

# SQUARE NAIL

## BRIGHT / HOT DIP GALVANIZED

## Declaration of Performance



**Dokument no: CE-300582-A2**

Used for timber structures, and for fitting mouldings and other types of fine joinery

**Dimensions:**

Bright: d 2,5 - 4,2 mm L 63,5 - 125 mm

Hot dip galvanized: d: 2,5 - 5,5 mm L: 63,5-200 mm

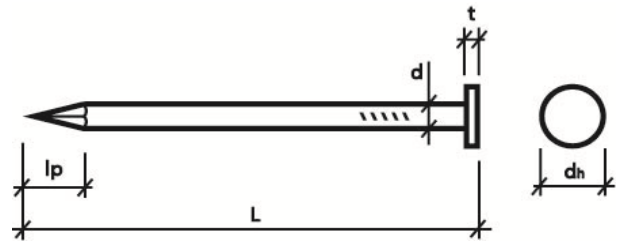
**Material:**

EN ISO 16120

Characteristic tensile strength of wire (fu) in acc. with EN 10218-1, min. 650 N/mm<sup>2</sup>

**Treatment:**

Hot dip galvanized - min. 50 µm, Service class 3



## DIMENSIONS


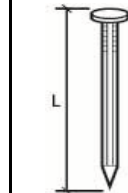
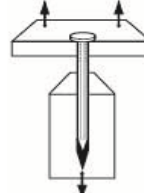
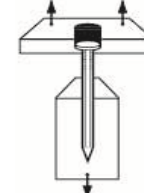
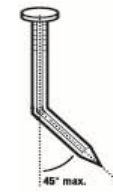

### BRIGHT

Name	Nominal diameter d [mm]	Total length L [mm]	Head diameter d <sub>h</sub> [mm]	Head area A <sub>h</sub> [mm <sup>2</sup> ]	Head thickness t [mm]	Point length l <sub>p</sub> [mm]
2,5x50	2,5	50,0	6,0	28,2	1,0	3,4
2,5x65		65,0				
2,8x63,5	2,8	63,5	6,8	36,3	1,0	3,8
2,8x65		65,0				
2,8x75		75,0				
3,1x76,2	3,1	76,2	7,5	44,1	1,0	4,3
3,4x95	3,4	95,0	7,6	45,3	1,2	4,7
3,4x100		100,0				
3,8x102	3,8	102,0	8,0	50,2	1,2	5,2
3,8x125		125,0				
4,2x125	4,2	125,0	8,7	59,4	1,4	5,8
4,6x127	4,6	127,0	9,6	75,3	1,4	6,3
4,8x150	4,8	150,0	10,0	78,5	1,6	6,6

### HOT DIP GALVANIZED

Name	Nominal diameter d [mm]	Total length L [mm]	Head diameter d <sub>h</sub> [mm]	Head area A <sub>h</sub> [mm <sup>2</sup> ]	Head thickness t [mm]	Point length l <sub>p</sub> [mm]
2,5x50	2,5	50,0	6,0	28,2	1,0	3,4
2,5x60		60,0				
2,5x65		65,0				
2,8x63,5	2,8	63,5	6,8	36,3	1,0	3,8
2,8x65		65,0				
2,8x75		75,0				
2,8x90		90,0				
3,1x76,2	3,1	76,2	7,5	44,1	1,0	4,3
3,4x95	3,4	95,0	7,6	45,3	1,2	4,7
3,4x100		100,0				
3,8x102	3,8	102,0	8,0	50,2	1,2	5,2
3,8x125		125,0				
4,2x125	4,2	125,0	8,7	59,4	1,4	5,8
4,6x127	4,6	127,0	9,6	75,3	1,4	6,3
4,8x150	4,8	150,0	10,0	78,5	1,6	6,6
5,1x150	5,1	150,0	11,5	103,8	1,8	7,0
5,5x175	5,5	175,0	11,5	103,8	2,0	7,6
5,5x200		200,0				

# CHARACTERISTIC LOAD CAPACITY

BRIGHT									
Name	Nominal diameter d [mm]	Total length L [mm]	Withdrawal parameter $f_{ax,k}$ [N/mm <sup>2</sup> ]*	Head pull-through parameter $f_{head,k}$ [N/mm <sup>2</sup> ]*	Yield moment $M_{y,k}$ [Nmm]	Tensile capacity $f_{tens,k}$ [kN]			
2,5x50	2,5	50,0	2,45	8,57	3167	NPD**			
2,5x65		65,0			4253				
2,8x63,5	2,8	63,5			5541				
2,8x65		65,0			7046				
2,8x75		75,0			9409				
3,1x76,2	3,1	76,2			12206				
3,4x95	3,4	95,0			15463				
3,4x100		100,0			17272				
3,8x102	3,8	102,0							
3,8x125		125,0							
4,2x125	4,2	125,0							
4,6x127	4,6	127,0							
4,8x150	4,8	150,0							
HOT DIP GALVANIZED									
Name	Nominal diameter d [mm]	Total length L [mm]			Withdrawal parameter $f_{ax,k}$ [N/mm <sup>2</sup> ]*		Head pull-through parameter $f_{head,k}$ [N/mm <sup>2</sup> ]*	Yield moment $M_{y,k}$ [Nmm]	Tensile capacity $f_{tens,k}$ [kN]
2,5x50	2,5	50,0	2,45	8,57	2924	NPD**			
2,5x60		60,0							
2,5x65		65,0			3926				
2,8x63,5	2,8	63,5			5360				
2,8x65		65,0			7046				
2,8x75		75,0			9409				
2,8x90		90,0			12206				
3,1x76,2	3,1	76,2			15463				
3,4x95	3,4	95,0			17272				
3,4x100		100,0							
3,8x102	3,8	102,0							
3,8x125		125,0							
4,2x125	4,2	125,0							
4,6x127	4,6	127,0							
4,8x150	4,8	150,0							
5,1x150	5,1	150,0							
5,5x175	5,5	175,0							
5,5x200		200,0							
									

\* The withdrawal parameter  $f_{ax,k}$  and the head pull-through parameter  $f_{head,k}$  is tested in wood with a characteristic density of  $\rho_k=350$  kg/m<sup>3</sup> (C24). When wood with another density is used values shall be multiplied with  $\rho_k/350$ .

\*\* "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

Z425510	Z400679	Z425798
Z400676	Z425706	7155
Z425594	Z400803	7150

#### The manufacturer declares for:

##### Square nail, bright, diameter 2,5 up to 4,8 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. The results of  $f_{u,k}$  are documented in report DK 1302213, Århus, 2011-04-28. The results of  $M_{y,k}$  are documented in report DK 426382-3, Taastrup, 2011-05-05.
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.

##### Bright square nail, Service Class 1

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 2012-03-29, revised 2013-02-01*



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

7153	Z425578	Z400863	Z425691	Z425748	Z425803	7151
5525	Z400680	Z425609	Z400682	Z400802	Z400929	Z400929
Z400864	5526	Z400862	5527	5528	Z425837	

### The manufacturer declares for:

#### Square nail, Hot dip galvanized, diameter 2,5 up to 5,5 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. The results of  $f_{u,k}$  are documented in report DK 1302213, Århus, 2011-04-28. The results of  $M_{y,k}$  are documented in report DK 426382-3, Taastrup, 2011-05-05.
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 50 µm. 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 2012-03-29, revised 2013-02-01*



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