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# MILL'S QUALITY CERTIFICATES

**SeAH Steel Corp.**
**(주)세아제강**
HEAD OFFICE ; BONGNAE-DONG 1GA, JUNG-GU, SEOUL, KOREA
POHANG PLANT ; 14-1, JANGHEUNG-DONG, NAM-GU, POHANG

증명서번호
CERTIFICATE NO.: E200709-0080-002316(5001666)
제 품 명
COMMODITY : E.R.W STEEL PIPE
제 품 규 격
SPECIFICATION : ASTM A500 B(2003A)

발 급 일 자
DATE OF ISSUE : 2007.09.21
계 약 서 번 호
L/C No. (P/O No.) : PLESA
수 요 가
CUSTOMER : DUFERCO SA
주 문 자
SHIPPER : SEAH STEEL CORPORATION

| NO. | HEAT NO. (BATCH NO.) | 관 단 TYPE *1 | 주 문 치 수 ORDER SIZE | 수 량 QUANTITY 본 수 PCS | 총 길 이 TOTAL LENGTH | 중량(M/T) WEIGHT | 비 고 REMARK |
|---|---|---|---|---|---|---|---|
| 1 | SB74856 (SHH6251010) | BME | 12" X 12" X 0.500 " X 40.000 FT | 4 | 160.000 FT | 5.521 | ORIGINAL |
| 2 | C634381 (SHH6251030) | BME | 12" X 12" X 0.500 " X 40.000 FT | 7 | 280.000 FT | 9.661 | |
| 3 | SB74856 (SHH6251050) | BME | 12" X 12" X 0.313 " X 40.000 FT | 14 | 560.000 FT | 12.213 | |
| 4 | SB74427 (SHH6251060) | BME | 12" X 12" X 0.313 " X 40.000 FT | 5 | 200.000 FT | 4.362 | |

| NO. | HEAT NO (BATCH NO.) | HYDROSTATIC TEST Sec. | HYDROSTATIC TEST RESULT | N·D·T RESULT *2 | VISUAL & DIMENSION | FLATTENING | SHOCK | COMPRESSION | RESIDUAL MAGNETISM GAUSS | BENDING *3 | DRIFT | CRUSH | FLARING | FLANGE | REVERSE FLATTENING | ZINC COATING TEST WEIGHT OF ZINC COAT -ING | ZINC COATING TEST 규격 C.S *4 | ZINC COATING TEST 실리 ALK *5 | CHEMICAL COMPOSITION(%) DESIG *6 | C | Si | Mn | P | S | CEQ *8 | TENSILE TEST (Gage Length : 50mm) DIR *9 | TENSILE STRENGTH psi | YIELD STRENGTH psi | E.L % *10 | IMPACT TEST (℃) ENERGY Joule | IMPACT TEST (℃) SHEAR AREA % | HARDNESS TEST | HEAT TREATMENT *11 | PROTECTIVE COATING & LINING THICKNESS | PROTECTIVE COATING & LINING P.H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | 2 | | | 3 | | | | | | | | | | | | |
| 기준 SPEC | | | | | | | | | | | | | | | | | | | MAX | 30 | | | 45 | 45 | | | 58000 | 46000 | 23 | | | | | | |
| | | | | | | | | | | | | | | | | | | | MIN | | | | | | | | | | | | | | | | | |
| 1 | SB74856 (SHH6251010) | | | | G | | | | | | | | | | | | | | H | 18 | 3 | 86 | 10 | 9 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | P | 17 | 3 | 86 | 10 | 7 | | L | 73530 | 48070 | 31 | | | | | | |
| | | | | | | | | | | | | | | | | | | | P | 17 | 4 | 86 | 11 | 7 | | | | | | | | | | | |
| 2 | C634381 (SHH6251030) | | | | G | | | | | | | | | | | | | | H | 16 | 2 | 79 | 13 | 7 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | P | 15 | 2 | 78 | 11 | 7 | | L | 70120 | 48780 | 31 | | | | | | |
| | | | | | | | | | | | | | | | | | | | P | 15 | 2 | 79 | 14 | 6 | | | | | | | | | | | |
| 3 | SB74856 (SHH6251050) | | | | G | | | | | | | | | | | | | | H | 18 | 3 | 86 | 10 | 9 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | P | 17 | 2 | 85 | 11 | 7 | | L | 75520 | 50630 | 26 | | | | | | |
| | | | | | | | | | | | | | | | | | | | P | 18 | 3 | 86 | 10 | 11 | | | | | | | | | | | |
| 4 | SB74427 (SHH6251060) | | | | G | | | | | | | | | | | | | | H | 17 | 1 | 74 | 10 | 7 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | P | 16 | 1 | 74 | 10 | 5 | | L | 73390 | 52050 | 27 | | | | | | |
| | | | | | | | | | | | | | | | | | | | P | 16 | TR | 74 | 8 | 6 | | | | | | | | | | | |

NOTE *1 ~ *12 : Refer To The Attached Section Designation

OTHER

Surveyor :

- WE HEREBY CERTIFY THAT THE MATERIAL HEREIN HAS BEEN MADE AND TESTED IN ACCORDANCE WITH ABOVE SPECIFICATION AND THE RESULTS OF ALL TEST ARE ACCEPTABLE.
- THE USE OF THE MATERIAL OUTSIDE THE SPECIFICATIONS INDICATED ON THIS CERTIFICATE MAY CAUSE SAFETY AND/OR MONETARY PROBLEMS. FURTHERMORE, ANY ORGANIZATION OR PERSON(S) WHO DELIBERATELY MODIFIES THE CERTIFICATE WILL BE PROSECUTED FOR FORGING AN OFFICIAL DOCUMENT (ACCORDING TO THE PROVISIONS OF THE CRIMINAL CODE 231)

Manager of Q.M Dept.

J. E. KIM

주식회사세아제강 SeAH 포항공장품질경영팀장