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| Contract No.  |   |
| Customer      | HYUNDAI CORPORATION                           |
| L/C No.       |   |
| P/O No.       | 32201601C121                                  |
| Commodity     | H-BEAM  |
| Specification | ASTM A572 G50/A992/CSA G 40.21-13 50WM(345WM) |

# INSPECTION CERTIFICATE



|                 |   |
|-----------------|---|
| Head Office     | 63, Jungbong-daero, Dong-gu, Incheon, 401-712, S. Korea |
| Certificate No. | IH20160201769 - 4                                       |
| Class Cert. No. |   |
| Date of Issue   | 2016-02-16  |

EN 10204(2004) TYPE 3.1

| Dimensions & Length      | Heat No. | Pieces<br>Weights<br>(kg) | Chemical Composition (%) |    |    |       |    |          |          |         |    |    |                   | Tensile Test        |             |                           | Yield Ratio  | Impact Test (V-notch) |   |   |   | Remarks<br>(Impact Specimen Size) |  |
|--------------------------|----------|---------------------------|--------------------------|----|----|-------|----|----------|----------|---------|----|----|-------------------|---------------------|-------------|---------------------------|--------------|-----------------------|---|---|---|-----------------------------------|--|
|                          |          |                           | C                        | Si | Mn | P     | S  | Cu<br>Ni | Mo<br>Cr | Al<br>V | Nb | Sn | CE <sup>(1)</sup> | Tensile<br>Strength | Yield point | Elongation <sup>(2)</sup> |              | AVG                   | 1 | 2 | 3 |                                   |  |
|                          |          |                           | x100                     |    |    | x1000 |    | x100     |          | x1000   |    |    | x100              | N/mm <sup>2</sup>   |             | %                         |              | ( <sup>o</sup> )      | C |   |   |                                   |  |
| 12X8X50<br>40.00 FT      | E 187581 | 1<br>907                  | 18                       | 15 | 65 | 22    | 8  | 18<br>8  | 2<br>14  | 3<br>14 |    | 1  | 7                 | 34                  | 511<br>508  | 373<br>370                | 26.5<br>27.0 | 0.73<br>0.73          |   |   |   |                                   |  |
| 14X6-3/4X30<br>40.00 FT  | D 132254 | 40<br>21,760              | 18                       | 16 | 59 | 27    | 8  | 28<br>9  | 2<br>14  | 3<br>2  |    | 15 | 12                | 34                  | 534<br>530  | 401<br>406                | 25.0<br>25.0 | 0.75<br>0.77          |   |   |   |                                   |  |
| 14X6-3/4X38<br>40.00 FT  | D 132249 | 17<br>11,713              | 17                       | 23 | 63 | 27    | 6  | 23<br>8  | 2<br>15  | 4<br>3  |    | 20 | 9                 | 33                  | 535<br>539  | 389<br>391                | 26.5<br>25.5 | 0.73<br>0.72          |   |   |   |                                   |  |
| 14X8X43<br>40.00 FT      | E 187734 | 16<br>12,480              | 19                       | 14 | 65 | 29    | 8  | 24<br>7  | 2<br>20  | 3<br>13 |    | 2  | 14                | 37                  | 529<br>527  | 398<br>396                | 26.5<br>27.0 | 0.75<br>0.75          |   |   |   |                                   |  |
| 14X8X48<br>40.00 FT      | E 187727 | 3<br>2,613                | 18                       | 16 | 65 | 24    | 6  | 28<br>7  | 1<br>16  | 3<br>13 |    | 1  | 12                | 35                  | 538<br>541  | 402<br>408                | 25.0<br>24.5 | 0.75<br>0.75          |   |   |   |                                   |  |
| 14X8X48<br>40.00 FT      | E 187728 | 4<br>3,484                | 18                       | 14 | 69 | 24    | 9  | 27<br>8  | 2<br>16  | 3<br>15 |    | 2  | 13                | 36                  | 528<br>531  | 410<br>413                | 24.0<br>24.5 | 0.78<br>0.78          |   |   |   |                                   |  |
| 14X8X48<br>40.00 FT      | E 187729 | 1<br>871                  | 18                       | 16 | 63 | 22    | 10 | 30<br>8  | 1<br>13  | 3<br>13 |    | 3  | 13                | 34                  | 522<br>528  | 402<br>408                | 24.0<br>23.5 | 0.77<br>0.77          |   |   |   |                                   |  |
| 14X8X48<br>40.00 FT      | E 187730 | 2<br>1,742                | 19                       | 15 | 69 | 25    | 10 | 21<br>6  | 1<br>14  | 3<br>14 |    | 2  | 11                | 36                  | 538<br>544  | 422<br>429                | 23.0<br>23.0 | 0.78<br>0.79          |   |   |   |                                   |  |
| 14X14-1/2X90<br>40.00 FT | N 031098 | 1<br>1,632                | 19                       | 13 | 95 | 27    | 9  | 27<br>9  | 2<br>20  | 3<br>15 |    | 1  | 22                | 42                  | 554<br>549  | 404<br>398                | 25.0<br>26.0 | 0.73<br>0.72          |   |   |   |                                   |  |
| SUB TOTAL                |          | 85<br>57,202              |                          |    |    |       |    |          |          |         |    |    |                   |                     |             |                           |              |                       |   |   |   |                                   |  |

(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

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| <p><i>J. C. Ahn</i></p> <p>General Manager of Q.A Team</p> | <p>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</p> |
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