# ANCHOR NAIL

**ELECTRO GALVANIZED / HOT DIP GALVANIZED / AISI 316/A4**

GUNNEBO FASTENING

**Declaration of Performance**

CE

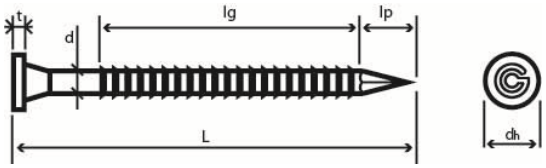
**Dokument no: CE-300147-A3**
Mainly used for fixing wood connectors as well as other types of steel and sheet metal parts to a timber base

**Dimensions:**
Electro galvanized: d 3,1 - 6 mm L 35 - 75 mm Hot dip galvanized /Stainless steel AISI 316/A4:
d 4 mm L 40-60 mm

**Material:**
Electro galvanized /Hot dip galvanized: EN 16120
Stainless steel AISI 316/A4: EN 10088

Characteristic tensile strength of wire ($f_u$) in acc. with EN 10218-1
Electro galvanized/ Hot dip galvanized: min. 650 N/mm$^2$
Stainless steel AISI 316/A4: 750 N/mm$^2$

**Treatment:**
Electro galvanized - min. 12 or 20 µm
Hot dip galvanized - min. 50 µm
Stainless steel - Service class 3




# DIMENSIONS

**ELECTRO GALVANIZED**

| Name | Nominal diameter d [mm] | Total length L [mm] | Threaded length $l_g$ [mm] | Head diameter $d_h$ [mm] | Head area $A_h$ [mm²] | Head thickness t [mm] | Point length $l_p$ [mm] |
|---|---|---|---|---|---|---|---|
| 3,1x35 | 3,1 | 36,0 | 22,7 | 6,1 | 29,2 | 1,0 | 4,3 |
| 3,1x40 | | 41,0 | 27,7 | | | | |
| 3,4x60 | 3,4 | 61,2 | 47,2 | 6,8 | 36,3 | 1,2 | 4,8 |
| 3,7x40 | 3,7 | 41,4 | 27,1 | 7,4 | 43,0 | 1,4 | 4,9 |
| 3,7x50 | | 51,4 | 37,1 | | | | |
| 3,8x32 | 3,8 | 33,5 | 18,0 | 8,0 | 50,3 | 1,5 | 5,0 |
| 4,0x31 | 4,0 | 32,5 | 20,8 | 8,0 | 50,2 | 1,5 | 5,2 |
| 4,0x35 | | 36,5 | 22,8 | | | | |
| 4,0x40 | | 40,0 | 26,8 | | | | |
| 4,0x50 | | 50,0 | 36,8 | | | | |
| 4,0x60 | | 60,0 | 46,8 | | | | |
| 4,0x75 | | 75,0 | 61,8 | | | | |
| 6,0x60 | 6,0 | 62,0 | 43,5 | 12,0 | 113,0 | 2,0 | 8,5 |

**HOT DIP GALVANIZED**

| Name | Nominal diameter d [mm] | Total length L [mm] | Threaded length $l_g$ [mm] | Head diameter $d_h$ [mm] | Head area $A_h$ [mm²] | Head thickness t [mm] | Point length $l_p$ [mm] |
|---|---|---|---|---|---|---|---|
| 4,0x40 | 4,0 | 40,0 | 26,8 | 8,0 | 50,2 | 1,5 | 5,2 |
| 4,0x50 | | 50,0 | 36,8 | | | | |
| 4,0x60 | | 60,0 | 46,8 | | | | |

**AISI 316/A4**

| Name | Nominal diameter d [mm] | Total length L [mm] | Threaded length $l_g$ [mm] | Head diameter $d_h$ [mm] | Head area $A_h$ [mm²] | Head thickness t [mm] | Point length $l_p$ [mm] |
|---|---|---|---|---|---|---|---|
| 4,0x40 | 4,0 | 40,0 | 26,8 | 8,0 | 50,2 | 1,5 | 5,2 |
| 4,0x50 | | 50,0 | 36,8 | | | | |
| 4,0x60 | | 60,0 | 46,8 | | | | |

# CHARACTERISTIC LOAD CAPACITY

## ELECTRO GALVANIZED

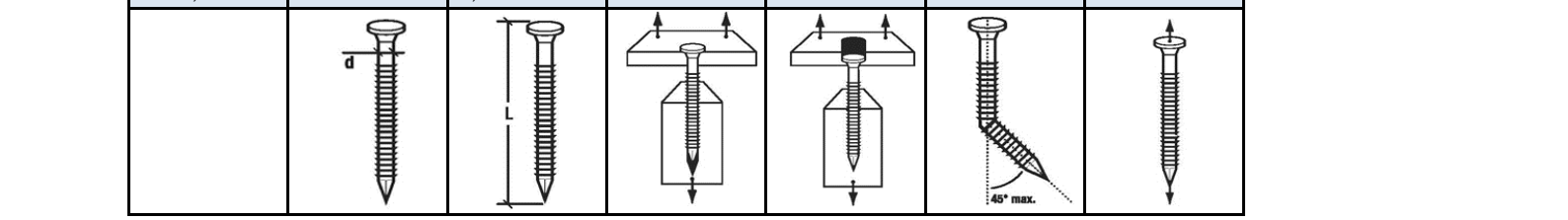
| Name | Nominal diameter d [mm] | Total length L [mm] | Withdrawal parameter $f_{ax,k}$ [N/mm²]* | Head pull-trough parameter $f_{head,k}$ [N/mm²]* | Yield moment $M_{y,k}$ [Nmm] | Tensile capasity $f_{tens,k}$ [kN] |
|---|---|---|---|---|---|---|
| 3,1x35 | 3,1 | 36,0 | 7,4 | NPD** | 3695 | 4,5 |
| 3,1x40 | | 41,0 | | | | |
| 3,4x60 | 3,4 | 61,2 | 7,4 | NPD** | 4698 | 5,7 |
| 3,7x40 | 3,7 | 41,4 | 7,1 | NPD** | 5853 | 6,3 |
| 3,7x50 | | 51,4 | | | | |
| 3,8x32 | 3,8 | 33,5 | 6,8 | NPD** | 6273 | 7,5 |
| 4,0x31 | 4,0 | 32,5 | 7,8 | NPD** | 7168 | 7,3 |
| 4,0x35 | | 36,5 | | | | |
| 4,0x40 | | 40,0 | | | | |
| 4,0x50 | | 50,0 | | | | |
| 4,0x60 | | 60,0 | | | | |
| 4,0x75 | | 75,0 | | | | |
| 6,0x60 | 6,0 | 62,0 | 6,4 | NPD** | 20570 | 17,5 |

## HOT DIP GALVANIZED

| Name | Nominal diameter d [mm] | Total length L [mm] | Withdrawal parameter $f_{ax,k}$ [N/mm²]* | Head pull-trough parameter $f_{head,k}$ [N/mm²]* | Yield moment $M_{y,k}$ [Nmm] | Tensile capasity $f_{tens,k}$ [kN] |
|---|---|---|---|---|---|---|
| 4,0x40 | 4,0 | 40,0 | 7,8 | NPD** | 7168 | 8,7 |
| 4,0x50 | | 50,0 | | | | |
| 4,0x60 | | 60,0 | | | | |

## AISI 316/A4

| Name | Nominal diameter d [mm] | Total length L [mm] | Withdrawal parameter $f_{ax,k}$ [N/mm²]* | Head pull-trough parameter $f_{head,k}$ [N/mm²]* | Yield moment $M_{y,k}$ [Nmm] | Tensile capasity $f_{tens,k}$ [kN] |
|---|---|---|---|---|---|---|
| 4,0x40 | 4,0 | 40,0 | 7,4 | NPD** | 7168 | 9,0 |
| 4,0x50 | | 50,0 | | | | |
| 4,0x60 | | 60,0 | | | | |




* The withdrawal parameter $f_{ax,k}$ and the head pull-through parameter $f_{head,k}$ is tested in wood with a characteristic density of ρk=350 kg/m3 (C24). When wood with another density is used values shall be multiplied with ρk/350.

** "No Performance Declared"

# PRODUCT IDENTIFICATION

Following articles which are sold in the brand name GUNNEBO FASTENING are covered by this Declaration of Performance:

| ARTICLE NUMBER | | | | |
|---|---|---|---|---|
| Z461398 | Z443077 | Z310872 | Z343222 | Z713460 |
| 3920 | 69913 | Z343214 | Z466335 | Z467637 |
| Z443475 | 18188 | Z465237 | Z466636 | Z541522 |
| Z442678 | Z248537 | Z188580 | Z349228 | |
| Z419090 | Z464935 | Z465732 | Z713440 | |

**The manufacturer declares for:**

**Anchor nail, Electro galvanized, diameter 3,1 up to 6,0 mm**

1. Product is in accordance with EN 14592:2008 “Timber Structures – Dowel-type fasteners – Requirements”.

2. Initial Type Testing was performed to confirm essential characteristic values in accordance to table ZA.1 in EN 14592. Declared values accompanies with the CE mark on each package and in this technical document.

3. Initial Type Testing is performed by DTI, Danish Technological Institute.
$f_{tens,k}$ are documented in report DK 432630-1, Taastrup, 2011-06-30.
$f_{ax,k}$ are documented in report DK 432630-2, 2011-06-30, Taastrup.
$M_{y,k}$ are documented in report DK 432630-3, 2011-06-30, Taastrup.
$f_{u,k}$ are documented in report DK 1302213, Århus, 2011-06-27.

4. For this product the compliance with the conditions of the Annex ZA in EN 14592 are accomplished.

5. A FPC system is established and maintained under the responsibilities of the manufacturer.

**Electro galvanized min. 12 or 20 µm. Service Class 2**

The system of attestation of conformity for Timber fasteners used for structural timber products is 3.

This declaration of conformity is valid until any changes in the product, the raw material or the production process is performed, which would significantly change the declared characteristics.

*Gunnebo 2011-11-24, revised 2013-02-01*

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Head of Operation, Claes Arnesson


**GBO Fastening systems AB**
Bruksvägen 2
SE 590 93 Gunnebo
Sweden

# PRODUCT IDENTIFICATION

Following articles which are sold in the brand name GUNNEBO FASTENING are covered by this Declaration of Performance:

| ARTICLE NUMBER | |
|---|---|
| Z199375 | 2267 |
| Z400452 | 2266 |
| Z400451 | 2268 |

**The manufacturer declares for:**

**Anchor nail, Hot dip galvanized, diameter 4,0 mm**

1. Product is in accordance with EN 14592:2008 “Timber Structures – Dowel-type fasteners – Requirements”.

2. Initial Type Testing was performed to confirm essential characteristic values in accordance to table ZA.1 in EN 14592. Declared values accompanies with the CE mark on each package and in this technical document.

3. Initial Type Testing is performed by DTI, Danish Technological Institute.
$f_{tens,k}$ are documented in report DK 432630-1, Taastrup, 2011-06-30.
$f_{ax,k}$ are documented in report DK 432630-2, 2011-06-30, Taastrup.
$M_{y,k}$ are documented in report DK 432630-3, 2011-06-30, Taastrup.
$f_{u,k}$ are documented in report DK 1302213, Århus, 2011-06-27.

4. For this product the compliance with the conditions of the Annex ZA in EN 14592 are accomplished.

5. A FPC system is established and maintained under the responsibilities of the manufacturer.

**Hot dip galvanized min. 50 µm. Cervice Class 3**

The system of attestation of conformity for Timber fasteners used for structural timber products is 3.

This declaration of conformity is valid until any changes in the product, the raw material or the production process is performed, which would significantly change the declared characteristics.

*Gunnebo 2011-11-24, revised 2013-02-01*

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Head of Operation, Claes Arnesson


**GBO Fastening systems AB**
Bruksvägen 2
SE 590 93 Gunnebo
Sweden

# PRODUCT IDENTIFICATION

Following articles which are sold in the brand name GUNNEBO FASTENING are covered by this Declaration of Performance:

**ARTICLE NUMBER**

Z446313

**The manufacturer declares for:**

**Anchor nail, Stainless steel AISI 316/A4, diameter 4,0 mm**

1. Product is in accordance with EN 14592:2008 “Timber Structures – Dowel-type fasteners – Requirements”.

2. Initial Type Testing was performed to confirm essential characteristic values in accordance to table ZA.1 in EN 14592. Declared values accompanies with the CE mark on each package and in this technical document.

3. Initial Type Testing is performed by DTI, Danish Technological Institute.
$f_{tens,k}$ are documented in report DK 432630-1, Taastrup, 2011-06-30.
$f_{ax,k}$ are documented in report DK 432630-2, 2011-06-30, Taastrup.
$M_{y,k}$ are documented in report DK 432630-3, 2011-06-30, Taastrup.
$f_{u,k}$ are documented in report DK 1302213, Århus, 2011-06-27.

4. For this product the compliance with the conditions of the Annex ZA in EN 14592 are accomplished.

5. A FPC system is established and maintained under the responsibilities of the manufacturer.

**Stainless steel AISI 316/A4. Service class 3**

The system of attestation of conformity for Timber fasteners used for structural timber products is 3.

This declaration of conformity is valid until any changes in the product, the raw material or the production process is performed, which would significantly change the declared characteristics.

*Gunnebo 2011-11-24, revised 2013-02-01*

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Head of Operation, Claes Arnesson


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