

INSPECTION ITEM LIST

HX-127

T-410

No.	Equip.	Item	Material	Description	Q'ty	Product No.	Heat No.	Remark
1	HX-127	PLATE	SA516 Gr.70N	10T x 610W x 1,920L	1	B388146-01	XK458101	
2	HX-127	PLATE	SA516 Gr.70N	12T x 2,200W x 6,000L	1	B437430-04	XK652211	
3	HX-127	PLATE	SA516 Gr.70N	12T x 2,250W x 6,000L	1	B437430-05	XK652211	
4	HX-127	PLATE	SA283 Gr.C	12T x 2,000W x 11,700L	1	B438521-01	X4830107	
TOTAL					4			

REVIEWED BY
WITNESSED BY
2011.12.11
S. M. KIM

 **FAHAMEH**
Eng. & Ind. Co.

Witnessed
Reviewed

ORIGINAL

검사증명서 MILL TEST CERTIFICATE



동국제강

주문번호/Order No. : P241400463
발주번호/PO No. : MYUNGSUNG STEEL
품명/Commodity : STEEL PLATE
제품규격/Specification : ASTM A516-70MT LTV 2017ED/SA516-70 MT LTV 2021ED

고객사/Supplier : MYUNGSUNG STEEL
수요자/Customer : MYUNGSUNG STEEL

검사증명서번호/Certificate No. : DP3-2-240305-032-003
발행일자/Date of issue : 2024-03-05

Table with columns: 제품치수, 제품번호, 수량, 중량, 제강번호, 인장시험, 충격시험, 경도시험, 화학성분, Remarks. Contains 3 rows of specimen data.

* Tensile Test Direction-Transverse-TOP
* Impact Test Direction-Longitudinal-TOP
* Ceq = C+Mn/6+(Ni+Cu)/15+(Cr+Mo+V)/5
* Supply Condition - Normalized

We hereby certify that the material has been made by basic oxygen process (Fully killed steel, Fine grain practice) and satisfactorily tested in accordance with above specification requirement called for by the above order.

* Specimen No. : a-Tension, c-Impact, d-Hardness, e-Product Analysis.
* Division : L-Ladle Analysis, P-Product Analysis
* Sub(Sub Size, Real Value, mm) : Blank-Full Size, 1-7.5*10, 2-5.0*10
* GL(Gauge Length, mm) : 1-200(Rec.), 3-80(Rec.), 5-50(Round), 6-5.65*5(Converted/Rec.), 10-50(Rec.)
* T(S), Al : Total(Soluble) Al *Tr : Trace
* NRL Result : G-No Break, B-Break
* TTP(Through Thickness Position) : 1-Surface, 2-1/4T, 3-1/2T

본 주문제품은 상기의 규격용도 외 타용도로 사용시 제품손상 및 안전사고등의 문제가 발생할 수 있으며, 검사증명서를 위조 또는 변조시 형사법에 의해 처벌될 수 있습니다.

원본인증 방법 : 동국제강 E-Biz 홈페이지 접속(https://ebiz.dongkuksteel.com/) -> 고객포탈 선택 -> 검사증명서 원본인증 클릭(우측 하단) -> 정보입력후 검색
QR Code 이용 방법 : Google Play 'QReal' 검색 후 다운/실행 -> QR Code 스캔 / IOS : App Store 'QReal' 검색 후 다운/실행 -> QR Code 스캔

REVIEWED BY
WITNESSED BY
2024. 12. 11.
S. M. KIM

Handwritten signature

Surveyor to Surveyor to Surveyor to Surveyor to Chief of Quality Control Team / J.W.Lee

Dangjin Works, 25, Godaegongdan 1-gil, Songak-eup, Dangjin-si, Chungcheongnam-do, Republic of Korea/Quality Control Team, TEL. 041-351-4633

Page : 1/2



ORIGINAL

검사증명서
MILL TEST CERTIFICATE



DX 동국제강

주문번호/Order No. : P241400463
발주번호/PO No. : MYUNGSUNG STEEL
품명/Commodity : STEEL PLATE
제품규격/Specification : ASTM A516-70MT LTV 2017ED/SA516-70 MT LTV 2021ED

고객사/Supplier : MYUNGSUNG STEEL
수요가/Customer : MYUNGSUNG STEEL

검사증명서번호/Certificate No. : DP3-2-240305-032-003
발행일자/Date of issue : 2024-03-05

Table with columns: 제품치수 (Dimension), 제품번호 (Product No), 수량 (Quantity), 중량 (Weight), 화학성분 (Chemical Composition: Cu, Mo, Nb, Ti, V, T.Al, S.Al, Ceq, B), and Remarks. It lists three product entries with their respective chemical compositions and sub-totals.

REVIEWED BY
WITNESSED BY
2024. 12. 11.
S. M. KIM

* Tensile Test Direction-Transverse-TOP
* Impact Test Direction-Longitudinal-TOP
* Ceq = C+Mn/6+(Ni+Cu)/15+(Cr+Mo+V)/5
* Supply Condition - Normalized

We hereby certify that the material has been made by basic oxygen process (Fully killed steel, Fine grain practice) and satisfactorily tested in accordance with above specification requirement called for by the above order. If the amount of Cr, Ni, Cu, Mo, Ti or Si is blank, the heat analysis for that element is less than 0.02% and/or of Nb, V is blank, it is less than 0.008%. * Inspection documents : According to EN 10204 Type 3.1. No welding repair. NACE MR0175(ISO15156)/MR0103 Hardness only. Vacuum degassed.

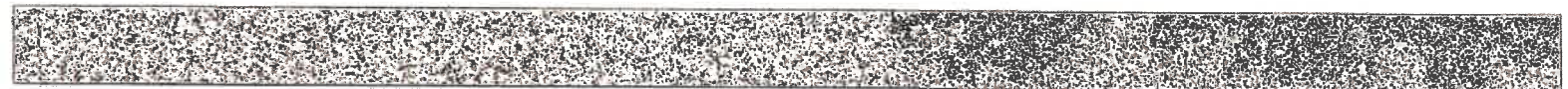
* Specimen No. : a-Tension, c-Impact, d-Hardness, e-Product Analysis.
* Division : L-Ladle Analysis, P-Product Analysis
* Sub(Sub Size, Real Value, mm) : Blank-Full Size. 1-7.5*10, 2-5.0*10
* GL(Gauge Length, mm) : 1-200(Rec.), 3-80(Rec.), 5-50(Round), 6-5.65(S(Convertd/Rec.), 10-50(Rec.)
* T(S).Al : Total(Soluble) Al *Tr : Trace
* NRL Result : G-No Break, B-Break
* TTP(Through Thickness Position) : 1-Surface, 2-1/4T, 3-1/2T

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원본인증 방법 : 동국제강 E-82 홈페이지 접속(https://ebiz.dongkuksteel.com/) -> 고객포탈 선택 -> 검사증명서 원본인증 클릭(우측 하단) -> 정보입력후 검색
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Surveyor to Surveyor to Surveyor to Surveyor to Chief of Quality Control Team / J.W.Lee

Dangjin Works, 25, Godaegongdan 1-gil, Songak-eup, Dangjin-si, Chungcheongnam-do, Republic of Korea/Quality Control Team, TEL. 041-351-4633



ORIGINAL

검 사 증 명 서
MILL TEST CERTIFICATE



DX 동국제강
DONGKUK STEEL

QR 이용 방법: Google Play 'QReal'

주문번호/Order No. : P248400229
 발주번호/PO No. :
 품명/Commodity : STEEL PLATE
 제품규격/Specification : ASME SA516-70 MT SEC II PART 3
 A* 2023ED

고객사/Supplier : SEJIN
 수요가/Customer : P.M.S CO.LTD

검사증명서번호/Certificate No : DP3-2-241210-012-001
 발행일자/Date of issue : 2024-12-10

제품 치수 Dimension 단위 Unit / Weight Inch: " ", mm:Space, kg:Space	제품 번호 Product No	수량 Quantity	중량 Weight kg	제강번호 Heat No	인장시험 Tensile Test			D i v i s i o n	화학성분(%) Chemical Composition											Remarks			
					YPO2 GL	TS N/mm ²	EL %		C	Si	Mn	P	S	Cr	Ni	Cu	Mo	Nb	Ti		V	S.Al	
2) 12.00*2200*6000 / 1.243 *Specimen No: DP11054528-a ** Normalized: 910 °C, 24min	B437430-04	1	1,243	XK652211	1	342	530	25	L	0.15	0.35	1.41	0.021	0.007	0.01	0.01	0.01	0.003	0.001	0.001	0.002	0.044	
3) 12.00*2250*6000 / 1.272 *Specimen No: DP11054528-a ** Normalized: 910 °C, 24min <Grand Total>	B437430-05	1	1,272	XK652211	1	342	530	25	L	0.15	0.35	1.41	0.021	0.007	0.01	0.01	0.01	0.003	0.001	0.001	0.002	0.044	
		2	2,515																				

REVIEWED BY
 WITNESSED BY □
 2024.12.11.
 S. M. KIM

* Tensile Test Direction - Transverse-TOP
 * Ceq = C+Mn/6+(Ni+Cu)/15+(Cr+Mo+V)/5
 * Supply Condition - Normalized

We hereby certify that the material has been made by basic oxygen process (Fully killed steel, Fine grain practice) and satisfactorily tested in accordance with above specification requirement called for by the above order. If the amount of Cr, Ni, Cu, Mo, Ti or Si is blank, the heat analysis for that element is less than 0.02% and/or of Nb, V is blank, it is less than 0.008%. * Inspection documents : According to EN 10204 Type 3.1. No welding repair. Vacuum degassed.

* Specimen No. : a-Tension
 * Division : L-Ladle Analysis, P-Product Analysis
 * Sub(Sub Size, Real Value, mm) : Blank-Full Size, 1-7.5*10, 2-5.0*10
 * GL(Gauge Length, mm) : 1-200(Rec.), 3-80(Rec.), 5-50(Round), 6-5.65* S(Converted/Rec.), 10-50(Rec.)
 * T(S).Al : Total(Soluble) Al *Tr : Trace
 * NRL Result : G-No Break, B-Break
 * TTP(Through Thickness Position) : 1-Surface, 2-1/4T, 3-1/2T

본 주문품은 상기의 규격용도 외 타용도로 사용시 제품손상 및 안전사고등의 문제가 발생할 수 있으며, 본 검사증명서를 위조 또는 변조시 형사법에 의해 처벌될 수 있습니다.

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FAHAMEH
Eng. & Ind. Co.

Surveyor to _____ Surveyor to _____ Surveyor to _____

[Signature]
Chief of Quality Control Team / J.W.Lee

Dangjin Works, 25, Godaegongdan 1-gil, Songak-eup, Dangjin-si, Chungcheongnam-do, Republic of Korea/Quality Control Team, TEL. 041-351-4633

Witnessed
 Reviewed

ORIGINAL

검사증명서
MILL TEST CERTIFICATE



동국제강
DONGKUK STEEL

QR 이용 방법: Google Play 'QReal'

주문번호/Order No. : P248400229

발주번호/PO No. :

품명/Commodity : STEEL PLATE

제품규격/Specification : ASME SA516-70 MT SEC II PART " A" 2023ED

고객사/Supplier : SEJIN

수요자/Customer : P.M.S CO.LTD

검사증명서번호/Certificate No : DP3-2-241210-012-001

발행일자/Date of issue : 2024-12-10

제품치수 Dimension 단위 Unit / Weight Inch: " ", mm:Space, kg:Space	제품번호 Product No	수량 Quantity	중량 Weight kg	화학적분(%) Chemical Composition		Remarks
				Ceq	B	
12.00*2200*6000 / 1.243 *Specimen No: DP11054528-a ** Normalized: 910 ° C.24min	B437430-04	1	1,243	0.389	0.0001	
12.00*2250*6000 / 1.272 *Specimen No: DP11054528-a ** Normalized: 910 ° C.24min	B437430-05	1	1,272	0.389	0.0001	
<Grand Total>		2	2,515			

REVIEWED BY
 WITNESSED BY
 2024. 12. 10.
 S. M. KIM

* Tensile Test Direction-Transverse-TOP
 * Ceq = C+Mn/6+(Ni+Cu)/15+(Cr+Mo+V)/5
 * Supply Condition - Normalized

We hereby certify that the material has been made by basic oxygen process (Fully killed steel, Fine grain practice) and satisfactorily tested in accordance with above specification requirement called for by the above order. If the amount of Cr, Ni, Cu, Mo, Ti or Si is blank, the heat analysis for that element is less than 0.02% and/or of Nb, V is blank, it is less than 0.008%. * Inspection documents : According to EN 10204 Type 3.1. No welding repair. Vacuum degassed.

* Specimen No. : a-Tension
 * Division : L-Ladle Analysis, P-Product Analysis
 * Sub(Sub Size, Real Value, mm) : Blank-Full Size, 1-7.5*10, 2-5.0*10
 * GL(Gauge Length, mm) : 1-200(Rec.), 3-80(Rec.), 5-50(Round), 6-5.65/
 S(Converted/Rec.), 10-50(Rec.)
 * T(S,Al : Total(Soluble) Al *Tr : Trace
 * NRL Result : G-No Break, B-Break
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FAHAMEH
 Eng. & Ind. Co.
 Witnessed
 Reviewed

Surveyor _____ Surveyor to _____ Surveyor to _____ Surveyor to _____ Chief of Quality Control Team / J.W.Lee

Dangjin works, 25, Godaegongdan 1-gil, Songak-eup, Dangjin-si, Chungcheongnam-do, Republic of Korea/Quality Control Team, TEL. 041-351-4633

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검사증명서
MILL TEST CERTIFICATE



DX 동국제강
DONGKUK STEEL

QR 이용 방법: Google Play 'QReal'

주문번호/Order No. : P248400232

발주번호/PO No.

품명/Commodity : STEEL PLATE

제품규격/Specification : ASME SA283-C SEC II PART "A" 2
023ED

고객사/Supplier : SEJIN

수요자/Customer : P.M.S CO.LTD

검사증명서번호/Certificate No : DP3-2-241210-013-001

발행일자/Date of issue : 2024-12-10

제품치수 Dimension 단위 Unit / Weight Inch:" ", mm:Space, kg:Space	제품번호 Product No	수량 Quantity	중량 Weight kg	제강번호 Heat No	인장시험 Tensile Test			Division	화합성분(%) Chemical Composition											Remarks		
					YP N/mm ²	TS %	EL %		C	Si	Mn	P	S	Cr	Ni	Cu	Mo	Nb	V		Ceq	B
4) 12.00*2000*11700 / 2,204 *Specimen No: DP11134215-a, DP11134202-e <Grand Total>	B438521-01	1	2,204	X4830107	1	302	468	29	L	0.15	0.2	0.88	0.014	0.003	0.02	0.02	0.01	Tr	Tr	0.001	0.303	Tr
										P	0.16	0.2	0.89	0.015	0.003	0.022	0.016	0.011	Tr	Tr	0.002	0.316
		1	2,204																			

REVIEWED BY
WITNESSED BY
2024.12.11
S. M. KIM

* Tensile Test Direction-Transverse-TOP
* Ceq = C+Mn/6+(Ni+Cu)/15+(Cr+Mo+V)/5
* Supply Condition - As Rolled

We hereby certify that the material has been made by basic oxygen process (Fully killed steel, Fine grain practice) and satisfactorily tested in accordance with above specification requirement called for by the above order. If the amount of Cr, Ni, Cu, Mo, Ti or Si is blank, the heat analysis for that element is less than 0.02% and/or of Nb, V is blank, it is less than 0.008%. * Inspection documents : According to EN 10204 Type 3.1. No welding repair.

* Specimen No. : a-Tension, e-Product Analysis.
* Division : L-Ladle Analysis, P-Product Analysis
* Sub(Sub Size, Real Value, mm) : Blank-Full Size, 1-7.5*10, 2-5.0*10
* GL(Gauge Length, mm) : 1-200(Rec.), 3-80(Rec.), 5-50(Round), 6-5.65
S(Converted/Rec.), 10-50(Rec.)
* T(S).Al : Total(Soluble) Al *Tr : Trace
* NRL Result : G-No Break, B-Break
* TTP(Through Thickness Position) : 1-Surface, 2-1/4T, 3-1/2T

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FAHAMEH
Eng. & Ind. Co.
Witnessed
Reviewed

Surveyor to

Surveyor to

Surveyor to

Chief of Quality Control Team / J.W.Lee

Dangjin Works, 25, Godaegongdan 1-gil, Songak-eup, Dangjin-si, Chungcheongnam-do, Republic of Korea/Quality Control Team, TEL. 041-351-4633

Calibration Certificate

Q & Q Corporation

Certificate No : Q2403326-106-001

58, Hwajeonsandan 3-ro, Gangseo-gu, Busan, Korea
Tel : 051-292-0395, Fax : 051-292-0397

Page (1) of (2)



1. Client

Name : P.M.S Co., LTD
Address : 296, Dae Dong-Ro, Sasang-Gu, Busan, Korea

2. Calibration Subject

Description : Inside/Outside Caliper(Digital type)
Manufacturer & Type : Mitutoyo / (0 ~ 300) mm, 0.01 mm
Serial Number : 0023118



3. Date of Calibration : 12. Apr. 2024

4. Environment

Temperature : (20.7 ± 0.1) °C Humidity : (48 ± 2) % R.H.
Location : Permanent Calibration Lab Mobile Lab On Site Calibration
[Address : 58, Hwajeonsandan 3-ro, Gangseo-gu, Busan, Korea]

5. Traceability

Calibration method and/or brief description

The above instrument has been calibrated according to the calibration instruction of Inside/Outside Calipers (QECI - LE601) using the below standard instrument which is established a traceability to National Metrology Institute.

List of used standards/specifications

Description	Manufacturer and Model	Serial Number	The due date of next calibration	Calibration laboratory
Caliper Checker	Mitutoyo, 660 mm	559	18. Sep. 2026.	Q & Q Corp.
Surface Plate	Kumsung, (1 000 × 750) mm	260919	21. Jan. 2025.	Q & Q Corp.
Surface Thermometer	TES, 1300	990407368	29. Jun. 2024.	Q & Q Corp.

6. Calibration result : Refer to the attached Calibration Result.

7. Measurement uncertainty : Refer to the attached Calibration Result.

Affirmation	Measurements performed by Name : Hyung Kyu Kim (signature)	Approved by Title : Technical Manager Name : Myeon Keol Kim (signature)
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The above certificate of calibration is the accredited calibration items by Korea Laboratory Accreditation Scheme, which signed the ILAC-MRA.



15. Apr. 2024.

Q & Q Corporation
Accredited by KOLAS, Republic of KOREA



(NOTE) If any significant instability or other adverse factor(overload, temperature, humidity etc.) manifests itself before, during or after calibration, and is likely to affect the validity of the calibration.

QE-R-001-1 (Rev. 3)

verify No. 454-FAHAMEH
Eng. & Ind. Co.
Witnessed
Reviewed

(210 × 297) mm

Calibration Result

Q & Q Corporation

Certificate No : Q2403326-106-001

58, Hwajeonsandan 3-ro, Gangseo-gu, Busan, Korea

Tel : 051-292-0395, Fax : 051-292-0397

Page (2) of (2)



- * Manufacturer : Mitutoyo
- * Model Name : (0 ~ 300) mm, 0.01 mm
- * Serial number : 0023118

■ Inside/Outside Caliper(Digital type) Calibration

Graduation value (mm)	Correction value (mm)	
	Outside	Intside
0	0.00	-
20	-0.01	0.00
50	-0.01	0.00
100	0.00	0.00
150	0.00	-0.01
200	0.00	-0.01
300	-0.01	-0.02

Measurement uncertainty : 0.01 mm

(Coverage probability of approximately 95 % , $k = 2$)

※ The calibration value is obtained by adding the correction value to the graduation value.
The end.

REVIEWED BY
 WITNESSED BY
 2021.12.13
 S. M. KIM

* The recommended calibration interval is 12 month according to the KOLAS guide (KOLAS-G-008).

QE-R-002-1 (Rev. 3)

(210 × 297) mm

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 Eng. & Ind. Co.
 Witnessed
 Reviewed