

GROOVED NAIL



Declaration of
Performance

BRIGHT / HOT DIP GALVANIZED / AISI 316/A4



Dokument no: CE-300366-A2

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

Dimensions:

Bright: d 2,3 - 5,5 mm L 60 - 175 mm
Hot dip galvanized: d 2,3 - 8,0 mm L 55 - 330 mm
Stainless AISI 316/A4: d 2,3 - 3,4 mm L 60-100 mm

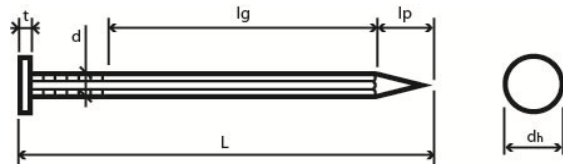
Material:

Bright/Hot dip galvanized: EN ISO 16120
Stainless steel AISI 316/A4: EN 10088.

Characteristic tensile strength of wire (f_u) in acc. with EN 10218-1, min. 650 N/mm²
Stainless steel: min. 750 N/mm²

Treatment:

Hot dip galvanized - min. 50 μ m, Service class 3
Stainless steel - Service class 3



DIMENSIONS

BRIGHT						
Name	Nominal diameter d [mm]	Total length L [mm]	Head diameter d _h [mm]	Head area A _h [mm ²]	Head thickness t [mm]	Point length l _p [mm]
2,3x60	2,3	60,0	5,7	25,5	0,8	3,2
2,8x75	2,7	75,0	6,7	35,2	1,0	3,7
3,4x100	3,3	100,0	8,2	52,8	1,0	4,6
4,0x125	4,00	125,00	10,0	78,5	1,1	5,5
4,3x125	4,3	125,0	10,7	89,9	1,2	5,9
5,1x140	5,1	140,0	13,7	147,3	1,7	5,5
5,5x175	5,5	175,0	13,7	147,3	1,7	7,6
6,0x200	6,0	200,0	15,0	176,6	1,7	6,5
7,0x225	7,0	225,0	17,5	240,4	1,7	7,5
HOT DIP GALVANIZED						
Name	Nominal diameter d [mm]	Total length L [mm]	Head diameter d _h [mm]	Head area A _h [mm ²]	Head thickness t [mm]	Point length l _p [mm]
2,3x55	2,3	55,0	5,7	25,5	0,8	3,2
2,3x60		60,0				
2,5x50	2,5	50,0	6,3	31,1	0,8	3,5
2,5x65		65,0				
2,8x50	2,7	50,0	6,7	35,2	1,0	3,7
2,8x70		70,0				
2,8x75		75,0				
3,1x50	3,1	50,0	7,7	46,5	1,0	4,3
3,1x60		60,0				
3,1x75		75,0				
3,1x80		80,0				
3,1x100		100,0				

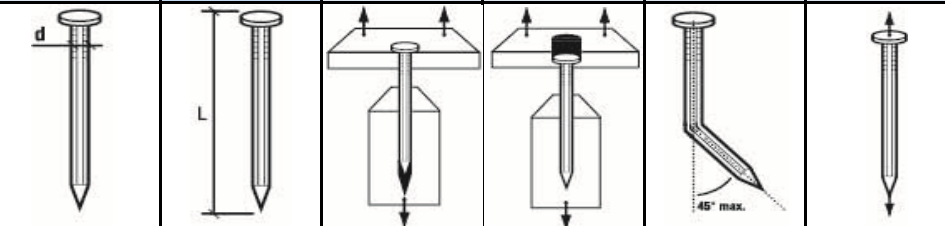
* Dimension is not CE marked.

DIMENSIONS

HOT DIP GALVANIZED						
Name	Nominal diameter d [mm]	Total length L [mm]	Head diameter d _h [mm]	Head area A _h [mm ²]	Head thickness t [mm]	Point length l _p [mm]
3,4x70	3,3	70,0	8,2	52,8	1,0	4,6
3,4x90		90,0				
3,4x95		95,0				
3,4x100		100,0				
4,0x125	4,0	125,0	10,0	78,5	1,1	5,5
4,0x150		150,0				
4,3x125	4,3	125,0	10,7	89,9	1,2	5,9
5,1x140	5,1	125,0	13,7	147,3	1,7	5,5
5,1x150		125,0				
5,1x160		125,0				
5,5x175	5,5	175,0	13,7	147,3	1,7	7,6
5,5x180		180,0				
5,5x210		210,0				
5,5x230		230,0				
6,0x190	6,0	190,0	15,0	176,6	1,7	6,5
6,0x200		200,0				
6,0x250		250,0				
7,0x225	7,0	225,0	17,5	240,4	1,7	7,5
7,0x250		250,0				
7,0x275		275,0				
8,0x300	8,0	300,0	20,0	314,0	2,0	8,6
8,0x314		314,0				
8,0x330		330,0				
AISI 316/A4						
Name	Nominal diameter d [mm]	Total length L [mm]	Head diameter d _h [mm]	Head area A _h [mm ²]	Head thickness t [mm]	Point length l _p [mm]
2,3x60*	2,3	60,0	5,7	25,5	0,8	3,2
2,8x75	2,7	75,0	6,7	35,2	1,0	3,7
3,4x100	3,3	100,0	8,2	52,8	1,0	4,6

* Dimension is not CE marked.

CHARACTERISTIC LOAD CAPACITY

BRIGHT						
Name	Nominal diameter d [mm]	Total length L [mm]	Withdrawal parameter $f_{ax,k}$ [N/mm ²]**	Head pull-through parameter $f_{head,k}$ [N/mm ²]**	Yield moment $M_{y,k}$ [Nmm]	Tensile capacity $f_{tens,k}$ [kN]
2,3x60	2,30	60,00	2,45	8,57	1887	NPD***
2,8x75	2,70	75,00			3649	
3,4x100	3,30	100,00			6396	
4,0x125	4,00	125,00			10074	
4,3x125	4,3	125,0			12181	
5,1x140	5,10	140,00			21492	
5,5x175	5,50	175,00			26780	
6,0x200	6,0	200,0			33946	
7,0x225	7,0	225,0			46735	
HOT DIP GALVANIZED						
Name	Nominal diameter d [mm]	Total length L [mm]	Withdrawal parameter $f_{ax,k}$ [N/mm ²]**	Head pull-through parameter $f_{head,k}$ [N/mm ²]**	Yield moment $M_{y,k}$ [Nmm]	Tensile capacity $f_{tens,k}$ [kN]
2,3x55	2,30	55,00	2,45	8,57	1752	NPD***
2,3x60		60,00				
2,5x50	2,30	50,00			2219	
2,5x65		65,00				
2,8x50	2,70	50,00			3369	
2,8x70		70,00				
2,8x75		75,00				
3,1x50	3,10	50,00			5086	
3,1x60		60,00				
3,1x75		75,00				
3,1x80		80,00				
3,1x100		100,00				
3,4x70	3,30	70,00	6357			
3,4x90		90,00				
3,4x95		95,00				
3,4x100		100,00				
						

* Dimension is not CE marked.

** 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/m³ (C24). When wood with another density is used values shall be multiplied with $\rho_k/350$.


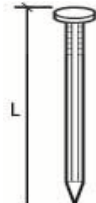
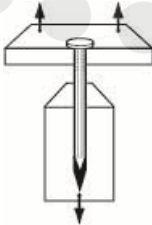
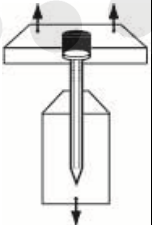
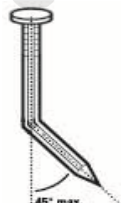

*** "No Performance Declared"

CHARACTERISTIC LOAD CAPACITY

HOT DIP GALVANIZED

Name	Nominal diameter d [mm]	Total length L [mm]	Withdrawal parameter $f_{ax,k}$ [N/mm ²]**	Head pull-through parameter $f_{head,k}$ [N/mm ²]**	Yield moment $M_{y,k}$ [Nmm]	Tensile capacity $f_{tens,k}$ [kN]
4,0x125	4,00	125,00	2,45	8,57	9020	NPD***
4,0x150		150,00				
4,3x125	4,30	125,00			20814	
5,1x140	5,10	125,00				
5,1x150		125,00				
5,1x160		125,00				
5,5x175	5,50	175,00			27068	
5,5x180		180,00				
5,5x210		210,00				
5,5x230		230,00				
6,0x190	6,00	190,00			33946	
6,0x200		200,00				
6,0x250		250,00				
7,0x225	7,00	225,00			46735	
7,0x250		250,00				
7,0x275		275,00				
8,0x300	8,00	300,00			69068	
8,0x314		314,00				
8,0x330		330,00				

AISI 316/A4

Name	Nominal diameter d [mm]	Total length L [mm]	Withdrawal parameter $f_{ax,k}$ [N/mm ²]**	Head pull-through parameter $f_{head,k}$ [N/mm ²]**	Yield moment $M_{y,k}$ [Nmm]	Tensile capacity $f_{tens,k}$ [kN]
2,3x60*	2,30	60,00	2,45	8,57	2241	NPD***
2,8x75	2,70	75,00			4253	
3,4x100	3,30	100,00			8801	
						

* Dimension is not CE marked.

** 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/m³ (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:

BRIGHT ARTICLE NUMBER	HOT DIP GALVANIZED ARTICLE NUMBER	AISI 316/A4 ARTICLE NUMBER
Z274809	Z425196	Z332707
Z400639	Z246064	Z169111
Z242557	Z211785	
Z274702	Z400608	
Z273109	Z190307	
Z141573	Z425340	
Z273002	Z541508	
Z242696	Z212087	
Z256261	Z325139	
Z254706	Z341115	
Z400610	Z400859	
Z254609	Z306566	
Z261502	Z314240	
Z400611	Z400858	
Z261405	Z341157	
Z258742	Z212281	
Z400612	Z212388	
Z400026	Z341571	
Z341107	Z212485	
	5212	
	Z341678	
	Z212689	
	15793	



The manufacturer declares for:

Grooved nail, Bright, diameter 2,3 up to 7,0 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, and SP Swedish Technical Research institute. The results of $f_{u,k}$ are documented in PX07538 (SP), Borås, Sweden 2011-10-12. The results of $M_{y,k}$ are documented in DK 447875, Taastrup, Denmark, 2011-12-23.
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 grooved 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

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Head of Operation, Claes Arnesson



GBO Fastening systems AB
Bruksvägen 2
SE 590 93 Gunnebo
Sweden

**The manufacturer declares for:****Grooved nail, Hot dip galvanized, diameter 2,3 up to 8,0 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, and SP Swedish Technical Research institute. The results of $f_{u,k}$ are documented in PX07538 (SP), Borås, Sweden 2011-10-12. The results of $M_{y,k}$ are documented in DK 447875, Taastrup, Denmark, 2011-12-23.
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

.....
Head of Operation, Claes Arnesson



GBO Fastening systems AB
Bruksvägen 2
SE 590 93 Gunnebo
Sweden

**The manufacturer declares for:****Grooved nail, Stainless steel, diameter 2,3 up to 3,4 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, and SP Swedish Technical Research institute. The results of $f_{u,k}$ are documented in PX07538 (SP), Borås, Sweden 2011-10-12. The results of $M_{y,k}$ are documented in DK 447875, Taastrup, Denmark, 2011-12-23.
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 2012-03-29, Revised 2013-02-01

.....
Head of Operation, Claes Arnesson



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