

- [Home Home](#)
- [About this portal](#)
- [Latest updates](#)

  

[Resource detail](#)  
[Citations](#)

## BS EN 14399-9:2009 High-strength structural bolting assemblies for preloading. System HR or HV. Direct tension indicators for bolt and nut assemblies

[View on Information Provider website](#)

### Abbreviation

BS EN 14399-9:2009

### Valid from

01/07/2009

---

### Information provider

Standards New Zealand

### Author

British Standards Institution, European Standardization Organisations

### Information type

European Standard

### Format

PDF

---

### Cited By

[This resource is cited by 2 documents \(show Citations\)](#)

---

### Description

BS EN 14399-9 specifies, together with BS EN 14399-1, the requirements for assemblies of high-strength structural bolts and nuts, with large width across flats, of system HR or HV, including the requirements for the general dimensions, tolerances, materials and performance for two grades, H8 and H10, of compressible washer-type direct tension indicators, nut face washers and bolt face washers suitable for preloaded joints.

### Scope

The assemblies covered include the nominal thread sizes M12 up to and including M36 and property classes 8.8/8, 8.8/10 and 10.9/10.

Bolt and nut assemblies to this document have been designed to allow preloading of at least 0,7 fub × As1) according to BS EN 1993-1-8:2005 (Eurocode 3) and to obtain ductility predominantly by plastic elongation of the bolt for system HR according to EN 14399-3 or by plastic deformation of the engaged threads for system HV according to EN 14399-4; also countersunk and fit bolts according to BS EN 14399-7 and -8 respectively.

Bolt and nut assemblies conforming to this document may include washer(s) according to BS EN 14399-6 or to BS EN 14399-5 (under the nut only).

The purpose of the direct tension indicators is to show that a defined preload is achieved in the bolt. The direct tension indicator

can be used alone or with bolt face washers or nut face washers conforming to BS EN 14399-9. In either case it is essential that the direct tension indicators are used as part of an assembly in accordance with BS EN 14399-1. To comply with BS EN 14399-1, it is essential that the assemblies are supplied by one manufacturer and include bolts, nuts, washers and direct tension indicators.

The test method for suitability for preloading is specified in BS EN 14399-2 and supplemented by Clause 5. Guidance on the use of compressible washer-type direct tension indicators is given in BS EN 1090-2. Compressible washer-type direct tension indicators are also known as load indicating washers.

For assistance with locating previous versions, please contact the information provider.

[View on Information Provider website](#)

For assistance with locating previous versions, please contact the information provider.

This resource is cited by:

## **BS EN 14399-9:2009 High-strength structural bolting assemblies for preloading. System HR or HV. Direct tension indicators for bolt and nut assemblies**

This document is CITED BY:

- [BS EN 14399-1:2015](#)

BS EN 14399-9:2009 is cited by BS EN 14399-1:2015 High-strength structural bolting assemblies for preloading. General requirements

- [BS EN 14399-2:2015](#)

BS EN 14399-9:2009 is cited by BS EN 14399-2:2015 High-strength structural bolting assemblies for preloading. Suitability for preloading

## **BS EN 14399-9:2009 High-strength structural bolting assemblies for preloading. System HR or HV. Direct tension indicators for bolt and nut assemblies**

Description

BS EN 14399-9 specifies, together with BS EN 14399-1, the requirements for assemblies of high-strength structural bolts and nuts, with large width across flats, of system HR or HV, including the requirements for the general dimensions, tolerances, materials and performance for two grades, H8 and H10, of compressible washer-type direct tension indicators, nut face washers and bolt face washers suitable for preloaded joints.

[View on Information Provider website](#)

[BS EN 14399-9:2009 High-strength structural bolting assemblies for preloading. System HR or HV. Direct tension indicators for bolt and nut assemblies](#)

Description

BS EN 14399-9 specifies, together with BS EN 14399-1, the requirements for assemblies of high-strength structural bolts and nuts, with large width across flats, of system HR or HV, including the requirements for the general dimensions, tolerances, materials and performance for two grades, H8 and H10, of compressible washer-type direct tension indicators, nut face washers and bolt face washers suitable for preloaded joints.

[View on Information Provider website](#)

This resource does not cite any other resources.

# BS EN 14399-9:2009 High-strength structural bolting assemblies for preloading. System HR or HV. Direct tension indicators for bolt and nut assemblies

This resource does not CITE any other resources.

Back

Close

## Table of Contents

Print

[Save](#)

Email

[Feedback](#)


- [Contact us](#)
- [Privacy policy](#)
- [Disclaimer](#)
- [Copyright](#)


[Feedback](#)