | Heat No. | Pieces<br>Weights<br>(kg) | Chemical Composition (%) |    |       |    |      |          |          |         |    |      |       |                     | Tensile Test |               |                | Impact Test (V-notch) |   |   |   | Remarks<br>(Impact Specimen) |
|-------------------------|----------|---------------------------|--------------------------|----|-------|----|------|----------|----------|---------|----|------|-------|---------------------|--------------|---------------|----------------|-----------------------|---|---|---|------------------------------|
|                         |          |                           | C                        | Si | Mn    | P  | S    | Cu<br>Ni | Mo<br>Cr | Al<br>V | Nb | Sn   | CE(1) | Tensile<br>Strength | Yield point  | Elongation(2) | Yield<br>Ratio | AVG                   | 1 | 2 | 3 |                              |
|                         |          |                           | ×100                     |    | ×1000 |    | ×100 |          | ×1000    |         |    | ×100 |       | N/mm <sup>2</sup>   |              | %             |                | ( )                   | c |   |   |                              |
| 6X6X20<br>40.00 FT      | D 135548 | 72<br>26,136              | 17                       | 15 | 59    | 29 | 6    | 28<br>9  | 2<br>18  | 3<br>2  | 15 | 15   | 33    | 513<br>520          | 392<br>395   | 26.5<br>25.0  | 0.76<br>0.76   |                       |   |   |   |                              |
| 8X6-1/2X28<br>40.00 FT  | D 134851 | 24<br>12,192              | 17                       | 17 | 62    | 16 | 7    | 24<br>8  | 2<br>15  | 3<br>3  | 19 | 17   | 33    | 511<br>510          | 380<br>378   | 27.0<br>27.5  | 0.74<br>0.74   |                       |   |   |   |                              |
| 10X4X12<br>40.00 FT     | D 135215 | 30<br>6,540               | 18                       | 14 | 60    | 25 | 7    | 26<br>8  | 2<br>14  | 5<br>2  | 15 | 16   | 34    | 529<br>524          | 392<br>390   | 26.0<br>25.5  | 0.74<br>0.74   |                       |   |   |   |                              |
| 10X4X12<br>40.00 FT     | D 135227 | 70<br>15,260              | 17                       | 14 | 59    | 27 | 4    | 30<br>9  | 2<br>17  | 5<br>3  | 16 | 15   | 33    | 532<br>530          | 402<br>400   | 24.5<br>24.0  | 0.76<br>0.76   |                       |   |   |   |                              |
| 10X4X15<br>40.00 FT     | D 135281 | 40<br>10,880              | 17                       | 16 | 60    | 26 | 8    | 30<br>9  | 2<br>17  | 4<br>3  | 15 | 14   | 33    | 525<br>520          | 421<br>416   | 24.5<br>25.0  | 0.80<br>0.80   |                       |   |   |   |                              |
| 10X4X17<br>40.00 FT     | D 135210 | 10<br>3,080               | 17                       | 15 | 60    | 15 | 6    | 26<br>8  | 2<br>10  | 3<br>1  | 15 | 12   | 32    | 509<br>506          | 387<br>388   | 25.5<br>26.0  | 0.76<br>0.77   |                       |   |   |   |                              |
| 10X4X17<br>40.00 FT     | D 135211 | 90<br>27,720              | 17                       | 16 | 62    | 22 | 8    | 26<br>8  | 1<br>12  | 3<br>2  | 15 | 14   | 32    | 521<br>518          | 389<br>384   | 26.5<br>26.0  | 0.75<br>0.74   |                       |   |   |   |                              |
| 10X5-3/4X26<br>40.00 FT | D 135048 | 5<br>2,360                | 17                       | 18 | 71    | 30 | 4    | 27<br>11 | 2<br>26  | 4<br>4  | 20 | 11   | 37    | 556<br>552          | 422<br>420   | 23.0<br>23.0  | 0.76<br>0.76   |                       |   |   |   |                              |
| 10X5-3/4X26<br>40.00 FT | D 135099 | 19<br>8,968               | 16                       | 14 | 58    | 28 | 4    | 24<br>10 | 2<br>16  | 3<br>2  | 17 | 10   | 32    | 511<br>512          | 398<br>396   | 25.0<br>25.5  | 0.78<br>0.77   |                       |   |   |   |                              |
| SUB TOTAL               |          | 360<br>113,136            |                          |    |       |    |      |          |          |         |    |      |       |                     |              |               |                |                       |   |   |   |                              |

(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

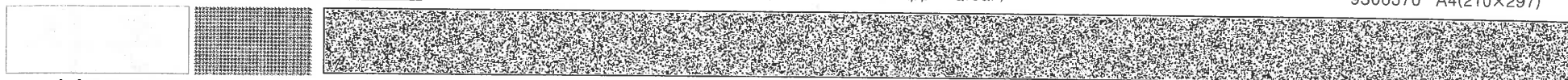
WE HEREBY CERTIFY THAT THE MATERIAL HAS BEEN MADE AND TESTED IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND ALSO WITH THE REQUIREMENTS CALLED FOR THE ABOVE ORDER



HMS I 102(A)-3a

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9300370 A4(210×297)



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