

#### **Bremick Pty Ltd**

ABN 68 000 496 131

290 Kurrajong Road Prestons 2170 NSW PO Box 6070 Alexandria NSW 2015 Tel: +61 2 8332 1501

Fax: +61 2 9690 1474

#### ATTESTATION OF PRODUCT CONFORMITY

**TEST REPORT NUMBER:** 54112-30090-WB012309377 **DATE OF ISSUE:** 12/02/2025

**CERTIFICATE NUMBER:** 00120Q31689R6M/3302

Bremick Fasteners manufactured K0 8.8 STRUCTURAL ASSEMBLIES M30 x 90, job number 54112 to meet the technical requirements of AS/NZS 1252.1:2016, and comply with the verification testing requirements of AS/NZS 1252.2:2016.

Initial Type Third Party Testing has been conducted by Ningbo Zhongji Inspection of Machinery Parts Co, Ltd, an ILAC accredited laboratory.

The Assembly Test requirements (as required by AS/NZS1252.2:2016) have also been conducted by the same ILAC Laboratory.

The remainder of the testing requirements for AS/NZS 1252.2:2016 have been performed by the Bremick NATA accredited Laboratory that complies to ISO/IEC 17025. The Bremick NATA accreditation number is 15567.

Product K0 8.8 STRUCTURAL ASSEMBLIES M30 x 90, job number 54112 has been tested and complies with AS/NZS 1252.1:2016 and AS/NZS 1252.2:2016 and are supported by the attached documentation.

Authorised Bremick representative

Afshin Mohammadiazar,

Quality and Technical Manager





### Certificate of Conformity of Factory Production Control

This certificate is issued to:

Manufacturer: Bremick PTY LTD

Approved factory No. 3

In compliance with *Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011* (the Construction Products Regulation or CPR), this certificate applies to the construction product:

#### High-strength Structural Bolting Assemblies for Preloading

This certificate attests that all provisions concerning the assessment and verification of constancy of performance and the performances described in Annex ZA of the standard(s)

### EN 14399-1:2015 High-strength Structural Bolting Assemblies for Preloading – Part 1: General Requirements

under system 2+ are applied and that the factory production controls fulfil all the prescribed requirements set out above.

The attached Schedule, of the same date, details the manufacturing location(s), harmonised product standard and product parameters and shall form a part of this certificate.

This Certificate will remain valid as long as the test methods and/or factory production control requirements included in the harmonised standard, used to assess the performance of the declared characteristics, do not change, and the product, and the manufacturing conditions in the plant are not modified significantly.

Certificate No: 0343/CPR/SHA/BJG6041035/01

Original Approval: 10 November 2016
Current Certificate: 01 April 2024
Expiry Date: 09 November 2025

LRQA Notified Body Number: 0343



LRQA Nederland B.V. (Reg. no. 24247948) a private limited company registered in the Netherlands with registered office at George Hintzenweg 77, 3068 AX Rotterdam. A subsidiary of LRQA Group Limited.

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## Certificate of Conformity of Factory Production Control No: 0343/CPR/SHA/BJG6041035/01 Schedule

Manufacturer: Bremick PTY LTD

Approved factory No. 3

Manufacturing Location and

Standard, Grade and Size

**Products** 

Bremick approved factory 3

-Bolt EN14399-3

-Nut M (12-36) X (30-200) — 8.8/10.9 — HR

M (12-36) — 8/10—HR

-Bolt EN14399-4

-Nut M (12-36) X (30-200) — 10.9 — HV

M (12-36) — 10 — HV

-Bolt EN14399-10

-Nut M (12-36) X (30-200) —10.9 — HRC

M (12-36) — 10 — HRC

-Washer EN14399-5

D (12-36)

-Washer EN14399-6

D (12-36)

Remark of finished surface coating type: hot dip galvanizing, electrolytic zinc plating, black/self-color

Schedule Issue: 03

Date of Schedule Issue: 01 April 2024

LRQA Notified Body Number 0343

Kevin Wu on behalf of LRQA Nederland B.V.

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LRQA NL BV CPR Certificate Template Rev 0 2024-01

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#### Structural Assembly K0 Range



TEST REPORT No: 54112-30090-WB0123093 DATE OF ISSUE: 12/02/2025 HEAD No:

#### **Product Information**

CODE	K08MG300901	JOB NUMBER	54112
DESCRIPTION	K0 8.8 STRUCTURAL ASSEMBLIES M30 x 90	MANUFACTURE LOT QTY	645
STANDARD	AS 1252.1-2016	TEST QTY	5
QUALITY SYSTEM	GB/T19001-2016/ISO9001:2015	CERTIFICATE NUMBER	00120Q31689R6M/3302

#### **Chemical Composition**

Complies to ISO898.1~2/AS4291.1~2

PART	HEAT No	С %	Mn %	Р%	S %	В%
REQUIRED		0.25~0.55	N/A	0.035 max	0.035 max	0.003 max
BOLT	WB012309377	0.386	0.58	0.022	0.004	0
REQUIRED		0.58 max	0.25 min	0.060 max	0.150 max	N/A
NUT	23202402	0.45	0.57	0.019	0.005	0
REQUIRED		N/A	N/A	N/A	N/A	N/A
WASHER	H23030268	0.46	0.58	0.021	0.002	0

#### **Mechanical Properties**

Tested to AS/NZS1252.1-2016 Table B1

	BOLT	
TEST	REQUIREMENT	RESULT
Hardness	d <= 16mm 22~32 HRC d > 16mm 23~34 HRC	28-29
Wedge Test 4º	d <= 16mm 800MPa d > 16mm 830 MPa	970-979
Yield	660 MPa	766-776
Proof Stress	d <= 16mm 580 MPa d > 16mm 600 MPa	PASS

	NUT	
TEST	REQUIREMENT	RESULT
Hardness	24~36 HRC	28-29
Proof Stress (min)	1165 MPa	PASS
	WASHER	
Hardness	33~41 HRC	35-36

Hardness Test to ASTM E18 - Wedge test and proof load to ISO 898-1, Nut proof load test to AS 1252.1-2016

Assembly Test Tested to AS/NZS1252.1-2016

TEST CONDITIONS			REQUIREMENT		RESULTS				
CLAMP LENGTH (mm)	No. OF SHIMS	ROTATION SPEED	LUBRICATION CONDITIONS	BOLT LENGTH	MIN NUT Rotation º	TENSION kn Minimum	SAMPLE No.	NUT ROTATION DEGREES	BOLT TENSION (kN)
43	1	5	Dry to touch	L<=3d	210	419	SAMPLE 1	220	480.5
							SAMPLE 2	215	477
							SAMPLE 3	217	479
							SAMPLE 4	219	478
							SAMPLE 5	218	481

#### Visual, Dimensions, Coating & Markings

PART	VISUAL INSPECTION ISO 6157-1. 2.
BOLT	PASS
NUT	PASS
WASHER	PASS

DIMENSIONS AS/NZS1252-2016
PASS
PASS
PASS

COATING COMPLIES TO AS/NZS1214  REQUIREMENT 50 min						
TYPE Av µm						
HDG	62					
HDG	HDG 63					
HDG	HDG 64					

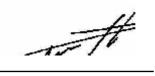
MARKINGS
Bolt: BF 8.8 THREE RADIAL LINES
Nut : BF 8 THREE ARC LINES
Washer : THREE NIBS

This certificate complies with AS/NZS1252.1-2016

\*The results relate only to the item tested\*

Name: Afshin Mohammadiazar Position: Quality Manager

Signature :



#### **TEST REPORT**

TEST REPORT No: 54112-30090-WB012309377 DATE OF ISSUE: 12/02/2025

#### **PRODUCT DETAILS**

ITEM CODE	K08MG300901	DESCRIPTION	K0 8.8 STRUCT ASS GAL M30 X 90
BOLT HEAT No.	WB012309377	MATERIAL STANDARD	AS/NZS 1252-2016
NUT HEAT No.	23202402	JOB No.	54112
WASHER HEAT No.	H23030268	HEAD MARK	

#### **BOLT**

PROOF LOAD TEST DATE: 12/03/2025

DESCRIPTION	Proof load testing of class 8.8 Bolt to SOP 22-07, AS/NZS 1252.1 and ISO 898.1						
TEST METHOD	Proof load to ISO 898.1	Proof load to ISO 898.1 and ISO 6892-1					
REQUIREMENTS	Minimum hold time 15 s	Minimum hold time 15 seconds - min proof load 337.00 kN					
	PROOF LOAD (Kn)	INITIAL LENGTH (mm)	FINAL LENGTH (mm)	CHANGE (mm)	COMPLIANCE		
SAMPLE 1	PASS	0.00	0.00	0.00	COMPLIES		
0.44401.0	D.4.0.0	2 2 2	0.04	0.04	COMPLIED		
SAMPLE 2	PASS	0.00	0.01	0.01	COMPLIES		

WEDGE LOAD TENSILE TEST TEST DATE: 12/03/2025

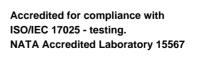
DESCRIPTION	Wedge test of class 8.8 E	TEST TEMP ° C			
TEST METHOD	Wedge test ISO 898.1 and	26			
	TENSILE STRENGTH Mpa (Rm)	COMPLIANCE			
REQUIREMENTS	830 MIN	466 MIN	4	THREAD	
SAMPLE 1	952	534.00	4	THREAD	COMPLIES
SAMPLE 2	932	522.80	4	THREAD	COMPLIES
SAMPLE 3	932	522.90	4	THREAD	COMPLIES

HARDNESS TEST DATE: 13/03/2025

DESCRIPTION	K0 8.8 STRUCT ASS GAL	K0 8.8 STRUCT ASS GAL M30 X 90- AS/NZS 1252-2016												
TEST METHOD	Rockwell Hardness test u	Rockwell Hardness test using scale "C" from 98N to 147N by the methods of ASTM E18												
REQUIREMENTS	d <= 16mm 22-32 HRC - d	d <= 16mm 22-32 HRC - d > 16mm 23-34 HRC												
	AVERAGE * HARDNESS (HRC)	COMPLIANCE	SAMPLE	AVERAGE * HARDNESS (HRC)	COMPLIANCE									
SAMPLE 1	29	COMPLIES	SAMPLE 5	28	COMPLIES									
SAMPLE 2	30	COMPLIES	SAMPLE 6	31	COMPLIES									
SAMPLE 3	30	COMPLIES	SAMPLE 7	28	COMPLIES									
SAMPLE 4	29	COMPLIES	SAMPLE 8	30	COMPLIES									

<sup>\*</sup> Average of 3 measurements per sample







#### **TEST REPORT**

TEST REPORT No: 54112-30090-WB012309377 DATE OF ISSUE: 12/02/2025

#### **PRODUCT DETAILS**

ITEM CODE	K08MG300901	DESCRIPTION	K0 8.8 STRUCT ASS GAL M30 X 90
BOLT HEAT No.	WB012309377	MATERIAL STANDARD	AS/NZS 1252-2016
NUT HEAT No.	23202402	JOB No.	54112
WASHER HEAT No.	H23030268	HEAD MARK	

#### **NUT**

PROOF LOAD TEST DATE: 10/03/2025

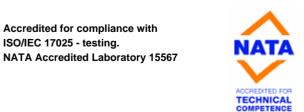
DESCRIPTION	Proof load testing of Nut to SOP 22-09, AS/NZS 1252	2.1 and ISO 898.2	TEST TEMP ° C
TEST METHOD	Proof load to ISO 898.2 and ISO 6892-1		25
REQUIREMENTS	Minimum hold time 15 seconds - Minimum proof loa	653.60 kN	
	PROOF LOAD (Kn)	NUT REMOVED BY FINGER	COMPLIANCE
SAMPLE 1	PASS	YES	COMPLIES
SAMPLE 2	PASS	YES	COMPLIES
SAMPLE 3	PASS	YES	COMPLIES

HARDNESS TEST DATE: 13/03/2025

DESCRIPTION	K0 8.8 STRUCT ASS GAL	M30 X 90- AS/NZS 1252-	2016											
TEST METHOD	Rockwell Hardness test u	Rockwell Hardness test using scale "C" from 98N to 147N by the methods of ASTM E18												
REQUIREMENTS	24 - 36 HRC	24 - 36 HRC												
	AVERAGE * HARDNESS (HRC)	COMPLIANCE	SAMPLE	AVERAGE * HARDNESS (HRC)	COMPLIANCE									
SAMPLE 1	28	COMPLIES	SAMPLE 5	31	COMPLIES									
SAMPLE 2	25	COMPLIES	SAMPLE 6	31	COMPLIES									
SAMPLE 3	28	COMPLIES	SAMPLE 7	29	COMPLIES									
SAMPLE 4	31	31 COMPLIES SAMPLE 8 28 COMPLIES												

<sup>\*</sup> Average of 3 measurements per sample





#### **TEST REPORT**

TEST REPORT No: 54112-30090-WB012309377 DATE OF ISSUE: 12/02/2025

#### **PRODUCT DETAILS**

ITEM CODE	K08MG300901	DESCRIPTION	K0 8.8 STRUCT ASS GAL M30 X 90
BOLT HEAT No.	WB012309377	MATERIAL STANDARD	AS/NZS 1252-2016
NUT HEAT No.	23202402	JOB No.	54112
WASHER HEAT No.	H23030268	HEAD MARK	

#### **WASHER**

TEST DATE: 13/03/2025 **HARDNESS** 

DESCRIPTION	K0 8.8 STRUCT ASS GAL	M30 X 90- AS/NZS 1252-	2016											
TEST METHOD	Rockwell Hardness test u	Rockwell Hardness test using scale "C" from 98N to 147N by the methods of ASTM E18												
REQUIREMENTS	33 - 41 HRC	33 - 41 HRC												
	AVERAGE * HARDNESS (HRC)	AVERAGE * HARDNESS (HRC)	COMPLIANCE											
SAMPLE 1	34	COMPLIES	SAMPLE 5	35	COMPLIES									
SAMPLE 2	35	COMPLIES	SAMPLE 6	36	COMPLIES									
SAMPLE 3	36	COMPLIES	SAMPLE 7	34	COMPLIES									
SAMPLE 4	37	COMPLIES	SAMPLE 8	36	COMPLIES									

<sup>\*</sup> Average of 3 measurements per sample

Signed:

Afshin Mohammadiazar

Accredited for compliance with ISO/IEC 17025 - testing. NATA Accredited Laboratory 15567 TECHNICAL

**Issue Date:** 12/02/2025

> Note that this report is based on the products supplied to the laboratory and it remains the responsibility of the client to ensure the samples presented are representative of the whole batch. Reproduction of this report, other than in its entirety, must be approved by Bremick Pty Ltd

\*The results relate only to the item tested\*









#### Ningbo Zhongji Inspection of Machinery Parts Co.,Ltd

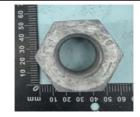
#### **TEST REPORT**

Report number: NBZJB202412124 Page 1 of 2 06, Dec., 2024 Receiving Date: Test Date: 06, Dec., 2024~09, Dec., 2024 Supplied by client Sample Source: Bremick Pty Ltd Name of Client 88 Dalmeny Avenue, Rosebery NSW 2018 Address AS/NZS 1252.1:2016 **Test Requirements** The technical requirement supplied by client

Description	M30x90 8.8 HDG	Number of Sample(s)	3 PCS					
Dimension	M30x90	Class	Bolt class 8.8 Nut class 8					
Part Number	K08MG300901	PO No	54112					
TRACE No	1	Heat Treatment Lot number	1					
(Steel ) Heat number	B:WB012309377 N:23202402							

The information above is provided by the client. Our laboratory is not responsible for its authenticity







Approved by





Test by Engineer



NBZJB202412124

Report number:

1





500.9 kN

3A

Page 2 of 2

**Pass** 

#### Ningbo Zhongji Inspection of Machinery Parts Co.,Ltd

#### **TEST REPORT**

Item NO. Test Results Test Items **Test Method** Requirement Conclusion 502.8 kN Bolt tension force 1A Pass 210° ≥ 419 kN 504.7 kN Assembly test EN 14399-2:2015 Nut rotation 2A Pass 210°

Equipment: Microcomputer controlled torsion tester; NBZJ/SB-Z-JC-110 WNJ-3000;

Degrees

≥ 210°

Validity Of Calibration: 2025.05.16



THE END

#### 潍坊特钢集团有限公司 WEIFANG SPECIAL STEEL GROUP CO., LTD.

#### 产品质量证明书 MILL TEST CERTIFICATE

产品名称 PRODUCT NAME	棒材/ HOT RO ROUND		EFL	订货单位 CUSTOMER		潍坊宁边	远经贸不	有限公司		CONTR	同号 ACT NO.	DD23	B01045	TOT	文合计(捆) AL BUNDLE	15		证书号 IFICATE NO	202312	2030000067
牌号 GRADE	400	r		执行标准 STANDARD		GB/T	3077-	2015		车号 VEHICLE NO.				社合计(吨) WEIGHT(MT)	41. 6	6 DE	出库单号 LIVERY ORDER	NO.	F023C0072	
		规格	件数	重量							化学质	文分 CHEM	IICAL CO	MPOSITION	V (%)					
炉号/ HE	EAT NO.	SIZE	BUNDL	E WEIGHT	C	Si	Mn	P	S	Cr	Ni	Cu	Мо							
WB0123	08823	48	1	2. 74	0.400	0. 218	0. 589	0.021	0.008	0.892	0.014	0.012	0.0001							
WB0123	09377	32	12	33. 196	0. 386	0. 207	0. 580	0. 022	0.004	0. 857	0.008	0.009	0.0001	l						
WB0123	09376	32	2	5. 724	0. 420	0. 207	0. 568	0. 023	0.006	0. 875	0. 011	0.009	0.0001	l						
											_	-								
炉号 HEAT NO.	屈服强度 (MPa)	抗拉强 (MPa		断后伸长率 (%)	断面收缩率(%)	冲击J Aku2(		-顶锻	一般疏松	锭型偏析	中心疏		点状 :	边缘点状 偏析						
WB012308823	合格/OK	合格/	OK	合格/OK	合格/OK	≥47	合	格/OK	0.5	0	1		0	0						
	合格/OK	合格/	OK	合格/OK	合格/OK	≥47	合	格/OK	0.5	0	1		0	0						
WB012309377	合格/OK	合格/	OK	合格/OK	合格/OK	≥47		格/OK	0.5	0	1		0	0						
	合格/OK	合格/	OK	合格/OK	合格/OK	≥47		格/OK	0.5	0	1		0	0						
WB012309376	合格/OK	合格/		合格/OK	合格/OK	≥47		格/OK	0.5	0	1	The state of the s	0	0						-
	合格/0K	合格/		合格/OK	合格/OK	≥47		格/OK	0.5	0	1		0	0						,
QUALIFIED AF	尺寸合格 PPEARANCE AND IZE		TT.	按生产日期( Aging Period It is guaran	1: Ø<10mm,	10days (S	Summer)	, 15days	Spring&	Autumn),	20days (Wi	nter);	ð>=10mm,	季 25天, 《 20days (S	冬天 40天后 ummer),25da	投入使用。 ays(Sprin	。本产占 ng&Autu	品不含有任何: mm),40days(	辐射兀茅 Winter)	i o
	E释 ITES	格、I 后服 1. It samp ratio	重量、 务电话: t's red les, co	各注时效期天 合同号、原因 : 0536-76797 commonded to ertificate r irement≤35% ice phone: (	等; 3、1 16 use the number, he s; 4. MTC	steel ba eat numbe viod wit	r acco	i≤35%; oring to	4、本证 the agi	明书加盖) ng period weight.	质检章有效 d; 2. Any contract	calim o	无效; 5 on quali and qua	、钢材按 ty should	实际重量交货 d be raised ections sho	t; 6、∤ I within ould be r	を材标は 2 mone provide	he of the bu	H M	e, and BOF scra
	注日期 ID DATE		2023	3-12-03		司表人 BULATOR		auto		质量负责 QUALIT MANAGE	ry	刘建	垒	STAMP	质量的 OF QUALITY	部门盖章 CONTROL	ne iji	DMENT		型
ddress: East el: 0086-536-	of Weigang Re -7679716	oad, St	eel Mi	ll of Indust	ry Zone,	Weifang,	China	1			7228.30 confirm				rial was us	sed.	1	质检专	用章	1



热轧圆钢

GB/T699-2015

产品名称:

执行标准:

Standard

Product Name

## 衢州元立金属制品有限公司

QuZhou YuanLi Metal Products CO. LTD

	一 田途·	+h /cn	签发日期:	2023年2月26日
39. 340	交货状态: Delivery Condition	热轧/建议时效15日后使 用	质保书号: Certificate NO.	2302260266
45	合同号: Contract NO.		出库单号: Delivery NO.	2302260182
	ty Certificate		FAX: (0570)8055725	POST CODE
产品质量	量证明书		TEL: (0570) 8055724	邮编: 324004

地址: 浙江省衢州市经济开发区

ADD: Economic Development Zone. QuZhou. ZheJiang

订货	tdard (单位:	<b>衡州建业贸易</b>	有限公	- ਜ <u>ੋ</u> ]			总件数 Number		19		用途: Applica	tion		热锻			签发口。 Date 0:			2023年2		T	u v z etc la					
uro	chaser											:成份 %							低	倍组织(	级)	离淬火 <sup>站</sup> (HF						
序号	批号	炉号	件数	规格 mm	С	Si	Mn	P	S	Cr	Ni	Мо	Cu	A1	Ti	v	Nb	В	一般疏松	中心疏松	偏析	9mm	15mm					
1	C23020914	23202402	19	ф 34	0. 45	0. 23	0. 57	0. 019	0. 005	0. 055	0. 014	0. 003	0. 023	0. 010	0. 002	0. 001	0. 001		0.5	0.0	0.0							
		力学性	能										表 B # #			形 一				七物(级)			非金属夹杂物(级) A类 B类 C类				D	D类
序号	Rp0. 2	Rm (Mpa)	A (%)	Z (%)	Aku2 (J)		快车L (HBW)	热 (1/3)	冷 (1/2)	(级)	(mm)	组织(级)	网状	带状	液析	粗系	<b>知系</b>	粗系	细系	粗系	细系	粗系	细系					
	(Mpa) 405	645	23. 0	48				合格			0. 16																	
1	404	646	23. 0	48				шш			0. 16																	
1934																												
																	1	江全人	5.									
								La cordinate attr	And 1 = 1.01	mala Tri ()	in to bloke	igh No.	Dan Mr. A	t-Mt du f	<u> </u>	l	13		W. Co	1								

1. 材料的表面质量和外形尺寸均合格; 酸浸低倍组织中白点、宏观夹杂等标准规定不允许有的缺陷, 均保证符合标准出厂。

钢 号:

总重量(吨):

Grade

Weight

2. 有异议时,来函请标明钢号、炉号、规格、发货单号、原因,提供质量证明书,并将实物保管好。

. 建议按生产日期15天后使用。

兹证明本文所列产品,均依材料标准制造及试验,并符合标准及订单技术要求,不含有辐射元素。 WE HEREBY CERTIFY THAT MATERIAL DESCRIBED HEREIN HAS BEEN MANUFACTURED AND TESTED WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE ASSOCIATEMENTS OF THE ABOVE MATERIAL

SPECIFICATION & P.O. THE PRODUCTS DON' T CONTAIN RADIOCHEMICAL.



# 浙江元立金属制品集团有限公司

## ZHEJIANG YUANLI METAL PRODUCT GROUP CO.,LTD 产品质量证明书

**Product Quality Certificate** 

浙江. 遂昌. 上江工业园区

浙KK7910

ShangJiang Industrial Park, SuiChang. Zhejiang, P.R. CHINA

TEL: (0578)8185935

FAX: (0578)8195050

邮编: 323300

POST CODE:323300

订货单位 Purchaser	杭州宇健特殊钢有限公司	钢号 Steel Grade	45#	Delivery NO.	230416012,230416013	
执行标准 Standard	GB/T8749-2021	总重量 Totall WEIGHT	37.16	质保书号 Certification	11002821-1	
产品名称	优质带钢	交货状态 Delivery Condition	热轧	签发日期 Date of Delivery	2023-04-16	

序	LA HI. II	规格	14- *	钢号	化学成份 Chemical Composition %										碳化物				
号 N O	炉批号 Heet NO.	(mm) SIZE	件数 QTY	Steel Grade	С	Si	Mn	Р	S	Cr	Ni	Мо	Cu	Ti	AL	V	网状	带状	液析
1	H23030268	190*4.1	1	45#	0.46	0.23	0.58	0.021	0.002	0.044	0.017	0.005	0.036						
2	H23040422	170*3.0	20	45#	0.44	0.22	0.58	0.017	0.005	0.041	0.013	0.004	0.026						- 41
3																		*	
4																			
5																			
6																	11.		
7																V.			

序号NO	物理性能Physical Capability						顶锻 Upsetting		显微组织 Microstructure		非金属夹杂物(级)Non Metallic inclusion								
											A类		B类		C类		D类		冷弯
	Rel/Rp0.2 (Mpa)	Rm (Mpa)	A(%)	Z(%)	Akv. (J)	热轧硬 度	热	冷	晶粒度 (级)	脱碳层 (mm)	粗系	细系	粗系	细系	粗系.	细系	粗系	细系	180°
1	471	705	22.5			92.0				0.072									•
2	477	750	20.0			92.0				0.072						9			
3																	EL		
4																	Det		
5																			E
6																1	1: 77		
7																1 / · ·	it is.		1

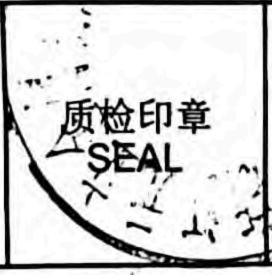
件 21 总计[Total]

1.材料的表面质量和外形尺寸均合格,酸浸低倍组织中白点、宏观夹杂等标准规定不允许有的缺陷,均保证符合标准出。Dimensions and surfaces are

qualified. No defect in the macrostructure of steels. Hereby certify that all is in accordance with relevant standard.

2.有异议时,来函请标明钢号、炉号、规格、发货单号、原因,提供质量证明书符将实物保管好.If there is any objection, please provide, Steel grade, Heet NO, dimension, Delivery NO., reasons and quality certificate. Please keep the products original.

3.建议按生产日期15天后使用 Please use after 15 days of the production date.



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