



MAEDA SEISAKUSHO CO., LTD.

1095 Onbegawa, Shinonoi, Nagano City
Nagano 388-8522, JAPON
TEL +81-(0) 26-292-2228
FAX +81-(0) 26-293-8499
<http://www.maesei.co.jp/english/index.html>



DECLARATION CE DE CONFORMITE DE MACHINE

Le Fabricant

Nom de société: Maeda Seisakusho Co., Ltd.
Adresse: 1095 Onbegawa, Shinonoi, Nagano City
Nagano, 388-8522 JAPON

Le Représentant européen

Nom de société: AB Kranlyft
Adresse: Fibervagen 1 435 33 Molnlycke SUEDE
Tél +46 31 80 70 00

Déclare par la présente que la machine décrite ci-dessous:

Produit: Mini-grue sur chenilles
Modèle: MC305CRME-2 (puissance kW = 15.2)
Serial Number: D0820
Année de Construction: 2018

- Est en conformité avec les directives suivantes:

La directive machines 2006/42/EC
Les deux derniers chiffres de l'année dans laquelle le marquage CE était apposé sont 07

- Est en conformité avec les provisions suivantes

" Directive de basse tension 2006/95/EC "
" Directive CEM 2004/108/EC "
" Directive d'émissions sonores dans l'environnement des matériels destinés à être utilisés
à l'extérieur des bâtiments 2000/14/EC, modifiée par la Directive 2005/88/EC"
- Niveau de puissance acoustique mesuré = 94 dB LWA
- Niveau de puissance acoustique garanti = 101 dB LWA

Et déclare en outre que:

- Les (parties /clauses des) normes harmonisées suivantes ont été appliquées:

EN ISO12100-2:2010	Sécurité des machines - Principes généraux de conception - Evaluation et réduction des risques
EN60204-1:2006	Sécurité des machines - Equipement électrique des machines - Partie 1: Exigences générales
EN13000:2010 (Reference)	Grues - Grues mobiles
EN61000-6-2:2005	Compatibilité électromagnétique (CEM) - Partie 6-2: Normes génériques - Immunité pour les environnements industriels
EN61000-6-4:2007	Compatibilité électromagnétique (CEM) - Partie 6-4: Normes génériques - Emission pour les environnements industriels
EN ISO3744:1995	Acoustique. Détermination de niveaux de puissance acoustique émis par les sources de bruit à partir de la pression acoustique. Méthode d'expertise dans des conditions approchant celles du champ libre sur plan réfléchissant

Place: Nagano, Japon
Date: 19 octobre, 2018

Kazutaka Kitada
Directeur Général / Département machines industrielles
MAEDA SEISAKUSHO CO., LTD.



MAEDA SEISAKUSHO CO., LTD.

1095 Shinonoi Onbegawa, Nagano City
Nagano 388-8522, JAPAN
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TO WHOM IT MAY CONCERN:

Certificate of Test and Inspection

4 Fall, 2 Sheave Hook Block
Manufacturer: MAEDA SEISAKUSHO CO.,LTD.
Model for: MC305CRME-2
Serial No. : D0820
Hook Block No. : M8201

We hereby certify that this hook block has been tested and inspected in accordance with the quality standard of our company and we guarantee the quality of this product.

Hook Block Ass'y:	Part No. 103-1124400
	Drawing No. 103-4561600
Specifications:	Refer to the attached document for details
Safe Working Load:	2,950 kg
Sheave rope diameter:	8 mm
Actual value (Internal diameter):	80 mm
Date of Test and Inspection:	October 19, 2018

Signed on behalf of MAEDA SEISAKUSHO CO.,LTD.:

Seiichi Yamaguchi
General manager /Quality Assurance Division
MAEDA SEISAKUSHO CO.,LTD.



MAEDA SEISAKUSHO CO., LTD.

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EC DECLARATION OF CONFORMITY OF THE MACHINERY

Manufacturer

Company Name: Maeda Seisakusho Co., Ltd.
Address: 1095 Onbegawa, Shinonoi, Nagano City
Nagano, 388-8522 JAPAN

European Representative

Company Name: AB Kranlyft
Address: Fibervagen 1 435 33 Molnlycke SWEDEN
TEL +46 31 80 70 00

Hereby declares that the machine described below:

Product Name: Mini Crawler Crane
Model: Searcher hook
Serial Number: 3S104
Year of Manufacture: 2018

- is in conformity with the following directives
Machinery Directive 2006/42/EC

- is in conformity with the following provisions

- " Low Voltage Directive 2006/95/EC "
- " EMC Directive 2004/108/EC "
- " Noise emission in the environment by equipment for use outdoors Directive 2000/14/EC,
amended by the Directive 2005/88/EC"

- And furthermore declares that:

- The following (parts/clauses of) harmonized standards have been applied:

EN ISO12100-2:2010	Safety of machinery – General principles for design – Risk assesment and risk reduction
EN60204-1:2006	Safety of machinery – electrical equipment of machines – Part 1: General requirements
EN13000:2010 (Reference)	Cranes – Mobile cranes
EN61000-6-2:2005	Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments
EN61000-6-4:2007	Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Emission for industrial environments
EN ISO3744:1995	Acoustics. Determination of sound power levels of noise sources using sound pressure. Engineering method in an essentially free field over a reflection plane

Place: Nagano, Japan
Date: October 19, 2018

Kazutaka Kitada
Managing Director / Industrial machinery Division
MAEDA SEISAKUSHO CO., LTD.

Certificate number KJ D0820
MO-0050-2018-11-17



CERTIFICATE OF TEST AND THOROUGH EXAMINATION OF CRANE

Name and address of owner of crane:	
Name and address of maker of crane:	Maeda Seisakusho Co., Ltd.
Type of crane and nature of power.	Hydraulic tracked diesel engine and electric motor telescopic crane, Model MC305CRM-E-2
Date of manufacture of crane.	2018
IDENTIFICATION NUMBER:	(a) Maker's serial number: <u>D0820</u> (b) Owner's distinguishing Mark or number (if any): not registered
Make and type of automatic safe load Make and type of derricking interlock , if required:	TOYO CONTROL CO., LTD. , AD395 N/A
Date of last previous test of crane:	New machine
Date of last previous thorough examination of crane:	New machine
Safe working load or loads:	See attached sheets 1 to 4
In the case of a crane with a derricking jib or jibs the max. radius at which the jib or jibs may be worked (in feet):	See attached sheets 1 to 4
Defects noted and alterations or repairs required before crane is put into service:	None. None.

I hereby certify that the crane described in this certificate was tested and thoroughly examined on 2 / 7 / 2018 and that the above particulars are correct.

Signature: R. Yoshida

Qualification Engineer

Name and address of person , company or association by whom
The person conducting the test and examination is employed. Maeda Seisakusho Co., Ltd.
1095 Onbegawa , Shinonoi ,
Nagano city , Nagano prefecture
388-8522 , Japan

Date of certificate: 2 / 7 / 2018

For notes see overleaf.

CERTIFICATE No. **KJD0820**SERIAL NO: **D0820**

MAEDA MC305CRME-2

CERTIFICATE OF TEST AND THOROUGH EXAMINATION OF CRANE				PAGE 1	
* Safe working load or loads.	LENGTH OF JIB (METRES)	RADIUS (METRES)	ANGLE °	TEST LOAD KG	SAFE WORKING LOAD KG
In the case of a crane with a	5.945 m boom	2.50		3725	2980
variable operating radius (including	1,1+2 boom	3.00		NIL	2390
a crane with a derricking jib or with	Outriggers are	3.50		2488	1990
interchangeable jibs of different	maximum	4.00		NIL	1710
lengths) the safe working load at	position	4.50		NIL	1490
various radii of the jib , jibs,		5.00		NIL	1340
or crab must be given. Test loads at		5.62		NIL	1160
various radii should be given in					
column (IV) and in the case of a					
safe working load which has been					
calculated without the application of					
a test load "NIL" should be entered					
in that column .					
*In the case of a crane with a					
derricking jib or jibs the maximum					
radius at which the jib or jibs may					
be worked is : 5.62m					
*We herewith confirm that we test lift all our manufactured cranes individually with 1.25 times the rated load before delivering . *We also confirm that the group of classification of the mechanism as a whole is M3 (for hoist) and type of crane is A1 in accordance with JIS B 8822-1 (ISO 4301-2). *I hereby certify that the crane described in this certificate was tested and thoroughly examined on <u>2 / 7 / 2018</u> and that the above particulars are correct .					
MAEDA SEISAKUSHO CO., LTD. TEL : +81-(0)26-292-2304 FAX : +81-(0)26-293-8768					

DATE OF CERTIFICATE : 2 / 7 / 2018 SIGNATURE R. Yoshida

Shinohara, ENGINEER

CERTIFICATE No. **KJ D0820**SERIAL NO: **D0820**

MAEDA MC305CRME-2

CERTIFICATE OF TEST AND THOROUGH EXAMINATION OF CRANE				PAGE 2	
* Safe working load or loads.	LENGTH OF JIB (METRES)	RADIUS (METRES)	ANGLE °	TEST LOAD KG	SAFE WORKING LOAD KG
In the case of a crane with a	8.145 m boom	2.70		NIL	2270
variable operating radius (including	1+2+3 boom	3.00		NIL	2120
a crane with a derricking jib or with	Outriggers are	3.50		2100	1680
interchangeable jibs of different	maximum	4.00		NIL	1440
lengths) the safe working load at	position	4.50		NIL	1260
various radii of the jib , jibs,		5.00		NIL	1110
or crab must be given. Test loads at		5.50		NIL	990
various radii should be given in		6.00		NIL	880
column (IV) and in the case of a		7.00		NIL	730
safe working load which has been		7.82		NIL	630
calculated without the application of					
a test load "NIL" should be entered					
in that column .					
*In the case of a crane with a					
derricking jib or jibs the maximum					
radius at which the jib or jibs may					
be worked is : 7.82m					
*We herewith confirm that we test lift all our manufactured cranes individually with					
1.25 times the rated load before delivering .					
*We also confirm that the group of classification of the mechanism as a whole is M3					
(for hoist) and type of crane is A1 in accordance with JIS B 8822-1 (ISO 4301-2).					
*I hereby certify that the crane described in this certificate was tested and thoroughly					
examined on 2/7/2018 and that the above particulars are correct .					
MAEDA SEISAKUSHO CO., LTD.					
TEL : +81-(0)26-292-2304 FAX : +81-(0)26-293-8768					

DATE OF CERTIFICATE : 2/7/2018 SIGNATURE **R. Yoshida**

Shinohara, ENGINEER

CERTIFICATE No. KJ D0820SERIAL NO: D0820

MAEDA MC305CRME-2

11/17/2018

CERTIFICATE OF TEST AND THOROUGH EXAMINATION OF CRANE				PAGE 3	
• Safe working load or loads.	LENGTH OF JIB (METRES)	RADIUS (METRES)	ANGLE °	TEST LOAD KG	SAFE WORKING LOAD KG
In the case of a crane with a	10.315 m boom	4.00		NIL	1080
variable operating radius (including	1+2+3+4 boom	4.50		NIL	985
a crane with a derricking jib or with	Outriggers are	5.00		NIL	880
interchangeable jibs of different	maximum	5.65		1000	800
lengths) the safe working load at	position	6.00		NIL	770
various radii of the jib , jibs,		7.00		NIL	670
or crab must be given. Test loads at		8.00		NIL	570
various radii should be given in		9.00		NIL	500
column (IV) and in the case of a		9.99		NIL	435
safe working load which has been					
calculated without the application of					
a test load "NIL" should be entered					
in that column .					
• In the case of a crane with a					
derricking jib or jibs the maximum					
radius at which the jib or jibs may					
be worked is : 9.99m					
• We herewith confirm that we test lift all our manufactured cranes individually with					
1.25 times the rated load before delivering .					
• We also confirm that the group of classification of the mechanism as a whole is M3					
(for hoist) and type of crane is A1 in accordance with JIS B 8822-1 (ISO 4301-2).					
• I hereby certify that the crane described in this certificate was tested and thoroughly					
examined on <u>2 / 7 / 2018</u> and that the above particulars are correct .					
MAEDA SEISAKUSHO CO., LTD.					
TEL : +81-(0)26-292-2304 FAX : +81-(0)26-293-8768					

DATE OF CERTIFICATE : 2 / 7 / 2018 SIGNATURE R. Yoshida

Shinohara, ENGINEER

CERTIFICATE No. **KJD0820**

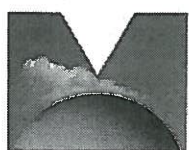
SERIAL NO: **D0820** MAEDA MC305CRM E-2

2017.12.18 発行

CERTIFICATE OF TEST AND THOROUGH EXAMINATION OF CRANE				PAGE 4	
* Safe working load or loads.	LENGTH OF JIB (METRES)	RADIUS (METRES)	ANGLE °	TEST LOAD KG	SAFE WORKING LOAD KG
In the case of a crane with a	12.485 m boom	4.50		NIL	790
variable operating radius (including	1+2+3+4+5 boom	5.00		NIL	660
a crane with a derricking jib or with	Outriggers are	6.00		NIL	520
interchangeable jibs of different	maximum	7.00		NIL	430
lengths) the safe working load at	position	7.55		500	400
various radii of the jib , jibs,		8.00		NIL	380
or crab must be given. Test loads at		9.00		NIL	340
various radii should be given in		10.00		NIL	310
column (IV) and in the case of a		11.00		NIL	280
safe working load which has been		12.16		NIL	260
calculated without the application of					
a test load "NIL" should be entered					
in that column .					
*In the case of a crane with a					
derricking jib or jibs the maximum					
radius at which the jib or jibs may					
be worked is : 12.16m					
*We herewith confirm that we test lift all our manufactured cranes individually with					
1.25 times the rated load before delivering .					
*We also confirm that the group of classification of the mechanism as a whole is M3					
(for hoist) and type of crane is A1 in accordance with JIS B 8822-1 (ISO 4301-2).					
*I hereby certify that the crane described in this certificate was tested and thoroughly					
examined on 2/7/2018 and that the above particulars are correct .					
MAEDA SEISAKUSHO CO., LTD.					
TEL : +81-(0)26-292-2304 FAX : +81-(0)26-293-8768					

DATE OF CERTIFICATE : 2/7/2018 SIGNATURE *R. Yoshida*

Shinohara, ENGINEER



MAEDA

MAEDA SEISAKUSHO CO., LTD.

1095 Onbegawa Shinonoi, Nagano City

Nagano 388-8522, JAPAN

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CERTIFICATE FOR LOAD TEST

We herewith confirm that following model:

MC104CER	LC383M-5
MC174CRM	LC785M-8B
MC285CRM	MK1033CW-1
MC285CRME	MK1033CWH-1
MC285CGRM-2	MK1033CWE-1
MC285CRM-2	MK1033CWEH-1
MC285CRME-2	MC815CWM
MC305CRM-2	MC815CWME
MC305CRME-2	CC985S-1
MC405CRM	CC1485S-1
MC405CRME	CC423S-1

Have been test-lifted with 1.25 times the rated total load at our factory.

We also confirm that the group of classification of the mechanism as a whole is M3

and type of crane is A1 in accordance with ISO 4301-2 (JIS B 8822-1).

Place: Nagano, Japan
Date: March 23, 2018

Kazutaka Kitada
Managing Director / Industrial machinery Division
MAEDA SEISAKUSHO CO., LTD.

Hook Structural Calculation Sheet

Cross section performance of risky cross-section

$$I = \frac{(B+b)^2 + 2Bb}{36(B+b)} \cdot h^3$$

$$= \frac{(40+16)^2 + 2 \times 40 \times 16}{36(40+16)} \times 57^3$$

$$= 405660.9 \text{ (mm}^3\text{)}$$

$$e1 = \frac{1}{3} \times \frac{2B+b}{B+b} \cdot h$$

$$= \frac{1}{3} \times \frac{2 \times 40 + 16}{40 + 16} \times 57 = 33 \text{ (mm)}$$

$$e2 = h - e1 = 57 - 33 = 24 \text{ (mm)}$$

$$\sigma_A = \frac{W}{A} - \frac{P(a+e2)e1}{I}$$

$$= \left(\frac{2950}{1596} - \frac{2950 \times 64 \times 33}{405660.9} \right) \times 9.81$$

$$= -132.5 \text{ (N/mm}^2\text{)}$$

$$S = \sigma_0 / \sigma_A = 687 / 132.5 = 5.18$$

$$\sigma_B = \frac{W}{A} + \frac{P(a+e2)e2}{I}$$

$$= \left(\frac{2950}{1596} + \frac{2950 \times 64 \times 24}{405660.9} \right) \times 9.81$$

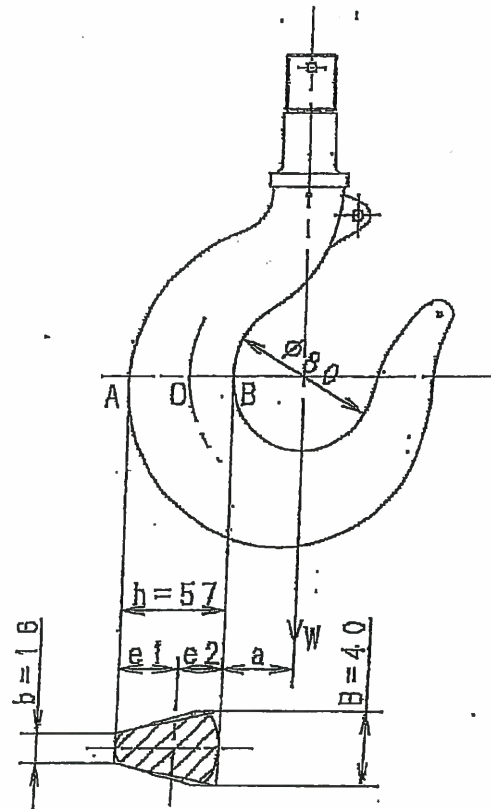
$$= 127.7 \text{ (N/mm}^2\text{)}$$

$$S = \sigma_0 / \sigma_B = 687 / 127.7 = 5.38$$

Material of hook: S45C

Tensile strength: $\sigma_0 = 687 \text{ (N/mm}^2\text{)}$

Yield strength : 491 (N/mm²)



W: Rated load 2950 kg
A: Cross section area

$$A = \frac{B+b}{2} \times h$$

$$= \frac{40+16}{2} \times 57 = 1596 \text{ (mm}^2\text{)}$$

TESAC

ワイヤロープ証明書

CERTIFICATE FOR STEEL WIRE ROPE

No. 0092351

2017, 04, 18

TWOU00648-1

株式会社テサックワイヤロープ

TESAC WIRE ROPE CO., LTD.

二色浜製造所 NISHIKINOHAMA MANUFACTORY

大阪府東大阪市二色町1-1

11 NISHIKI NAKAMACHI,

KAIZUKA-SHI, OSAKA, JAPAN

本ワイヤロープは下記規格により検査し本記載通りの検査成績であることを証明致します。

We hereby certify that this steel wire rope is examined and tested strictly according to the undermentioned specification at our works and we guarantee the quality of the article.

適用規格 [SPECIFICATION]

TESAC SPEC.

製品番号 [PRODUCT NO.]	GZ10478-017	
ロープの構成 [CONSTRUCTION]	IWRC 6 X WS (26)	0/0
ロープの径 [NOMINAL DIA. OF THE ROPE]..	8 (ACT.	8.40) mm
ロープの長さ [LENGTH]	73	m
種 別 [GRADE]	B	
規定破断力 [SPECIFIED BREAKING LOAD]....	42.4	kN
実際破断力 [ACTUAL BREAKING LOAD]	47.7	kN
外 観 [APPEARANCE]	GOOD	
素線試験 [WIRE TEST]	GOOD	
備 考 [NOTE]		

CONTINUOUS LENGTH

PRODUCT NO.	LENGTH
GZ10478-018	73 m
GZ10478-019	73 m
GZ10478-020	73 m

部番 : 336844500001

注番 : XX491507

74 Ueki

INSPECTING SECTION



NIIGATA SEIKO CO., LTD.

NO.56, Nakakido, Higashi-ku, Niigata-shi, Niigata-ken 950-0886, Japan

新潟県新潟市東区中木戸 56 番地

新潟製綱株式会社

検査証明書 [CERTIFICATE OF INSPECTION]

日付 [Date] : April 5, 2017

顧客名 [To Messrs.] MAEDA SEISAKUSHO CO., LTD.

部 品 名 称 [Description] : Steel Wire Rope with Joint Clamp

部 品 番 号 [Type] : 349S51600000

数 量 [Quantity] : 6

機 種 名 [Model] : MC305C

用 途 [Location] : Boom Extension

注 文 番 号 [Order No.] : XX486755

ワイヤロープ [Steel Wire Rope Product No.] : 16F0725

ロープ 構成 [Construction] : IWRC 6xFi(29) Ungalv.

ロープ 撚 り [Lay] : Right Hand (Z) Ordinary Lay

規格破断荷重 [Minimum Breaking Load] : 43300 N

ロープ 径 [Norminal Dia.] : 8.0mm

部 品 寸 法 [Dimemnsions of Description]

全 長 [Length] : 5825 $\pm$ 10 mm

端 末 加 工 [Ends of Description Lot No.] : B464

端末金具材質 [Materials] : S45C

加 工 方 法 [Kind of Proccessing] : Swaging

保証締結荷重 [Minimum Proof Load] : 43300 N

破断試験結果 [Load at Breaking Test] : 54000 N

We hereby promise that the steel wire rope with joint clamp herein has been satisfactorily tested and inspected in accordance with the requirements of the above specification.

上記のジョイントクランプ加工品は、規格通りに検査に合格していることを証明致します。

Manager



NIIGATA SEIKO CO., LTD.

NO.56, Nakakido, Higashi-ku, Niigata-shi, Niigata-ken 950-0886, Japan

新潟県新潟市東区中木戸 56 番地
新潟製綱株式会社

検査証明書 [CERTIFICATE OF INSPECTION]

日付 [Date] : April 5, 2017

顧客名 [To Messrs.] MAEDA SEISAKUSHO CO., LTD.

部 品 名 称 [Description] : Steel Wire Rope with Joint Clamp

部 品 番 号 [Type] : 103S93000000

数 量 [Quantity] : 6

機 種 名 [Model] : MC305C

用 途 [Location] : Boom Contraction

注 文 番 号 [Order No.] : XX486754

ワイヤロープ [Steel Wire Rope Product No.] : 17F3888

ロープ 構成 [Construction] : IWRC 6xFi(29) Ungalv.

ロープ 撚 り [Lay] : Right Hand (Z) Ordinary Lay

規格破断荷重 [Minimum Breaking Load] : 24300 N

ロープ 径 [Norminal Dia.] : 6.0mm

部 品 寸 法 [Dimemnsions of Description]

全 長 [Length] : 10955 ±10 mm

端 末 加 工 [Ends of Description Lot No.] : B464

端末金具材質 [Materials] : S45C

加 工 方 法 [Kind of Proccessing] : Swaging

保証締結荷重 [Minimum Proof Load] : 24300 N

破断試験結果 [Load at Breaking Test] : 33900 N

We hereby promise that the steel wire rope with joint clamp herein has been satisfactorily tested and inspected in accordance with the requirements of the above specification.

上記のジョイントクランプ加工品は、規格通りに検査に合格していることを証明致します。

S. Nakagawa

Manager



Minatojima-nakamachi 5-1-1, Chuo-ku, Kobe 650-0046, JAPAN
 Tel. +81-78-302-0460 Fax +81-78-302-1404
 www.martec.co.jp E-mail: info@martec.co.jp

Strength Calculation

Product: Swivel Hook BKL-7/8-10 (WLL = 2.0 t)	Certificate No.: MT15-1456
	Date: 2017/11/22

Calculation of tensile strength at critical section A – A and section B – B as shown in figure 1.

1. Strength of critical section A – A

The strength of section A – A is calculated according to the strength calculation method of the critical section of the hook specified in JIS B 2803 (Hooks). The tensile stress σ_t on the tensile side of the critical section A – A shown in figure 1, where the maximum stress occurs, is calculated with the following equation.

The evaluation is OK, if σ_t is equal to or less than $\frac{1}{3}$ of the tensile strength of the material used for the hook.

$$\sigma_t = \frac{W \times 1,000 \times R}{Z} + \frac{W \times 1,000}{A} \quad (\text{N/mm}^2)$$

W: Working load limit (WLL): kN

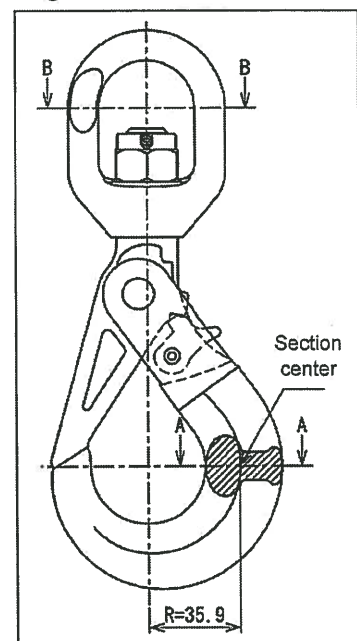
R: Distance from center of hook to center of critical section: mm

Z: Cross section coefficient of critical section: mm³

A: Area of critical section: mm²

σ_b : Tensile strength of material = 1,290 N/mm²
 (Nickel-Chromium-Manganese Steel: Gunnebo Material No. 368.6)

Figure 1



Product	Working load limit (WLL) W		Area A mm ²	Coeff. Z mm ³	Distance R mm	Tensile stress σ_t N/mm ²	Tensile strength σ_b N/mm ²	$\sigma_b / 3$ N/mm ²	Evaluation $\sigma_t \leq \sigma_b / 3$
	ton	kN							
BKL-7/8-10	2.0	19.6	458	2,355	35.9	341.8	1,290	430	OK

Sufficient strength according to the above.



Minatojima-nakamachi 5-1-1, Chuo-ku, Kobe 650-0046, JAPAN
 Tel. +81-78-302-0460 Fax +81-78-302-1404
 www.martec.co.jp E-mail: info@martec.co.jp

Strength Calculation

Product: Swivel Hook BKL-7/8-10 (WLL = 2.0 t)	Certificate No.: MT15-1456
	Date: 2017/11/22

2. Strength calculation of section B – B

The tensile stress occurring at section B – B shown in figure 1 is calculated with the following equation.

The evaluation is OK, if the safety factor is 5 or higher.

$$\sigma t1 = \frac{W \times 1,000}{A1} \quad (\text{N/mm}^2)$$

W: Working load limit (WLL): kN

A1: Combined areas of section B – B (figure 2): mm²

σb : Tensile strength of material = 1,290 N/mm²
 (Nickel-Chromium-Manganese Steel: Gunnebo Material No. 368.6)

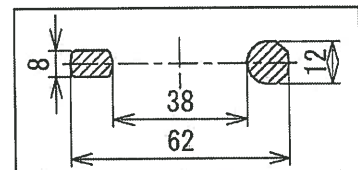
S: Safety factor, calculated as follows:

$$S = \frac{\sigma b}{\sigma t1}$$

Product	Working load limit (WLL) W		Area A1 mm ²	Tensile stress $\sigma t1$ N/mm ²	Tensile strength σb N/mm ²	Safety factor S	Evaluation $S \geq 5$
	ton	kN					
BKL-7/8-10	2.0	19.6	200	98.3	1,290	13.13	OK

Sufficient strength according to the above.

Figure 2



MARTEC Co., Ltd.
 Technical Department

Hirosuke Urano

Hirosuke Urano
 Quality Control Manager

MARTEC K.K.



証 明 書

Manufacturer Gunnebo Industrier AB

Certificate no. : MTC-6593

Contract no.

Customer :

Drawing no.

Order no. :

Number	Description	*	Q'ty	WLL	Proof Load	Min Breaking Load
				(t)	(KN)	(KN)
1	BKL-7/8-10	*	1	2.0	39.20	98.00

1 Metric Ton = 1000kg = 9.8KN

Safety factor 5: 1

* * Alloy steel

We hereby certify the above test data.

Issue Date 2017/11/22

MARTEC K.
Technical Dept





Environmental Data Sheet

Maker: Maeda Seisakusho Co., Ltd.	Machine Type: Mini Crawler Crane
Model: MC305CRME-2	Serial Number: D0820
Year of Manufacturing: 2018	

POWER SOURCE 1

Diesel ☒	Gasoline ☐	Electric ☐	
Maker: Yanmar	Model: 3TNV76-NMB	Serial Number: P4631	
Year of Manufacturing: 2018	Power Output: 15.2kw	Displacement: 1.115L	Emission Level: US Tier2 (N/A for EU)
Pollution Index: CO 1.688g/kWh NOx+NMHC 4.572g/kWh PM 0.247g/kWh			
Fuel Type: Diesel	Av. Fuel Consumption: N/A 2.7L/H	Consumption at 50% Load: N/A	Consumption at 100% Load N/A 3.7L/H

POWER SOURCE 2

Electric ☒		
Maker: WEG	Model: W21 4P-5.5 kW	Serial Number 1042874661
Year of Manufacturing: 2018	Power Output: 5.5kw	

OIL, LUBRICATION, LIQUID

	Type	Volume, Liter	Change every	Quality	Biodegradable
Engine	Engine Oil	3.1	250	Mineral	No
Coolant	Water/AF	3.5	1000	Mineral	No
Slewing Gear	Gear Oil	0.6	1000	Mineral	No
Winch Gear	Gear Oil	0.75	1000	Mineral	No
Travel Gear	Gear Oil	0.7	1000	Mineral	No
Hydraulic system	Hyd Oil	60	1000	Mineral	No
Greases					

CRAWLERS

Maker: BRIDGESTONE	Model/Type: MAEDA MC305C-2 spec	Crawler Size: 1750 x 300mm
HA oil tread: Yes	Zinc in tread: Yes	Cadmium in tread: No

SOUND POWER LEVEL dB (A)

	Minimum	Maximum
Measured		94
Guaranteed		101

PAINT, BATTERIES, RECYCLING

Percentage of water-based paint (%)	N/A
Percentage of solvent-based paint (%)	N/A
Quantity of Batteries	1
Type of Batteries	Lead acid
Quantity of marked plastic parts (%)	%
Percentage recyclable of machine weight	%