

Euro Mortice Hinge

HGS SERIES



EN1935 SPECIFICATION



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Single-axis Hinges

EN1935: 2002

SCOPE

This European standard specifies requirements for single-axis hinges for windows and doors opening in one direction only, whose rotation axis is no more than 30mm from the face of the sash or door. It covers both fixed pin and lift-off hinges, and contains additional requirements for hinges intended for use on fire doors.

CLASSIFICATION

EN1935 classifies door furniture by using an 8 digit coding system. A similar classification applies to all building hardware product standards so that complementary items of hardware can be specified to, for instance, a common level of corrosion resistance, category of use, etc. Each digit refers to a particular feature of the product measured against the standard's performance requirements.

EN1935: 2002

Digit 1
Category of use

Four categories of use are identified:

- grade 1: light duty
- grade 2: medium duty
- grade 3: heavy duty
- grade 4: severe duty

Digit 2
Durability

Three grades are identified for single-axis hinges manufactured to this European standard:

- grade 3: 10,000 test cycles, for light duty hinges on windows only
- grade 4: 25,000 test cycles, for light duty hinges on windows and doors
- grade 7: 200,000 test cycles, for medium, heavy and severe duty hinges on doors only

Digit 3
Test door mass

Eight door mass grades related to single-axis hinges are identified in this European standard as shown in Table 1 below.

Table 1

Test door mass grade	Door mass
0	10 kg
1	20 kg
2	40 kg
3	60 kg
4	80 kg
5	100 kg
6	120 kg
7	160 kg

inox[®] HGS Series Hinges are tested and certified to the following classification

Standard Hinges

4	7	6	1	1	4	0	13
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Dogbolt Hinges

4	7	6	1	1	4	1	13
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inox[®] HGS Series Hinges

4	7	6	1	1	4	0	13
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inox[®] HGS Series Hinges

4	7	6	1	1	4	0	13
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inox[®] HGS Series Hinges

4	7	6	1	1	4	0	13
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Digit 4

Suitability for fire/smoke door use

Two grades of suitability are identified for single-axis hinges:

- grade 0: not suitable for fire/smoke resistant door assemblies
- grade 1: suitable for fire/smoke resistant door assemblies subject to satisfactory assessment of the contribution of the single-axis hinge to the fire resistance of the specified fire/smoke door assemblies. Such assessment is beyond the scope of this European standard (see EN1634-1).

Digit 5

Safety

Single-axis hinges are required to satisfy the essential requirements of safety in use. Therefore, only grade 1 is identified.

Digit 6

Corrosion resistance

Five grades of corrosion resistance are identified in accordance with EN1670:

- grade 0: no defined corrosion resistance.
- grade 1: mild resistance.
- grade 2: moderate resistance.
- grade 3: high resistance.
- grade 4: very high resistance.

Digit 7

Security

Two grades of security are identified for single-axis hinges:

- grade 0: not suitable for use on burglar-resistant door assemblies
- grade 1: suitable for applications requiring a degree of security.

Digit 8

Hinge grade

Fourteen grades are identified in this European standard and are detailed in Table 2 below. The full classification is shown in the standard.

Hinge Grade	Usage	Test Cycles	Door Mass
1	Window	10,000	10 kg
2	Window	10,000	20 kg
3	Window/Door	25,000	20 kg
4	Door	200,000	20 kg
5	Window	10,000	40 kg
6	Window/Door	25,000	40 kg
7	Door	200,000	40 kg
8	Window	10,000	60 kg
9	Window/Door	25,000	60 kg
10	Door	200,000	60 kg
11	Door	200,000	80 kg
12	Door	200,000	100 kg
13	Door	200,000	120 kg
14	Door	200,000	160 kg

inox® HGS Series Hinges

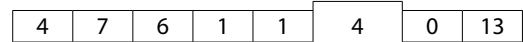


Successfully passed and exceeded 240-minutes fire test of metal fire door assemblies to EN1634-1: 2014

inox® HGS Series Hinges

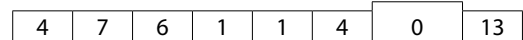


inox® HGS Series Hinges

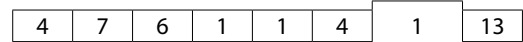


inox® HGS Series Hinges

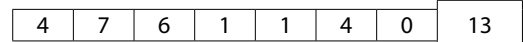
Standard Hinges



Dogbolt Hinges



inox® HGS Series Hinges



CE MARKING

Single axis hinges intended for use on fire resisting doors and smoke control doors are covered by a Construction Products Directive mandate issued by the European Commission. Consequently, this standard is regarded as a “harmonised” standard and compliance with it, supported by suitable evidence, allows the application of the CE mark. As fire/smoke door hinges have a critical safety function, application of the CE mark requires the involvement of a notified certification body to provide verification of the compliance claims. This involves initial type-testing of the product to EN1935, initial inspection of the manufacturer’s factory production control and continuing surveillance and approval of the factory production control. On satisfactory completion of these tasks, the notified body issues an EC Certificate of Conformity which then permits the manufacturer to declare compliance and affix the CE marking to the product.

CERTIFIRE SCHEME

CERTIFIRE is an independent third party certification scheme by Warrington Certification Limited (Part of Exova) that assures performance, quality, reliability and traceability of fire protection products. Recognised by regulatory authorities worldwide, it is an internationally respected mark of fire safety and one of the most authoritative in the industry.

MANUFACTURERS - For manufacturers of fire protection products and systems, **CERTIFIRE** offers the opportunity to differentiate products and processes from non certified equivalents thus helping to access markets worldwide.

SPECIFIERS - For architects, specifiers, contractors and building owners **CERTIFIRE** provides assurance that fire protection products and systems correctly installed will perform as required, therefore avoiding costly mistakes and dramatically reducing risk.

The importance of schemes like **CERTIFIRE** is recognised in Approved Document B of the Building Regulations (ADB). The document makes a clear recommendation for the use of third party certificated products and systems.

WARNOCK HERSEY MARK

The Warnock Hersey (WH-ETL) Mark is North America’s leading product safety and performance mark for building and construction products.

Products bearing the Warnock Hersey (WH-ETL) Mark indicate compliance to relevant building codes, association criteria, and product safety and performance standards. Nearly 80% of North America’s wood fire-rated doors bear the WH Mark.

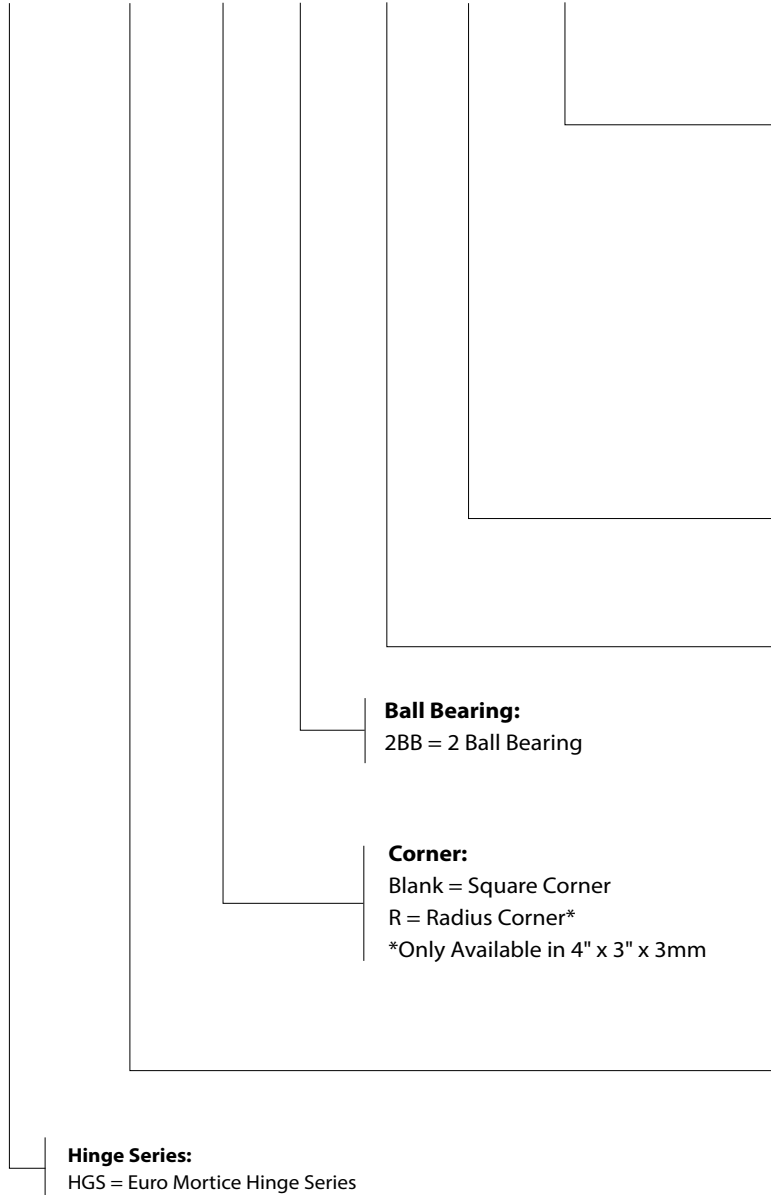
We proudly announce that INOX HGS Series Mortice Hinges are certified to:

- CE and Certifire scheme by Warrington Certification Limited (UK)
Certifire listing information can be found at <http://www.warringtoncertification.com/certifire/hinges.html>
- WH-ETL mark by Intertek Testing Service N.A., Inc. (US).
WH-ETL listing information can be found at https://whdirectory.intertek.com/Pages/DLP_Search.aspx

How to Order

Product Identification

HGS -403030 R -2BB -S6 -DG -32D



Finish:

- 32D = Satin Stainless Steel
- 32 = Bright Polished Stainless Steel
- PB = Polished Brass
- SB = Satin Brass
- PGD = Polished Gold
- SGD = Satin Gold
- PBZ = Polished Bronze
- SBZ = Satin Bronze
- PBK = Polished Black
- SBK = Satin Black

Options:

- DG = Optional Suffix for Dogging Bolt*
- *Only Available in 4" x 3" x 3mm

Material:

- Blank = SS304
- S6 = SS316

Ball Bearing:

- 2BB = 2 Ball Bearing

Corner:

- Blank = Square Corner
- R = Radius Corner*
- *Only Available in 4" x 3" x 3mm

Hinge Size:

- 403025 = 4" x 3" x 2.5mm
- 403030 = 4" x 3" x 3mm
- 403530 = 4" x 3.5" x 3mm
- 404030 = 4" x 4" x 3mm
- 503025 = 5" x 3" x 2.5mm
- 503030 = 5" x 3" x 3mm

Hinge Series:

HGS = Euro Mortice Hinge Series

Euro Mortice Hinge HGS Series

Application

INOX Mortice Hinge HGS Series is perfect for high frequency usage such as public buildings and commercial offices where potential misuse or deliberate abuse likely take place

Specifications and Features

- AISI304 stainless steel material for high corrosion resistance (AISI316 material available on request)
- Hardened Ball Bearings
- Square and radius corner version available (radius corner version improves the door prep precision and efficiency with machined routing)
- Template drilled for easy installation and retrofitting purpose
- Designed for metal or timber fire door set
- Dogbolt version optional for enhanced security
- Suitable for wide range of door thickness/weight (up to 120kg)
- Supplied with CSK stainless steel screws

Standards and Certification



Successfully type-tested for conformity to all requirements of EN1935: 2002



Successfully passed and exceeded 240-minutes fire test of metal fire door assemblies to EN1634-1: 2014



CE Declaration of Conformity available upon request



INOX HGS series hinges are approved by Certifire.* Certifire No. CF882



Successfully passed 180-minutes fire test of fire resistant door and frame to UBC 7-2 (1997); NFPA 252 (2008); UL 10 (b) Revision 1 (2009); UL 10 (c) (2009); CAN/ULC S104 (2010); NFPA 252 (2012), Certificate No. WH13-18485801



All EN/CE/Certifire tests performed independently and certified by Exova/Warrington Fire/Warrington APT. Test report/certificate available upon request.



All UL/UBC/NFPA tests performed independently and certified by Intertek Testing Services NA, Inc.

* Certifire is an independent third party certification scheme that assures performance, quality and traceability of fire protection products



EN1935: 2002 Classifications

Standard Hinges

4	7	6	1*	1	4	0	13
---	---	---	----	---	---	---	----

Dogbolt Hinges

4	7	6	1*	1	4	1	13
---	---	---	----	---	---	---	----

* Provided they are fitted in accordance with the guidelines detailed in IFCA/06252

Finishes:

Standard Finish:



32D
(630) Satin Stainless Steel



32
(629) Bright Stainless Steel

Special Order Finish:



PB
Polished Brass



SB
Satin Brass



PGD
Polished Gold



SGD
Satin Gold



PBZ
Polished Bronze



SBZ
Satin Bronze



PBK
Polished Black

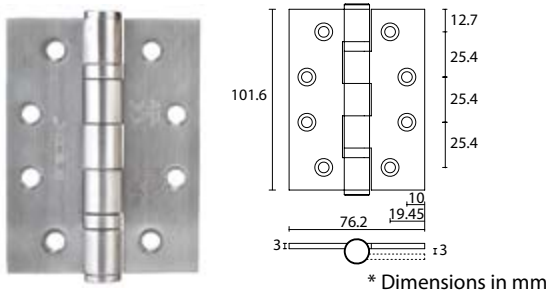


SBK
Satin Black

HGS Hinge Dimensions and Templates

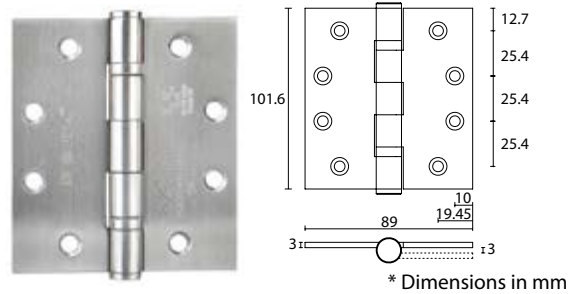
HGS-403030-2BB

INOX Hinge 4" x 3" x 3mm - Square Corner



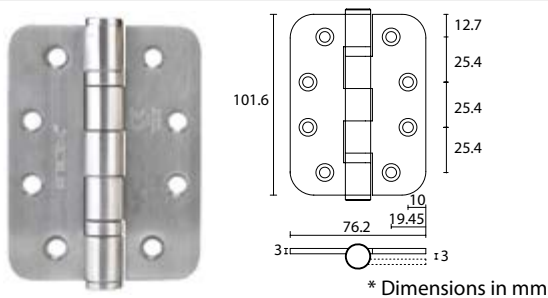
HGS-403530-2BB

INOX Hinge 4" x 3.5" x 3mm - Square Corner



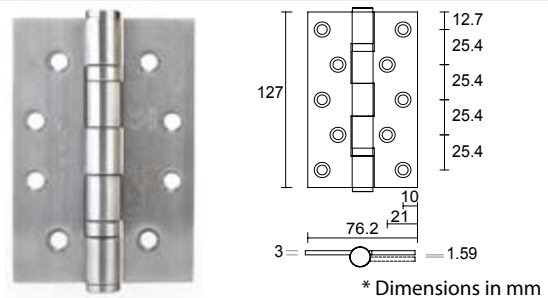
HGS-403030R-2BB

INOX Hinge 4" x 3" x 3mm - Radius Corner



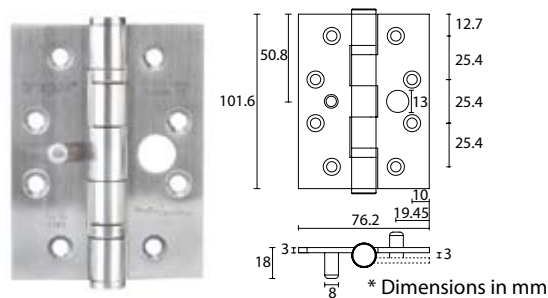
HGS-503030-2BB

INOX Hinge 5" x 3" x 3mm - Square Corner



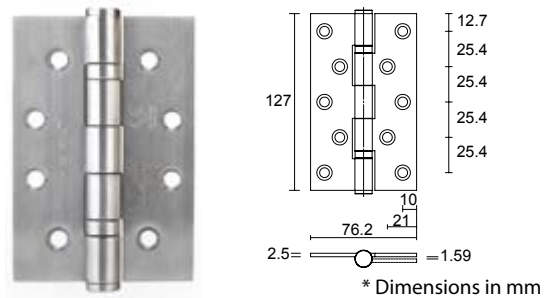
HGS-403030-2BB-DG

INOX Hinge 4" x 3" x 3mm - Square Corner - With Dog Bolt



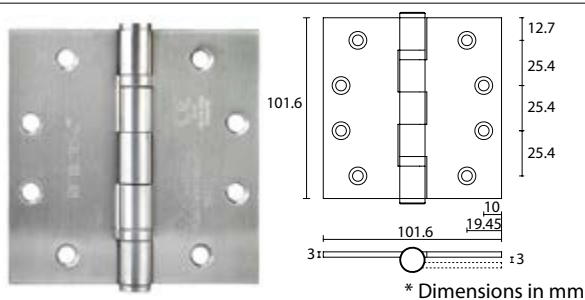
HGS-503025-2BB

INOX Hinge 5" x 3" x 2.5mm - Square Corner



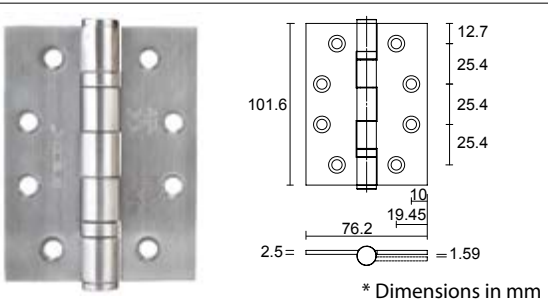
HGS-404030-2BB

INOX Hinge 4" x 4" x 3mm - Square Corner



HGS-403025-2BB

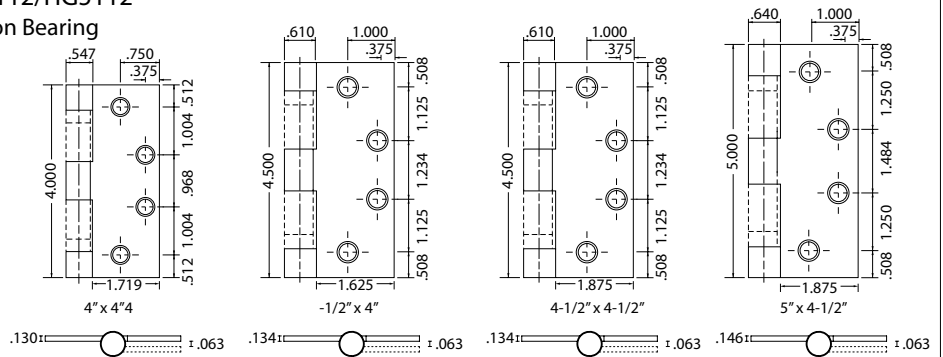
INOX Hinge 4" x 3" x 2.5mm - Square Corner



ANSI/BHMA A156.1 Butt Hinges

FULL MORTISE HINGES HG8112/HG5112

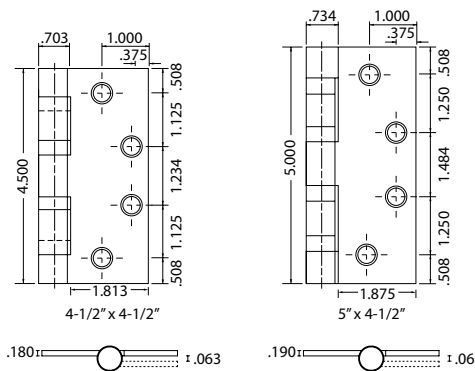
Standard Weight, Two Anti-Friction Bearing



* Dimensions in inch

FULL MORTISE HINGES HG8111/HG5111

Heavy Weight, Four Anti-Friction Bearing

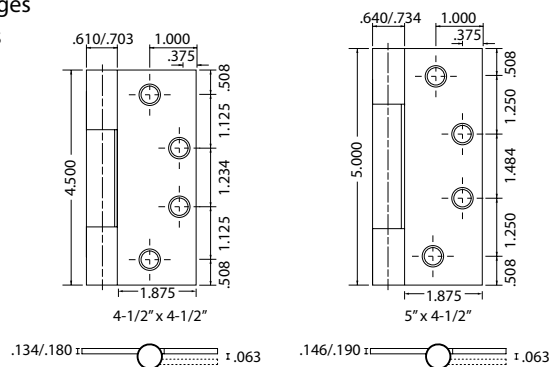


* Dimensions in inch

FULL MORTISE HINGES

HG8112CB: Standard Weight 3 Knuckle Concealed Bearing Hinges

HG8111CB: Heavy Weight 3 Knuckle Concealed Bearing Hinges



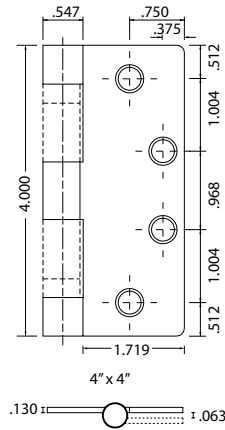
* Dimensions in inch



The above hinges meet ANSI/BHMA A156.1 Templates; with ANSI Grade 2 tested performance for standard weight hinges and ANSI Grade 1 tested performance for heavy weight hinges. All hinges above also successfully passed UL10C/UL10B 3 Hours Fire Rating. (Please refer to ANSI Hinges catalogue for more details.)

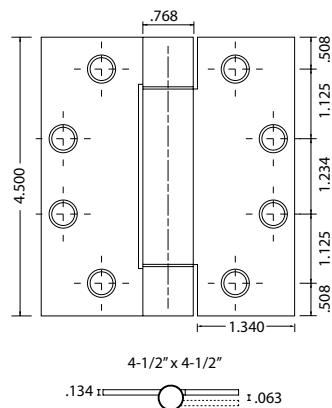
ANSI/BHMA A156.1 Butt Hinges

FULL MORTISE HINGES HG8112R14/HG5112R14
1/4" Radius Corner Standard Weight Ball Bearing Hinge



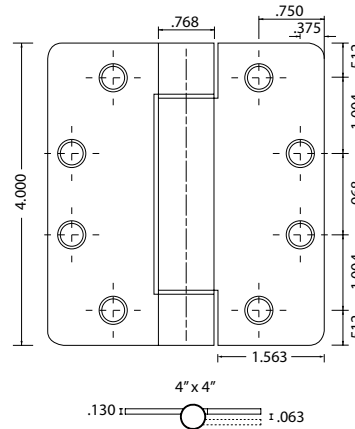
* Dimensions in inch

SPRING HINGES HG8107SP/HG5107SP
Commercial Weight



* Dimensions in inch

SPRING HINGES HG8107SPR14/HG5107SPR14
1/4" Radius Corner Commercial Weight



* Dimensions in inch

Please refer to INOX ANSI Hinge catalogue for more details



The above hinges meet ANSI/BHMA A156.1 Templates; with ANSI Grade 2 tested performance for standard weight hinges and ANSI Grade 1 tested performance for heavy weight hinges. All hinges above also successfully passed UL10C/UL10B 3 Hours Fire Rating. (Please refer to ANSI Hinges catalogue for more details.)



Please visit our website
<http://www.inoxproducts.com>
for more technical and new product information.



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