

ORIGINAL

QUALITY CERTIFICATE

주식회사 휴스틸
(HUSTEEL CO.,LTD.)

계약서번호
P/O No. : 12691
L/C No. : M927857
발급 일자
ISSUED DATE : 2012. 07. 25.
제품명
COMMODITY : E.R.W. STEEL PIPES
제품규격
SPECIFICATION : API 5LB / ASTM A53B

HEAD OFFICE : Shinan B/D 15F, 943-19, Daechi-dong
Kangnam-ku, SEOUL 135-845, KOREA
DANGJIN PLANT: 569-1,BUGOK-RI,SONGAK-MYEON, DANGJIN-GUN,
CHUNGCHEONGNAM-DO,KOREA
DAEBUL PLANT: 150,DAEBULSANDAN3-RO, YOUNGAM-GUN
JOLLANAM-DO, KOREA

증명서번호
CERTIFICATE No. : 20120725-237
제조번호
MANUFACTURED No. : 2012-06-204
공급자
SUPPLIER : HUSTEEL CO.,LTD.
수요자
CUSTOMER : PLESA ANAHUAC Y CIAS.,
S.A. DE C.V.

| ITEM NO. | HEAT NO. (LOT) | 관종 TYPE | 수량 QUANTITY (PIECES) | 호칭경 NOMINAL SIZE (inch) | 주문치수 ORDER SIZE | | | 중량 WEIGHT (lb/ft) | 인장시험 TENSILE TEST | | | | 화학성분 CHEMICAL COMPOSITION(%) | | | | | | | | | | | | | | |
|----------|----------------|---------|----------------------|-------------------------|-----------------|--------------|----------------|-------------------|-------------------|---------------|------------|----------------|------------------------------|----|----|----|---|----|----|----|----|----|-----|----|---|-----|-----|
| | | | | | 바깥지름 O.D (mm) | 두께 W.T. (in) | 길이 LENGTH (ft) | | 인장강도 TS (psi) | 항복강도 YS (psi) | 연신율 EL (%) | 항복비 YR (YS/TS) | C | Si | Mn | P | S | Cu | Cr | Ni | Mo | V | Nb | Ti | B | PCM | CEQ |
| | | | | | ② | ③ | | | (psi) | (psi) | (%) | (YS/TS) | -2 | -3 | -2 | -3 | | | -4 | | | -3 | | | | | |
| 1 | 389345 | BPEB | 38 | 10 3/4 | 273.1 | 0.250 | 20' | 28.04 | 71791 | 49746 | 36 | | 17 | 17 | 82 | 17 | 4 | 6 | 15 | 3 | 14 | 5 | 20 | 5 | 1 | | |
| 2 | 389395 | BPEB | | 10 3/4 | 273.1 | 0.250 | 20' | 28.04 | 67585 | 48150 | 40 | | 11 | 9 | 84 | 14 | 1 | 1 | 18 | 1 | 1 | 5 | 23 | 3 | 1 | | |
| 3 | M51962 | BPEB | | 10 3/4 | 273.1 | 0.250 | 20' | 28.04 | 68600 | 58013 | 37 | | 8 | 9 | 84 | 12 | 6 | 16 | 19 | 5 | 4 | 4 | 150 | 5 | 1 | | |
| 4 | M51973 | BPEB | | 10 3/4 | 273.1 | 0.250 | 20' | 28.04 | 78027 | 52936 | 25 | | 8 | 22 | 80 | 11 | 3 | 14 | 23 | 6 | 2 | 5 | 199 | 5 | 1 | | |
| 5 | M52855 | BPEB | | 10 3/4 | 273.1 | 0.250 | 20' | 28.04 | 67005 | 55692 | 38 | | 7 | 10 | 81 | 12 | 5 | 17 | 20 | 6 | 4 | 7 | 160 | 5 | 1 | | |
| 6 | SQ70188 | BPEB | | 10 3/4 | 273.1 | 0.250 | 20' | 28.04 | 67440 | 52501 | 37 | | 16 | 19 | 65 | 8 | 3 | 10 | 10 | 4 | 2 | 4 | 11 | 4 | 1 | | |
| 7 | 29286 | BPEB | 188 | 10 3/4 | 273.1 | 0.365 | 20' | 40.49 | 67005 | 53372 | 40 | | 15 | 13 | 69 | 23 | 5 | 10 | 29 | 6 | 26 | 33 | 7 | 4 | 1 | | |
| 8 | 29287 | BPEB | 100 | 10 3/4 | 273.1 | 0.365 | 20' | 40.49 | 64394 | 48876 | 39 | | 17 | 8 | 69 | 14 | 6 | 13 | 28 | 8 | 75 | 4 | 18 | 3 | 1 | | |
| 9 | 29290 | BPEB | 39 | 10 3/4 | 273.1 | 0.365 | 20' | 40.49 | 64104 | 48150 | 41 | | 16 | 9 | 71 | 14 | 5 | 11 | 29 | 7 | 42 | 8 | 12 | 5 | 1 | | |

| ITEM NO. | 수압시험 HYDROSTATIC TEST | | 열처리온도 HEAT TREATMENT (°C) | 비파괴 시험 NDT (U.T) | 경도시험 HARDNESS TEST (HV) | 외주장 CIRCUMFERENCE | | 용접부인장강도 TENSILE STRENGTH OF WELDS (psi) | 아연도금시험 ZINC COATING TEST | | VISUAL & DIMENSION | FLATTENING (BEND) TEST | W D T | R G T | M G T | S.T (%) | 충격시험 IMPACT TEST | | Res. Mag. | 비고 REMARKS |
|----------|-----------------------|---------|---------------------------|------------------|-------------------------|-------------------|------|---|--------------------------|-------------|--------------------|------------------------|-------|-------|-------|---------|------------------|-------------------|-----------|---|
| | TP (psi) | RE-SULT | | | | END | BODY | | WZC (g/m²) | CST (TIMES) | | | | | | | P | ENERGY(J) SIZE: ⑪ | | |
| | ⑤ | | | | | | | | ⑦ | | | | | | | | ⑩ | ()°C | | |
| 1 | 1000 | GOOD | 930 | ACCEPT | | | | 75852 | | | ACCEPT | GOOD | | | | GOOD | 0.1 | | 16 | ①Latest edition per 5LB(44th,2008)/ ASTM A53B(2007)/ ②HARDNESS MAX. 22 HRC AS PER NACE MR 0175 |
| 2 | 1000 | GOOD | 930 | ACCEPT | | | | 71646 | | | ACCEPT | GOOD | | | | GOOD | 0.1 | | 17 | |
| 3 | 1000 | GOOD | 930 | ACCEPT | | | | 72661 | | | ACCEPT | GOOD | | | | GOOD | 0.1 | | 16 | |
| 4 | 1000 | GOOD | 930 | ACCEPT | | | | 82088 | | | ACCEPT | GOOD | | | | GOOD | 0.1 | | 16 | |
| 5 | 1000 | GOOD | 930 | ACCEPT | | | | 71066 | | | ACCEPT | GOOD | | | | GOOD | 0.1 | | 17 | |
| 6 | 1000 | GOOD | 930 | ACCEPT | | | | 71501 | | | ACCEPT | GOOD | | | | GOOD | 0.1 | | 16 | |
| 7 | 1450 | GOOD | 930 | ACCEPT | | | | 71066 | | | ACCEPT | GOOD | | | | GOOD | 0.1 | | 16 | |
| 8 | 1450 | GOOD | 930 | ACCEPT | | | | 68455 | | | ACCEPT | GOOD | | | | GOOD | 0.1 | | 16 | |
| 9 | 1450 | GOOD | 930 | ACCEPT | | | | 68165 | | | ACCEPT | GOOD | | | | GOOD | 0.1 | | 17 | |

N ①TYPE BPE BLACK PLAIN ENDS BPEB BPE BEVELLED BTE BLACK THREADED ENDS BTC BLACK THREADED & COUPLED GPE GALVANIZED PLAIN ENDS GTE GALVANIZED THREADED ENDS GTC GALVANIZED THREAD & COUPLED
O ②O.D. OUTSIDE DIAMETER ③W.T. WALL THICKNESS ④CHEMICAL COMPOSITION CHECK-ANALYSIS/UNIT -2:1/x100 -3:1/x1000 -4:1/x10000 TR TRACE ⑤TP TESTING PRESSURE ⑥NDT NON-DESTRUCTIVE TEST
T E.T EDDY CURRENT TEST U.T ULTRASONIC TEST ⑦WZC WEIGHT OF ZINC COATING CST COPPER SULPHATE TEST ⑧WDT WELD DUCTILITY TEST RGT RING GAGE TEST MGT METALLOGRAPHIC TEST ⑨S.T STRAIGHTNESS
E ⑩P=Position B:Base Metal, CL:Center Line ⑪SPECIMEN SIZE, A:10x10mm, B:10x7.5mm, C:10x6.7mm, D:10x5.0mm, ⑫RES.MAG. : RESIDUAL MAGNETISM

SIGNATURE _____
WE HEREBY CERTIFY THAT THE PRODUCTS HEREIN HAVE BEEN MADE AND TESTED IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND ALSO WITH THE REQUIREMENTS CALLED FOR THE ORDER.
MANAGER OF QUALITY ASSURANCE TEAM