

DECLARATION OF PERFORMANCE

No. DoP 20130701-6030/3

Issued in accordance with the Construction Products Directive (CPD) 305/2011/EU. Bangkok Fastening Co.,Ltd. hereby declares that the products mentioned below comply with the requirements of :

1. Unique identification code of the product-type:

DIN603 Mushroom Head Square Neck Bolt Class 4.8 and 8.8

2. Type, batch or serial number or any other element allowing identification of the construction product as required pursuant to Article 11(4):

See annex to this document

3. Intended use or uses of the construction product, in accordance with the applicable harmonised technical specification, as foreseen by the manufacturer:

Load bearing timber structures

4. Name, registered trade name or registered trade mark and contact address of the manufacturer as required pursuant to Article 11(5):

Bangkok Fastening Co.,Ltd. 99/4 Moo.7 Bangna-Trad Rd, Bangchalong, Bangplee, Samuthprakarn, Thailand

5. Where applicable, name and contact address of the authorised representative whose mandate covers the tasks specified in Article 12(2):

Not Relevant

6. System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V:

System 3

7. In case of the declaration of performance concerning a construction product covered by a harmonised standard:

EN14592:2008 + A1:2012

performed by: **SHR - Nieuwe Kanaal 9b - 6700 AL Wageningen** under: **System 3** and issued: **Report code 13.0258-2 on February 7th, 2014** Notified Body No.: **1686**

8. In case of the declaration of performance concerning a construction product for which a European Technical Assessment has been issued:

Not Relevant

9. Declared performance

Class 4.8

M6	M7	M8	M10	M12	M16
$M_{y,k}$ (N-mm)	$M_{y,k}$ (N-mm)	$M_{y,k}$ (N-mm)	$M_{y,k}$ (N-mm)	$M_{y,k}$ (N-mm)	$M_{y,k}$ (N-mm)
9708	19396	27749	45393	75929	437459

Class 8.8

M6	M7	M8	M10	M12	M16
$M_{y,k}$ (N-mm)	$M_{y,k}$ (N-mm)	$M_{y,k}$ (N-mm)	$M_{y,k}$ (N-mm)	$M_{y,k}$ (N-mm)	$M_{y,k}$ (N-mm)
16853	30802	49503	87302	132599	928500

10. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 9. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4. Signed for and on behalf of the manufacturer by:

Company Stamp:

Mr. Suthep Kongtoranin, Managing Director

Samuthprakarn, February 14th, 2014

Annex

Bolt Size	M6	M7	M8	M10	M12	M16
Norminal Dia., D_{nom} mm	6.0	7.0	8.0	10.0	12.0	16.0
Length, l mm	16 - 130	40 - 100	16 - 200	20 - 260	30 - 300	50 - 130
Bolt Grade	Class 4.8 and 8.8 according to ISO 898-1:2013					
Corrosion Resistance	Service Class 2 according to EN1955-1-1					

CE CERTIFICATE

CE CERTIFICATE

Number: **12-02-2014-B**

Producer: Bangkok fastening Co. Ltd
99/4 Moo7, Banga-Trad Rd
Bangchalong, Bangplee
Samutprakarn 10540, Thailand

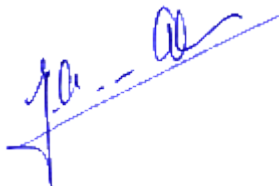
Product: Mushroom head square neck bolts class 4.8 and 8.8 steel
Ø 6.0 mm, 7.0 mm, .8.0 mm, 10.0 mm, 12.0 mm and 16 mm..

Base of certificate: Initial type test report 13.0258-2 date 2014-02-07.

Standard: **EN 14592+A1:2012**

SHR declares that it performed the initial type testing on the products mentioned, according to the standard: EN 14592+A1:2012. Detailed data of the testing is documented in SHR-report 13.0258-2

Wageningen, February 12th, 2014



Dr. ir. J.A. van Aken
Vice director

SHR matches all general requirements for the competence of testing and calibration laboratories according to NEN-EN-ISO/IEC 17025: 2005 and is audited for this by the Dutch Accreditation Counsel. SHR is recognised by the European Union as a notified body under the number 1686. Detailed information can be found on the website www.ec.europa.eu/enterprise/newapproach/hando



CERTIFICATE

CE Certificate 12-02-2014-B

2-12-2014

Initial Type Testing results:

Characteristic yield moment $M_{y,k}$ in Nmm

Class 4.8

M6	M7	M8	M10	M12	M 16
$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)
9708	19396	27749	45393	75929	437459

Characteristic yield moment

Class 8.8

M6	M7	M8	M10	M12	M 16
$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)
16853	30802	49503	87302	132599	928500



Title: Bolts: laboratory tests within the framework of the CE mark

Report code: 13.0258-2

Date: February 7th, 2014

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This report consists of 9 pages. It is the property of the client, who is entitled to publish this report integrally. Partial publication, also by the owner, is only permitted after approval in writing by SHR.

Client: Bangkok fastening Co. Ltd
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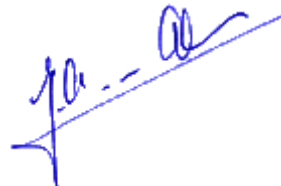
Appendix:

Project number: 13.0258

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Headwords: Bolts, yield moment, geometry.

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Summary

Bangkok fastening Co. Ltd. would like to mark their mushroom head square neck bolts with the CE-mark. It is confirmed by means of the CE-mark that the performances indicated by Bangkok fastening Co. Ltd., tested by means of random sampling and tested in accordance with the EN 14592+A1:2012, have been actually realised. The values of the test results are given in this report.

1 Introduction

Bangkok fastening Co. Ltd. has indicated that they wish to apply the CE-mark on their mushroom head square neck bolts in steel qualities 4.8 and 8.8.

The necessary tests are described in EN 14592+A1:2012 and have been executed in accordance therewith.

2 Material and method

2.1 Material

The following bolts have been received June 18th from Bangkok fastening Co. Ltd.

Table 1
Class 4.8 and 8.8

Size	Size	Size	Size	Size	Size
M6 X 16	M7 X 40	M8 X 16	M10 X 20	M12 X 30	M16 X 50
M6 X 20	M7 X 45	M8 X 20	M10 X 25	M12 X 35	M16 X 55
M6 X 25	M7 X 50	M8 X 25	M10 X 30	M12 X 40	M16 X 60
M6 X 30	M7 X 60	M8 X 30	M10 X 35	M12 X 45	M16 X 65
M6 X 35	M7 X 70	M8 X 35	M10 X 40	M12 X 50	M16 X 70
M6 X 40	M7 X 80	M8 X 40	M10 X 45	M12 X 60	M16 X 75
M6 X 45	M7 X 90	M8 X 45	M10 X 50	M12 X 70	M16 X 80
M6 X 50	M7 X 100	M8 X 50	M10 X 60	M12 X 80	M16 X 90
M6 X 60		M8 X 60	M10 X 70	M12 X 90	M16 X 100
M6 X 70		M8 X 70	M10 X 80	M12 X 100	M16 X 110
M6 X 80		M8 X 80	M10 X 90	M12 X 110	M16 X 120
M6 X 90		M8 X 90	M10 X 100	M12 X 120	M16 X 130
M6 X 100		M8 X 100	M10 X 110	M12 X 130	
M6 X 110		M8 X 110	M10 X 120	M12 X 140	
M6 X 120		M8 X 120	M10 X 130	M12 X 150	
M6 X 130		M8 X 130	M10 X 140	M12 X 160	
		M8 X 140	M10 X 150	M12 X 180	
		M8 X 150	M10 X 160	M12 X 200	
		M8 X 160	M10 X 180	M12 X 220	
		M8 X 180	M10 X 200	M12 X 240	
		M8 X 200	M10 X 220	M12 X 260	
			M10 X 240	M12 X 280	
			M10 X 260	M12 X 300	
			M10 X 280		
			M10 X 300		

2.2 Method

The test methods are described in EN 14592+A1:2012. This consists the following two tests:

- determination of the yield moment according to EN 409:2009;
- determination of the geometry.

The characteristic value is calculated according to the method described in EN 14358:2007.

2.3 Apparatus used

Recorder of yield moment	SHR/417
Calliper 250 mm	SHR/328
Calliper 600 mm	SHR/005

2.4 Period of testing

The testing has taken place in weeks 27 and 28 of 2013 and week 3 of 2014.

3 Results

3.1 Determination of the characteristic yield moment $M_{y,k}$ in Nmm

Class 4.8

M6	M7	M8	M10	M12	M16
$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)
9708	19396	27749	45393	75929	437459

Class 8.8

M6	M7	M8	M10	M12	M16
$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)	$M_{y,k}$ (Nmm)
16853	30802	49503	87302	132599	928500

3.2 Determination of the geometry

All values in mm at 20°C

Size	D _{Nom.}	Length	Size	D _{Nom.}	Length
M6 X 16	5.84	19.32	M7 X 40	6.90	44.27
M6 X 20	5.84	23.62	M7 X 45	6.89	49.17
M6 X 25	5.82	28.20	M7 X 50	6.90	54.28
M6 X 30	5.82	33.59	M7 X 60	6.89	64.32
M6 X 35	5.81	38.07	M7 X 70	6.89	74.40
M6 X 40	5.82	43.21	M7 X 80	6.87	84.29
M6 X 45	5.81	48.24	M7 X 90	6.88	94.18
M6 X 50	5.87	53.63	M7 X 100	6.88	104.28
M6 X 60	5.88	63.48			
M6 X 70	5.91	73.35			
M6 X 80	5.90	83.18			
M6 X 90	5.88	93.44			
M6 X 100	5.87	103.30			
M6 X 110	5.89	113.45			
M6 X 120	5.88	123.44			
M6 X 130	5.82	130.38			
Size	D _{Nom.}	Length	Size	D _{Nom.}	Length
M8 X 16	7.82	20.79	M10 X 20	9.79	25.36
M8 X 20	7.81	24.62	M10 X 25	9.82	30.14
M8 X 25	7.80	29.50	M10 X 30	9.88	35.19
M8 X 30	7.80	34.74	M10 X 35	9.82	39.94
M8 X 35	7.79	39.88	M10 X 40	9.80	45.09
M8 X 40	7.78	44.78	M10 X 45	9.80	50.02
M8 X 45	7.79	49.65	M10 X 50	9.79	55.12
M8 X 50	7.79	54.81	M10 X 60	9.78	65.27
M8 X 60	7.85	65.05	M10 X 70	9.77	75.32
M8 X 70	7.80	74.56	M10 X 80	9.76	85.12
M8 X 80	7.82	84.62	M10 X 90	9.76	95.09
M8 X 90	7.81	94.80	M10 X 100	9.76	105.03
M8 X 100	7.83	104.13	M10 X 110	9.81	115.16
M8 X 110	7.83	114.25	M10 X 120	9.78	125.33
M8 X 120	7.81	124.34	M10 X 130	9.80	134.95
M8 X 130	7.83	134.44	M10 X 140	9.80	144.85
M8 X 140	7.77	144.48	M10 X 150	9.80	155.13
M8 X 150	7.76	154.27	M10 X 160	9.82	165.05
M8 X 160	7.79	164.23	M10 X 180	9.77	185.26
M8 X 180	7.79	184.49	M10 X 200	9.76	204.88
M8 X 200	7.81	204.41	M10 X 220	9.79	225.07
			M10 X 240	9.80	245.54
			M10 X 260	9.79	265.19
			M10 X 280	9.79	285.40
			M10 X 300	9.83	305.72

Size	D_{Nom}	Length	Size	D_{Nom}	Length
M12 X 30	11.80	36.88	16 X 50	15,76	59,22
M12 X 35	11.84	41.83	16 X 55	15,75	64,32
M12 X 40	11.80	46.92	16 X 60	15,75	69,15
M12 X 45	11.77	51.94	16 X 65	15,77	74,18
M12 X 50	11.79	56.56	16 X 70	15,73	78,90
M12 X 60	11.76	66.73	16 X 75	15,74	84,00
M12 X 70	11.76	76.42	16 X 80	15,76	89,35
M12 X 80	11.81	87.41	16 X 90	15,69	99,00
M12 X 90	11.76	96.66	16 X 100	15,72	108,55
M12 X 100	11.77	107.17	16 X 110	15,70	121,03
M12 X 110	11.78	116.98	16 X 120	15,71	129,30
M12 X 120	11.78	126.88	16 X 130	15,74	138,81
M12 X 130	11.78	136.85			
M12 X 140	11.78	146.64			
M12 X 150	11.79	156.44			
M12 X 160	11.75	167.02			
M12 X 180	11.73	186.92			
M12 X 200	11.72	206.96			
M12 X 220	11.76	227.02			
M12 X 240	11.76	247.32			
M12 X 260	11.77	267.24			
M12 X 280	11.78	287.27			
M12 X 300	11.79	307.10			

4 Conclusion

Based on the test results, it is confirmed that Bangkok fastening Co. Ltd. is qualified to apply the CE-mark on the tested types of mushroom head square neck bolts listed in table 1 in both class 4.8 and class 8.8 steel.

Literature

EN 409: 2009: "Timber structures – Test methods – Determination of the yield moment of dowel type fasteners".

EN 14358: 2007: "Timber structures –Calculation of characteristic 5-percentile values and acceptance criteria for a sample".

EN 14592+A1: 2012: "Timber structures-Dowel-type fasteners-Requirements".