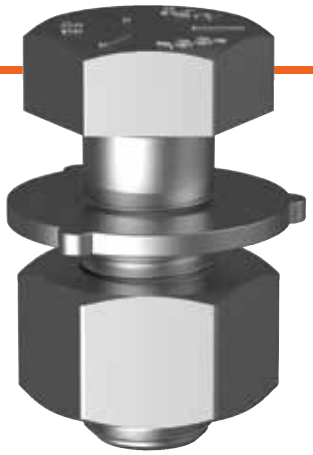
AS 1252: 2016 K0 8.8 HR
Structural Assembly



» AS 1252: 2016 K0 8.8 HR replaces AS 1252: 1983 dimensional (1996 mechanical)

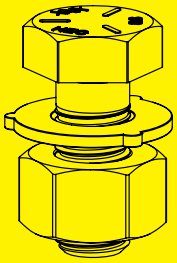
- » Fully adhering to the new standard.
- » Unique Batch head marking. See photo below
- » Verification Testing Reports included in the Supplier Declaration of Conformance [SDoC].
- » Full Quality Assurance documentation online.

! Assembly testing was made to be 'normative' in AS 1252: 2016. **This makes it compulsory to do assembly testing for K0 assemblies.**

HOT DIP GALVANISED
K0 STRUCTURAL ASSEMBLY
AS1252:2016 K0 / CLASS 8.8

M20 x 50

50 pcs



Q:K02050

SDoC: This product complies to AS1252:2016 Part 1 and 2 (mandatory). ALL conforming documentation and quantity production units are available online at hobson.com.au/k0 or scan the below QR code.

KBHK0GCM200050

9 350629 060574

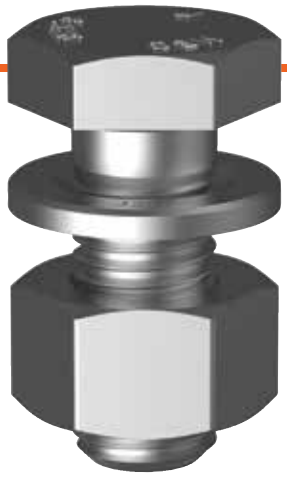
HEAT: JJT-E987654
LOT: A123456
PO: 99999 NS1
CTN WGT: 16.00kg

K0 8.8 HR STRUCTURAL ASSEMBLY
HOT DIP GALVANISED / AS1252:2016 K0 / CLASS 8.8

Part	Size	Length (mm)
KBHK0GCM120	M12	30-200
KBHK0GCM160	M16	40-700
KBHK0GCM200	M20	40-800
KBHK0GCM220	M22	55-200
KBHK0GCM240	M24	50-750
KBHK0GCM270	M27	80-200
KBHK0GCM300	M30	75-725
KBHK0GCM330	M33	130-230
KBHK0GCM360	M36	90-600

HOBSON ENGINEERING

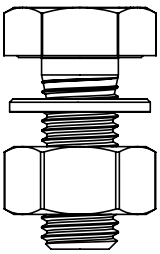
EN 14399: 2005 K2 8.8 HR
Structural Assembly



- EN 14399: 2005 K2 8.8 HR [AS 1252: 2016 states that EN 14399 can be used as an 'alternative assembly type'].
- Premium Range.
- Unique batch head marking. See photo below.
- Friction tightly controlled during manufacture. Refer details on the label for k factor and torque method.
- Torque able to be used for tensioning.
- Full Quality Assurance documentation online.

Carton Label

HR, HDG (EN14399-3 8.8 BOLT/
(1) EN14399-3 CL.8 NUT/
(1) EN14399-5 WASHER)

KBHK2GCM240080 PO# 58949 Heat Code: 2MT	LOT# 2015351400 Hobson Engineering 10 Clay Place Eastern Creek NSW 2766 AUSTRALIA	Quantity: 30 PCS
935062901642		
M24x3.0Px80		
Torque Method according to EN1090-2 1 1st : 430 Nm 2 2nd : 630 Nm		
k - class K2 3 k_m : 0.120 4 V_k : 0.06		KEG NO: 1 PLT NO: 155

K2 8.8 HR STRUCTURAL ASSEMBLY
HOT DIP GALVANISED / EN14399:2005 K2 / CLASS 8.8

Part	Size	Length (mm)
KBHK2GCM160	M16	40-100
KBHK2GCM200	M20	45-350
KBHK2GCM220	M22	65-130
KBHK2GCM240	M24	50-150
KBHK2GCM300	M30	75-500
KBHK2GCM360	M36	90-200

1. The rated torque value required to bring the steel plies to firm contact (Snug or Bearing Joint).
2. The rated torque value required to reach the correct tension in the assembly (Friction Joint).
3. The mean value of the k-factor obtained through testing.
4. V_k is the coefficient of variation of the k-factor values obtained in testing.

Required Documentation

*EN 14399: 2005 **K2** 8.8 HR Assembly document structure.*

» **European Conformity (CE) Certificate.**
The European Conformity (CE) mark is given to a manufacturer who has been assessed by a notified body and audited to the Harmonised European Standard (hEN) stating that they have the fabrication processes and quality management in place which is acceptable for the products manufactured. It is a requirement in the European Union to have the required CE marking on their products. A CE mark is only required in AS 1252: 2016 for the alternative and additional assembly types.

» **Factory Production Control (FPC).**
Inspection Certificate.

» **Declaration of Performance (DoP).**

*AS 1252: 2016 **K0** 8.8 HR Assembly document structure.*

» **Initial Type Testing Certificate (ITT)** as demonstrated by the European Conformity (CE) Certificate.

» **Factory Production Control (FPC).**
Inspection Certificate.

» **Verification Testing Report must be included in the Supplier Declaration of Conformance (SDoC).**
Verification Testing is an additional layer to the quality assurance of the **K0** assemblies arriving in Australia.
Verification Testing must be completed by an independent ILAC (NATA equivalent global body) accredited laboratory.

K2 Quality Assurance **Documentation** Online

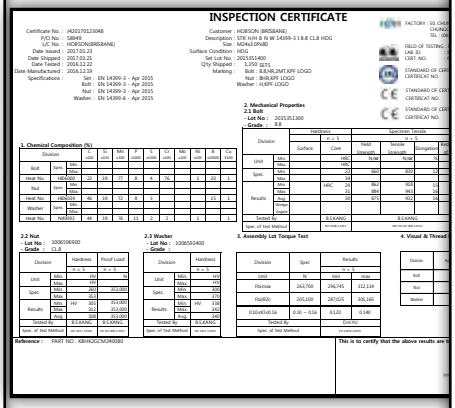
2MT | FIND

Find Test Certificates by typing at least 3 characters of a Heat Number.
Then press the FIND button to retrieve links to all matching certificates.

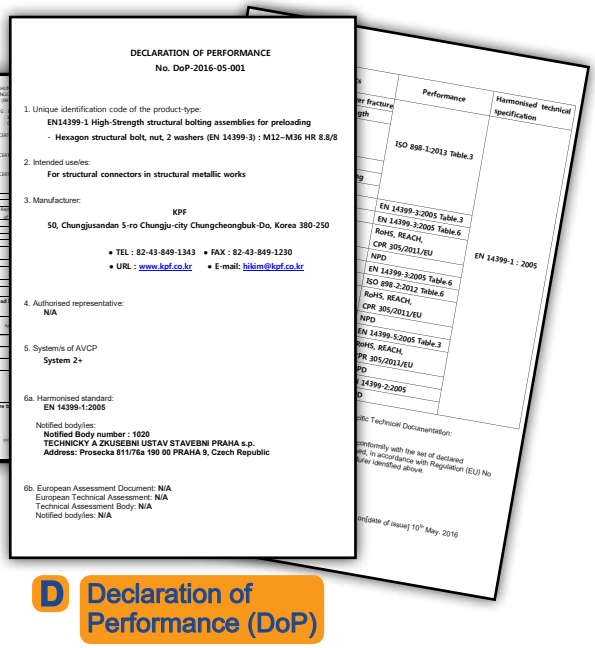
Heat Number	Description	Category	Part Number	Certificates
2015351400-2MT	EN 8.8 K2 HDG BNW:M24 X 80	AS1252 Structural	KBHK2GCM240080	CE F D


TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p.
CERTIFICATE OF CONFORMITY
OF THE FACTORY PRODUCTION CONTROL
No 1020 - CPR - 0700394/67
High-strength structural bolting assemblies for preloading
EN 14399-1:2005

CE The European Union's Certificate of conformity


INSPECTION CERTIFICATE

F Factory Production Control (FPC)


DECLARATION OF PERFORMANCE
No. DoP-2016-05-001

D Declaration of Performance (DoP)

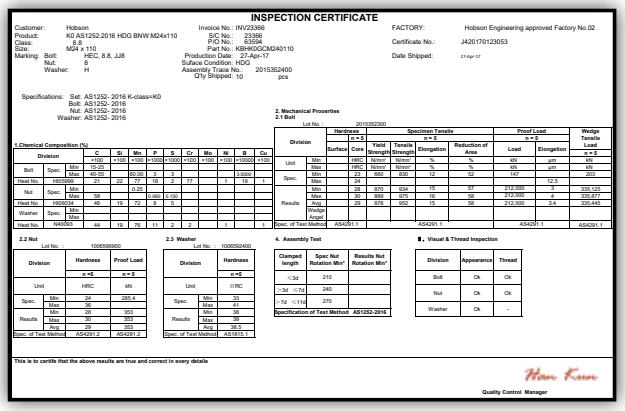
K0 Quality Assurance **Documentation** Online

JJT FIND

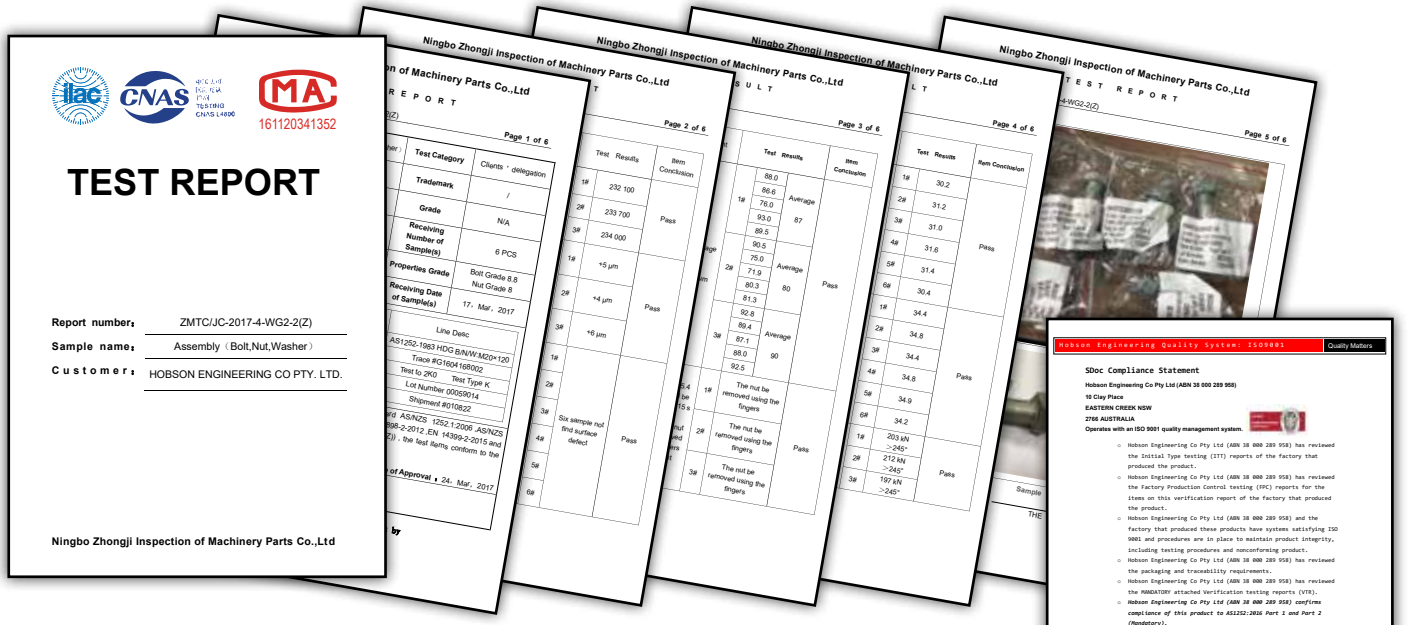
Find Test Certificates by typing at least 3 characters of a Heat Number.
Then press the FIND button to retrieve links to all matching certificates.

Heat Number	Description	Category	Part Number	Certificates
JJT-E987654	K0 AS1252:2016 HDG BNW:M20 X 50	AS1252 Structural	KBHK0GCM200050	ITT F S

ITT Initial Type Testing (ITT)



F Factory Production Control (FPC)



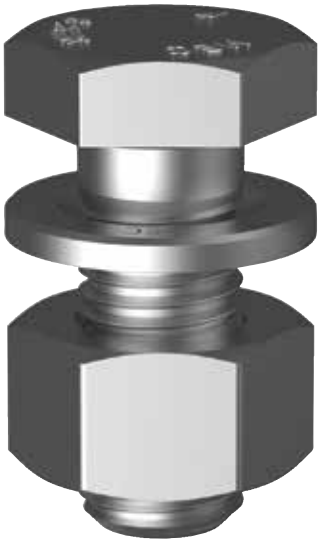
S Suppliers Declaration of Conformity (SDoC)

K Classification of Bolt Systems

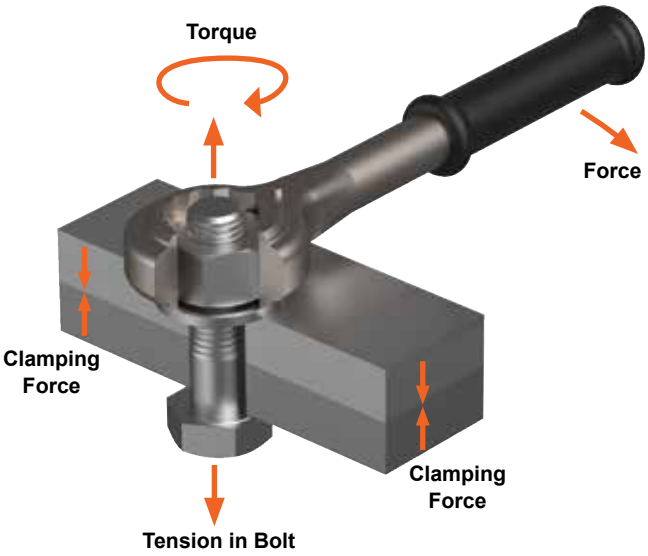
EN 14399 documentation provides performance values for designers along with tests to ensure that the assembly will perform as intended by the standard.

This European standard allows torque to be used when tightening structural bolts. This only applies for K1 and K2 assemblies where the torque-tension relationship is calibrated.

Structural Bolt assemblies that are manufactured to EN 14399 8.8 Type HR with K2 classification comply to the requirement of AS 1252: 2016 and can be used directly in the Australian market.



Torque and Tension?



Forces at play when a bolt is torqued.

Torque is the *rotational* force applied to a solid body.

Tension is the *axial* (along the shank) force applied to a solid body.

We can relate the torque applied to the nut to the tension achieved by the bolt. However, the effect of friction on surfaces that are in contact (threads and nut face) must be calibrated!

Friction

The formula below is applied to relate the tension achieved by the bolt from a specific torque on the nut.

M = F•k•d

M = torque required on the nut to achieve 'F'

F = required tension on the bolt

k = a factor applied to account for the torque loss primarily due to friction.

d = the thread diameter of the bolt

K Class

The K class of a bolt refers to the control of friction between the threads.

k-class and *k*-factor

k-class	*k*-factor
K0	—
K1	$0{,}10 \le k_i \le 0{,}16$
K2	$0{,}10 \le k_m \le 0{,}23 \quad V_k \le 0{,}06$

From EN 14399: 2005-04.

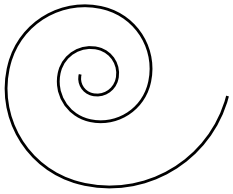
Structural Bolts Installation

AS 4100-1998

Working definitions:

Torque

The energy taken to twist the nut up the thread of the bolt (Measured in Nm).



Torque is not used as a measure for the tensioning of structural bolting. Bolt torque values are not shown in AS 4100/NZS 3404.

Mathematically, torque can be defined as:

Tension

The force generated in the bolt to clamp the steel plies together (Measured in kN).

Nominal Size	Pitch	Minimum Bolt Tension Kn
M12	1.75	51
M16	2.0	95
M20	2.5	145
M24	3.0	210
M30	3.5	335
M36	4.0	490

Note: the minimum bolt tension shown (AS 4100-1998) is approximately equivalent to the minimum proof loads shown in AS 1252.

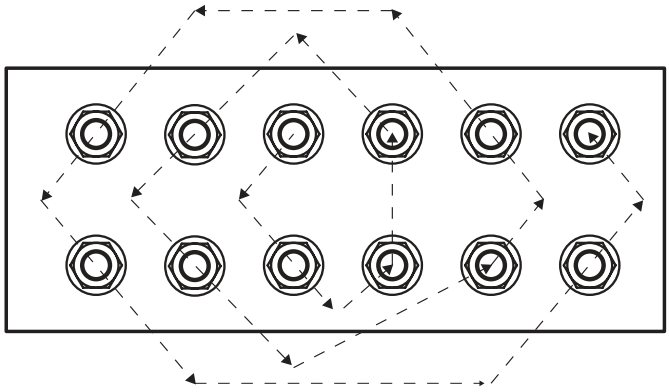
Snug tight

Prior to final tensioning of structural bolts the steel plies must be brought into effective contact. This is referred to as Snug-tight i.e. no gap between the steel plies.

Snug-tight can be achieved by a few impacts of an impact wrench or by the full effort of a person using a standard podger spanner. Correct bolt tension is required to ensure effective load transmission on the joint. Effective load transmission will not be achieved if a gap between the steel plates remains, which can occur if there is deformation from welding.

Tightening pattern

Snug-tightening and final tensioning of the bolts in a connection shall proceed from the stiffest part of the connection towards the free edges. An example interpretation of a systematic pattern for tightening is provided:

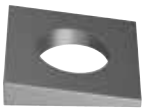
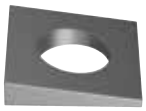


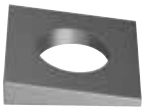
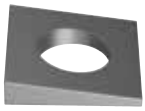
Delivery, storage and handling

Structural bolt assemblies supplied to AS 1252 must be stored in the manufacturers carton protected from wet weather. White rusting on the galvanised surface, dust and removal of the water soluble lubricant on the nut can severely effect installation and correct tensioning.

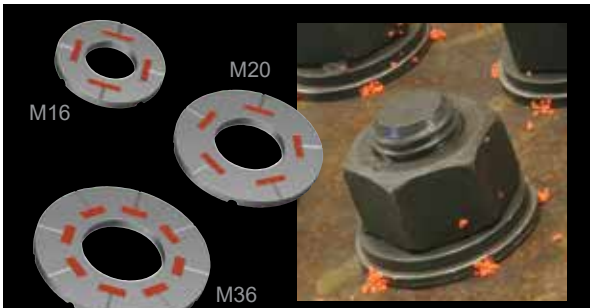
Re-use of structural assemblies

Under no circumstances can a structural bolt which has been fully tensioned (i.e. the minimum values shown above) be re-used. If a bolt has been tensioned and then has to be removed it must be marked accordingly and destroyed.

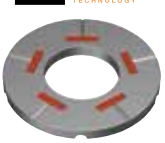
HDG AS 1252: 2016 Class 8.8	HDG AS 1252: 2016 35-41 HRC	PLN AS 1252: 2016 35-41 HRC	HDG AS 1252: 2016 Class 8.8	PLN AS 1252: 2016 Class 8.8	HDG AS 1252: 2016 33-41 HRC	PLN AS 1252: 2016 33-41 HRC
						
K0 STRUCTURAL ASSEMBLY	K0 STRUCTURAL WASHER	K0 STRUCTURAL WASHER	K0 STRUCTURAL NUT	K0 STRUCTURAL NUT	K0 TAPER WASHER 8° SQUARE	K0 TAPER WASHER 8° SQUARE
KBHK0GCM	WRK0GM	WRK0PM	NHK0GCM	NHK0PCM	WTK0GM	WTK0PM

HDG AS 1252: 1983 Class 8.8	HDG AS 1252: 1983 26-45 HRC	PLN AS 1252: 1983 35-45 HRC	HDG AS 1252: 1983 Class 8	PLN AS 1252: 1983 Class 8	HDG AS 1252: 1983 26-45 HRC	PLN AS 1252: 1983 35-45 HRC
						
STRUCTURAL ASSEMBLY	STRUCTURAL WASHER	STRUCTURAL WASHER	STRUCTURAL HEX NUT	STRUCTURAL HEX NUT	TAPER WASHER 8° SQUARE	TAPER WASHER 8° SQUARE
KBHSTGCM	WRSTGM	WRSTPM	NHSTGCM	NHSTPCM	WTSTGM	WTSTPM

HDG EN 14399: 2005 Class 8.8	HDG EN14399-6 K2 32-45 HRC	PLN AS 1252: 1983 Class 8.8	SS 301 HEC	Cartridge 425g
				
K2 STRUCTURAL ASSEMBLY	K2 STRUCTURAL WASHER	STRUCTURAL BOLT BLANK	FEELER GAUGE 0.13MM	STICK WAX LUBRICANT
KBHK2GCM	WRK2GM	BHSTPBM	XGF013	XXWSC



SQUIRTER® WASHER
Direct Tension Indicator

MGAL ASTM F959M Class 8.8	PLN ASTM F959M Class 10.9	MGAL ASTM F959M Class 10.9	MGAL ASTM F959M Class 8.8
			
METRIC SQUIRTER® DTI WASHER	METRIC SQUIRTER® DTI WASHER	METRIC SQUIRTER® WASHER	METRIC LOAD INDICATOR
WDSTGM	WD10PM	WD10MM	WISTGM

HOBSON ENGINEERING

Save 25% on your bolting installation cost. Ask us how.

Bolting made Safe, Easy and Accurate

TONE® Electric Torque Control Wrench

PART: XT-STC7TE

PART: XT-STC12TE

Featuring:

- 2 x Safety Reaction Arms
- L-Shape Arm + Long Bar Arm 230mm
- Light Weight (7TE 6.2kg, 12TE 9.0kg)
- Non Impacting
- Low Noise
- Automatic Shut-off at Pre-set Torque
- Torque Range 7TE 350-700Nm
- Torque Range 12TE 500-1100Nm
- 1″ Square Drive (Both Models)

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