CERTIFICATE NO.(성적서 번호) : A403034

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CONTRACT(P/O) NO.(계약번호) :

PR NO.(주문서 번호) : F160100105

COMMODITY(제품명) : CARBON STEEL PIPE

SPECIFICATION(제품규격) : API 5L B PSL1/ASTM 53B



# 검 사 증 명 서
# MILL TEST CERTIFICATE
## EN 10204 TYPE 3.1 - 2004

HYUNDAI STEEL 현대제철주식회사 HYUNDAI STEEL

울산 공장 (ULSAN PLANT) : 울산광역시 북구 염포로 706 (우)683-711
706, Yeompo-ro, Buk-gu, Ulsan, Korea
TEL:82-52-280-0114, FAX:82-52-287-8916

CUSTOMER(고객사) : PLESA ANAHUAC Y CIAS S.A. DE C.V.

| No. | TYPE OF PIPE END ※1 | SIZE OUT-DIA x THICK x LENGTH (외경 X 두께 X 길이) | PCS (본) | WEIGHT (KG) | TOTAL LENGTH (F) | HEAT No. | Hydrostatic Test Pressure PSI | Hydrostatic Test Time SEC | Spec. Min. / Max. | Tensile Properties (Gage length : 2 inch) ※2 | Tensile Strength Base Mpa | Tensile Strength Weld Mpa | Yield Strength Mpa | Y/R Rate % | E.L % | Hardness Test & CVN Impact Test ※3 | Hardness Test | CVN Impact Test (℃) ※2 Specimen size | Absorbed Energy (Joule) 1 | 2 | 3 | Avg | Shear Area(%) | D.W.T Test (℃) Shear Area(%) 1 | 2 | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Min. | | 415 | 415 | 245 | | 25 | | | | | | | | | | | |
| | | | | | | | | | Max. | | | | | | | | | | Criteria : In the case of 10X10 | | | | | | | |
| 1 | EB BE | 10-3/4" X 0.225" X 21.000 F | 2 | 483 | 42.0 | SB59063 | 890 | 5 | | T | 477 | 489 | 355 | 74 | 40 | | | | | | | | | | | |
| 2 | EB BE | 10-3/4" X 0.250" X 21.000 F | 8 | 2,155 | 168.0 | SB59057 | 1000 | 5 | | T | 442 | 492 | 368 | 83 | 39 | | | | | | | | | | | |
| | | TOTAL | 10 | 2,638 | 210.0 | | | | | | | | | | | | | | | | | | | | | |

| No. | Heat No. | Spec. | | C | Mn ※7 | P | S | Cu | Ni | Cr | Mo | B | CM1 ※8 | CM2 ※9 | Zn Coating | Copper Sulfate Test Time | Copper Sulfate Test Result | HC-Test Collapse Pressure | H.I.C Test CLR | CTR | CSR | S.S.C.C Test |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 4 | 2 | 2 | | | | psi | % | % | % | |
| | | Min. | ※4 | | | | | | | | | | | | | | | | | | | |
| | | Max. | | 26 | 120 | 30 | 30 | 50 | 50 | 50 | 15 | 10 | 6 | 15 | | | | | | | | |
| 1 | SB59063 | | H | 14 | 69 | 13 | 4 | | | | | | | | | | | | | | | |
| | | | P | 13 | 68 | 11 | 5 | 1 | 2 | 3 | TR | 2 | TR | TR | | | | | | | | |
| | | | P | 14 | 70 | 12 | 5 | 1 | 2 | 3 | TR | 2 | TR | TR | | | | | | | | |
| 2 | SB59057 | | H | 14 | 68 | 11 | 4 | | | | | | | | | | | | | | | |
| | | | P | 14 | 67 | 10 | 5 | 1 | 3 | 3 | 1 | 2 | TR | TR | | | | | | | | |
| | | | P | 14 | 67 | 10 | 5 | 1 | 3 | 3 | 1 | 2 | TR | TR | | | | | | | | |

※2:x100 3: x1000 4:x10000

Remark

※1) Type of pipe end(관종)
EB:ERW Black BE:Bevel End
※2) L: Longitudinal, T: Transverse
※3) B: Base, W: Weld Line, H: Heat Affected Zone
※4) H: Heat(Ladle) Analysis, P: Product Analysis
※7) For each reduction of 0.01% below the specified max. for C, an increase of 0.05% above the specified max. for Mn is permissible, up to a max. of 1.65%
※8) CM1=Nb+V
※9) CM2=Nb+V+Ti
※ SPEC YEAR - API 5L 45th Edition(2013)/ASTM A53(2012)
※ HARDNESS TO NACE MR 0175
※ HARDNESS TO NACE MR 0103
※ HARDNESS TO ISO 15156

ORIGINAL

| Heat Treatment | Non-Destructive Test (U.T) | Flattening | Visual & Dimension | Residual Magnetism (Gauss) |
|---|---|---|---|---|
| GOOD | GOOD | GOOD | GOOD | GOOD |

본 제품은 관련 규격에 합격되었음을 보증합니다.
WE HEREBY CERTIFY THAT MATERIAL DESCRIBED HEREIN HAS BEEN ACCEPTED IN ACCORDANCE WITH THE PRESCRIBED SPECIFICATION AND ORDER.
* 본 검사증명서에 명기된 규격용도외 사용시 안전상 문제가 발생할 수 있으며, 검사증명서 위.변조시 사문서 위조로 불이익을 당하실 수 있습니다.

SURVEYOR

H.K.CHOI

Q.A Manager