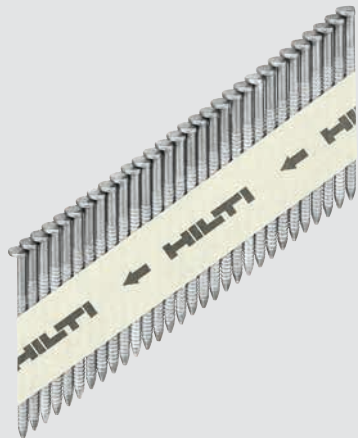




GX-WF DATA SHEET

Wood framing nail



GX-WF Wood framing nail

Wood nail designation

GX	-	WF	[l_n] × [d_n]	(R)	(D)	34	(HDG)
Technology		Application	Dimension	Profile	Head Shape	Collation	Material

Technology:

GX | Gas driven

Application:

WF | Wood framing

Dimension:

[l_n] | Nail length [mm]
[d_n] | Nail diameter [mm]

Profile:

R | Profiled nail
() | Smooth nail

Head shape:

D | D-head
() | Round head



Collation:

34 | 34° Collation

Material:

() | Bright steel
galv | Galvanized steel
HDG | Hot dip galvanized steel
A2 | Stainless steel

Product data

GX-WF smooth nail  (example with D-head)	Product description <ul style="list-style-type: none"> • Round cross-sectional smooth nails with straight shank for use in load bearing timber structures • In accordance with EN 1995-1-1 smooth nails can be used for short to medium term withdrawal loads < 6 month or for shear loads only.
GX-WF profiled nail  (example with round head)	Product description <ul style="list-style-type: none"> • Round cross-sectional profiled nails with straight shank for use in load bearing timber structures • Collated nail for framing application • In accordance with EN 1995-1-1 profiled nails can be used for permanent or long-term withdrawal loads > 6 month and/or shear loads.

Recommended fastening tool

GX 90 WF

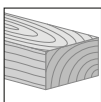
Material specification for GX-WF smooth nail

Designation	Available material/coating				Minimum tensile strength
	Bright steel	Galvanized steel	Hot-dip galvanized steel	Stainless steel	
GX-WF [l _n] × 2.8 D 34	●	●	●	N/A	f _u 600 N/mm ²
GX-WF [l _n] × 3.1 D 34	●	●	●	N/A	600 N/mm ²

Material specification for GX-WF profiled nail

Designation	Available material/coating				Minimum tensile strength
	Bright steel	Galvanized steel	Hot-dip galvanized steel	Stainless steel	
GX-WF [l _n] × 2.8 RD 34	●	●	●	●	f _u 600 N/mm ²
GX-WF [l _n] × 2.8 R 34	N/A	N/A	●	●	600 N/mm ²
GX-WF [l _n] × 3.1 RD 34	●	●	●	●	600 N/mm ²

Base material



Wood

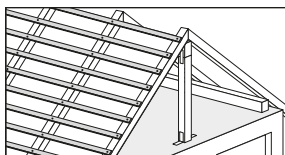
Load condition



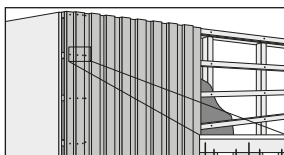
Static/quasi static

Application

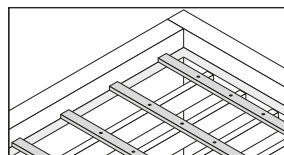
Examples



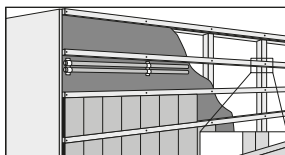
Battens



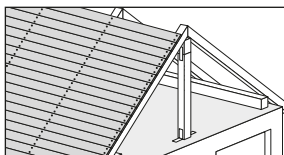
Cladding



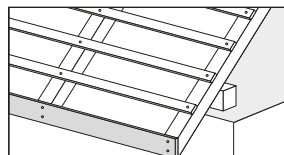
Flat roof



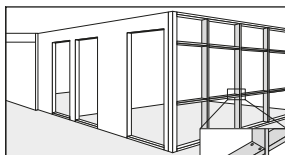
Sub-construction



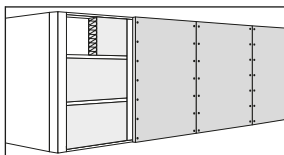
Roof paneling



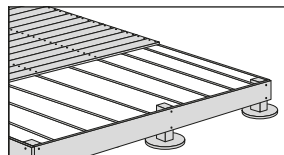
Roof trim



Wall framing



Wall sheeting



Wood decking

Corrosion information

Suitable GX-WF material related to service classes according to EN 1995-1-1

Service class	1	2	3
Average moisture content of the wood specimen	≤ 12%	≤ 20%	> 20%
Designation on package/label			
Requirements for nails with $d_n \leq 4 \text{ mm}$	No coating	Fe/Zn 12c	Fe/Zn 25c ¹⁾
Suitable GX-WF material	Bright steel Galvanized steel Hot-dip galvanized steel	Stainless steel Galvanized steel Hot-dip galvanized steel	Stainless steel Hot-dip galvanized steel Stainless steel

1) according to EN 10147, for hot-dip galvanized steel nails Fe/Zn 25 c is typically substituted by Z350.



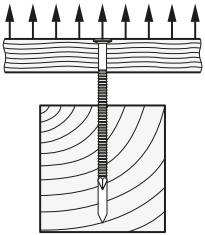
Certain wood treatments and species, like Oak, Douglas-fir or similar, require stainless steel nails due to acidity of the wood. independent of the service class.

Mechanical strength and stiffness

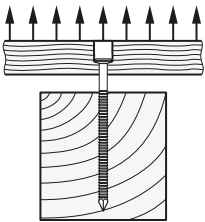
Failures modes associated with design parameters, according to EN 1995-1-1



M_y Yield moment



f_{ax} Withdrawal parameter



f_{head} Head pull-through parameter

Smooth nail

Designation	Available length	Tensile loading	Shear loading	Char. yield moment	Char. withdrawal parameter	Char. head pull-through parameter
	l_n /mm			$M_{y,k}$	$f_{ax,k}$	$f_{head,k}$
GX-WF [I _n] × 2.8 D 34	51, 63, 70, 75, 80	Medium term (< 6 months)	Permanent (> 10 years)	2617 Nmm	2.4 N/mm ²	8.5 N/mm ²
GX-WF [I _n] × 2.8 D 34 gal	51, 63, 70, 75, 80			2617 Nmm	2.4 N/mm ²	8.5 N/mm ²
GX-WF [I _n] × 2.8 D 34 HDG	51, 63, 75			2617 Nmm	2.4 N/mm ²	8.5 N/mm ²
GX-WF [I _n] × 3.1 D 34	80, 90			3410 Nmm	2.0 N/mm ²	8.5 N/mm ²
GX-WF [I _n] × 3.1 D 34 galv	75, 80, 90			3410 Nmm	2.0 N/mm ²	8.5 N/mm ²
GX-WF [I _n] × 3.1 D 34 HDG	75, 80, 90			3410 Nmm	2.0 N/mm ²	8.5 N/mm ²

Profiled nail

Designation	Available length	Tensile loading	Shear loading	Char. yield moment	Char. withdrawal parameter	Char. head pull-through parameter
	l_n /mm			$M_{y,k}$	$f_{ax,k}$	$f_{head,k}$
GX-WF [l_n] × 2.8 RD 34	51, 63, 70, 75, 80	Permanent (> 10 years)	Permanent (> 10 years)	2320 Nmm	6.9 N/mm ²	12.5 N/mm ²
GX-WF [l_n] × 2.8 RD 34 galv	51, 63, 70, 75, 80			2320 Nmm	6.9 N/mm ²	12.5 N/mm ²
GX-WF [l_n] × 2.8 RD 34 HDG	51, 63, 75, 80			2130 Nmm	6.9 N/mm ²	12.5 N/mm ²
GX-WF [l_n] × 2.8 RD 34 A2	51, 63			1960 Nmm	6.8 N/mm ²	12.5 N/mm ²
GX-WF [l_n] × 2.8 R 34 A2	55, 65, 80			1960 Nmm	6.8 N/mm ²	15.7 N/mm ²
GX-WF [l_n] × 2.8 R 34 HDG	50, 65, 75			2130 Nmm	6.9 N/mm ²	13.9 N/mm ²
GX-WF [l_n] × 3.1 RD 34 A2	80			2830 Nmm	6.2 N/mm ²	13.9 N/mm ²
GX-WF [l_n] × 3.1 RD 34	70, 75, 80, 90			2772 Nmm	6.7 N/mm ²	13.9 N/mm ²
GX-WF [l_n] × 3.1 RD 34 galv	70, 75, 80, 90			2772 Nmm	6.3 N/mm ²	13.9 N/mm ²
GX-WF [l_n] × 3.1 RD 34 HDG	63, 75, 80, 90					2772 Nmm

Dimension

Nail definition

Head shape

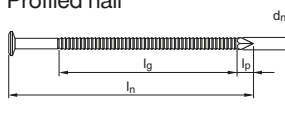
D-head

Round head



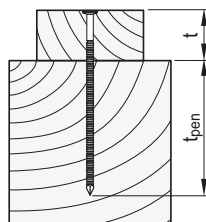
A_h Head cross-sectional area
 d_h Head diameter

Profiled nail



l_n Nominal nail length
 d_n Nominal nail diameter
 l_g Length of profiling
 l_p Point length

Fastening definition



t Fastening height
 t_{pen} Pointside penetration depth

Bright steel nail, service class 1

Designation	Nominal nail length	Nominal nail diameter	Minimum head diameter	Minimum head cross-sectional area	Maximum fastening height	Length of profiling	Maximum point length
	l_n	d_n	d_h	$A_{h,min}$	t	l_g	l_p
GX-WF 51 × 2.8 D 34	51 mm	2.8 mm	7 mm	29.40 mm ²	28 mm	N/A	4.6 mm
GX-WF 63 × 2.8 D 34	63 mm	2.8 mm	7 mm	29.40 mm ²	40 mm	N/A	4.6 mm
GX-WF 70 × 2.8 D 34	70 mm	2.8 mm	7 mm	29.40 mm ²	47 mm	N/A	4.6 mm
GX-WF 75 × 2.8 D 34	75 mm	2.8 mm	7 mm	29.40 mm ²	52 mm	N/A	4.6 mm
GX-WF 80 × 2.8 D 34	80 mm	2.8 mm	7 mm	29.40 mm ²	57 mm	N/A	4.6 mm
GX-WF 80 × 3.1 D 34	80 mm	3.1 mm	7.2 mm	29.40 mm ²	55 mm	N/A	4.9 mm
GX-WF 90 × 3.1 D 34	90 mm	3.1 mm	7.2 mm	29.40 mm ²	65 mm	N/A	4.9 mm
GX-WF 51 × 2.8 RD 34	51 mm	2.8 mm	7 mm	29.40 mm ²	34 mm	34 mm	4.6 mm
GX-WF 63 × 2.8 RD 34	63 mm	2.8 mm	7 mm	29.40 mm ²	46 mm	46 mm	4.6 mm
GX-WF 70 × 2.8 RD 34	70 mm	2.8 mm	7 mm	29.40 mm ²	53 mm	53 mm	4.6 mm
GX-WF 75 × 2.8 RD 34	75 mm	2.8 mm	7 mm	29.40 mm ²	58 mm	58 mm	4.6 mm
GX-WF 80 × 2.8 RD 34	80 mm	2.8 mm	7 mm	29.40 mm ²	63 mm	63 mm	4.6 mm
GX-WF 70 × 3.1 RD 34	70 mm	3.1 mm	7.2 mm	29.40 mm ²	51 mm	53 mm	4.9 mm
GX-WF 75 × 3.1 RD 34	75 mm	3.1 mm	7.2 mm	29.40 mm ²	56 mm	58 mm	4.9 mm
GX-WF 80 × 3.1 RD 34	80 mm	3.1 mm	7.2 mm	29.40 mm ²	61 mm	63 mm	4.9 mm
GX-WF 90 × 3.1 RD 34	90 mm	3.1 mm	7.2 mm	29.40 mm ²	71 mm	73 mm	4.9 mm

Galvanized steel nail, service class 2

Designation	Nominal nail length	Nominal nail diameter	Minimum head diameter	Minimum head cross-sectional area	Maximum fastening height	Length of profiling	Maximum point length
	l_n	d_n	d_h	$A_{h,min}$	t	l_g	l_p
GX-WF 51 × 2.8 D 34 galv	51 mm	2.8 mm	7 mm	29.40 mm ²	28 mm	N/A	4.6 mm
GX-WF 63 × 2.8 D 34 galv	63 mm	2.8 mm	7 mm	29.40 mm ²	40 mm	N/A	4.3 mm
GX-WF 70 × 2.8 D 34 galv	70 mm	2.8 mm	7 mm	29.40 mm ²	47 mm	N/A	4.3 mm
GX-WF 75 × 2.8 D 34 galv	75 mm	2.8 mm	7 mm	29.40 mm ²	52 mm	N/A	4.3 mm
GX-WF 80 × 2.8 D 34 galv	80 mm	2.8 mm	7 mm	29.40 mm ²	57 mm	N/A	4.3 mm
GX-WF 75 × 3.1 D 34 galv	75 mm	3.1 mm	7.2 mm	29.40 mm ²	50 mm	N/A	4.8 mm
GX-WF 80 × 3.1 D 34 galv	80 mm	3.1 mm	7.2 mm	29.40 mm ²	55 mm	N/A	4.8 mm
GX-WF 90 × 3.1 D 34 galv	90 mm	3.1 mm	7.2 mm	29.40 mm ²	65 mm	N/A	4.8 mm
GX-WF 51 × 2.8 RD 34 galv	51 mm	2.8 mm	7 mm	29.40 mm ²	34 mm	34 mm	4.3 mm
GX-WF 63 × 2.8 RD 34 galv	63 mm	2.8 mm	7 mm	29.40 mm ²	46 mm	46 mm	4.3 mm
GX-WF 70 × 2.8 RD 34 galv	70 mm	2.8 mm	7 mm	29.40 mm ²	53 mm	53 mm	4.3 mm
GX-WF 75 × 2.8 RD 34 galv	75 mm	2.8 mm	7 mm	29.40 mm ²	58 mm	58 mm	4.3 mm
GX-WF 80 × 2.8 RD 34 galv	80 mm	2.8 mm	7 mm	29.40 mm ²	63 mm	63 mm	4.3 mm
GX-WF 70 × 3.1 RD 34 galv	70 mm	3.1 mm	7.2 mm	29.40 mm ²	51 mm	53 mm	4.8 mm
GX-WF 75 × 3.1 RD 34 galv	75 mm	3.1 mm	7.2 mm	29.40 mm ²	56 mm	58 mm	4.8 mm
GX-WF 80 × 3.1 RD 34 galv	80 mm	3.1 mm	7.2 mm	29.40 mm ²	61 mm	63 mm	4.8 mm
GX-WF 90 × 3.1 RD 34 galv	90 mm	3.1 mm	7.2 mm	29.40 mm ²	71 mm	73 mm	4.8 mm

Hot-dip galvanized steel nail, service class 3

Designation	Nominal nail length	Nominal nail diameter	Minimum head diameter	Minimum head cross-sectional area	Maximum fastening height	Length of profiling	Maximum point length
	l_n	d_n	d_h	$A_{h,min}$	t	l_g	l_p
GX-WF 51 × 2.8 D 34 HDG	51 mm	2.8 mm	7 mm	29.40 mm ²	28 mm	N/A	4.6 mm
GX-WF 63 × 2.8 D 34 HDG	63 mm	2.8 mm	7 mm	29.40 mm ²	40 mm	N/A	4.6 mm
GX-WF 75 × 2.8 D 34 HDG	75 mm	2.8 mm	7 mm	29.40 mm ²	52 mm	N/A	4.6 mm
GX-WF 75 × 3.1 D 34 HDG	75 mm	3.1 mm	7.2 mm	29.40 mm ²	50 mm	N/A	4.9 mm
GX-WF 80 × 3.1 D 34 HDG	80 mm	3.1 mm	7.2 mm	29.40 mm ²	55 mm	N/A	4.9 mm
GX-WF 90 × 3.1 D 34 HDG	90 mm	3.1 mm	7.2 mm	29.40 mm ²	65 mm	N/A	4.9 mm
GX-WF 51 × 2.8 RD 34 HDG	51 mm	2.8 mm	7 mm	29.40 mm ²	34 mm	34 mm	4.6 mm
GX-WF 63 × 2.8 RD 34 HDG	63 mm	2.8 mm	7 mm	29.40 mm ²	46 mm	46 mm	4.6 mm
GX-WF 75 × 2.8 RD 34 HDG	75 mm	2.8 mm	7 mm	29.40 mm ²	58 mm	58 mm	4.6 mm
GX-WF 80 × 2.8 RD 34 HDG	80 mm	2.8 mm	7 mm	29.40 mm ²	63 mm	63 mm	4.6 mm
GX-WF 63 × 3.1 RD 34 HDG	63 mm	3.1 mm	7.2 mm	29.40 mm ²	44 mm	46 mm	4.9 mm
GX-WF 75 × 3.1 RD 34 HDG	75 mm	3.1 mm	7.2 mm	29.40 mm ²	56 mm	58 mm	4.9 mm
GX-WF 80 × 3.1 RD 34 HDG	80 mm	3.1 mm	7.2 mm	29.40 mm ²	61 mm	63 mm	4.9 mm
GX-WF 90 × 3.1 RD 34 HDG	90 mm	3.1 mm	7.2 mm	29.40 mm ²	71 mm	73 mm	4.9 mm
GX-WF 50 × 2.8 R 34 HDG	50 mm	2.8 mm	6.4 mm	32.20 mm ²	33 mm	34 mm	4.6 mm
GX-WF 65 × 2.8 R 34 HDG	65 mm	2.8 mm	6.4 mm	32.20 mm ²	48 mm	49 mm	4.6 mm
GX-WF 75 × 2.8 R 34 HDG	75 mm	2.8 mm	6.4 mm	32.20 mm ²	59 mm	58 mm	4.6 mm

Stainless steel nail, service class 3

Designation	Nominal nail length	Nominal nail diameter	Minimum head diameter	Minimum head cross-sectional area	Maximum fastening height	Length of profiling	Maximum point length
	l_n	d_n	d_h	$A_{h,min}$	t	l_g	l_p
GX-WF 51 × 2.8 RD 34 A2	51 mm	2.8 mm	7.0 mm	29.40 mm ²	34 mm	34 mm	4.6 mm
GX-WF 63 × 2.8 RD 34 A2	63 mm	2.8 mm	7.0 mm	29.40 mm ²	46 mm	46 mm	4.6 mm
GX-WF 80 × 3.1 RD 34 A2	80 mm	3.1 mm	7.2 mm	29.40 mm ²	61 mm	63 mm	4.9 mm
GX-WF 55 × 2.8 R 34 A2	55 mm	2.8 mm	6.4 mm	32.20 mm ²	38 mm	38 mm	4.6 mm
GX-WF 65 × 2.8 R 34 A2	65 mm	2.8 mm	6.4 mm	32.20 mm ²	48 mm	48 mm	4.6 mm
GX-WF 80 × 2.8 R 34 A2	80 mm	2.8 mm	6.4 mm	32.20 mm ²	63 mm	63 mm	4.6 mm

Application requirement

Minimum pointside penetration depth, under tension load

For smooth nail: $t_{pen} = 8 \times d_n$

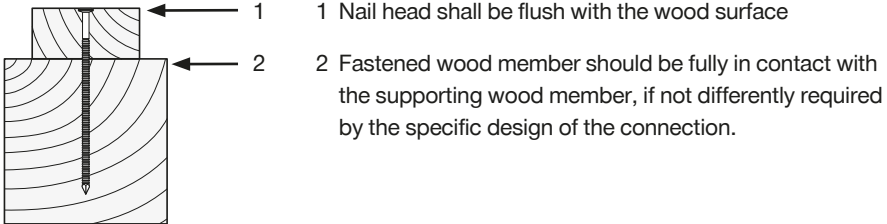
For profiled nail: $t_{pen} = 6 \times d_n$

Spacing and edge distance

Geometrical limitations, like spacing and edge distance, shall be in compliance with EN 1995-1-1 or other applicable regulations.

Fastening quality assurance

Fastening inspection for wood to wood connection



Installation information

Pre-drilling

Pre-drilling requirements are described in EN 1995-1-1, section 8.3.1.2.

Item no.
Bright steel nail, service class 1

Designation	Item no.
GX-WF 51 × 2.8 D 34	2281814, 2083658
GX-WF 63 × 2.8 D 34	2281815, 2083659
GX-WF 70 × 2.8 D 34	2281816, 2083750
GX-WF 75 × 2.8 D 34	2281817, 2083751
GX-WF 80 × 2.8 D 34	2281818, 2083752
GX-WF 80 × 3.1 D 34	2281819, 2083753
GX-WF 90 × 3.1 D 34	2281820, 2083754
GX-WF 51 × 2.8 RD 34	2281821, 2083755
GX-WF 63 × 2.8 RD 34	2281822, 2083756
GX-WF 70 × 2.8 RD 34	2281823, 2083757
GX-WF 75 × 2.8 RD 34	2281824, 2083758
GX-WF 80 × 2.8 RD 34	2281833, 2083759
GX-WF 70 × 3.1 RD 34	2281825, 2083760
GX-WF 75 × 3.1 RD 34	2083761
GX-WF 80 × 3.1 RD 34	2281826, 2083762
GX-WF 90 × 3.1 RD 34	2281827, 2083763

Galvanized steel nail, service class 2

Designation	Item no.
GX-WF 51 × 2.8 D 34 galv	2281835, 2083764
GX-WF 63 × 2.8 D 34 galv	2281836, 2083765
GX-WF 70 × 2.8 D 34 galv	2281837, 2083766
GX-WF 75 × 2.8 D 34 galv	2281838, 2083767
GX-WF 80 × 2.8 D 34 galv	2281839, 2083768
GX-WF 75 × 3.1 D 34 galv	2281840, 2083769
GX-WF 80 × 3.1 D 34 galv	2281841, 2083770
GX-WF 90 × 3.1 D 34 galv	2281842, 2083771
GX-WF 51 × 2.8 RD 34 galv	2281843, 2083772
GX-WF 63 × 2.8 RD 34 galv	2281844, 2083773
GX-WF 70 × 2.8 RD 34 galv	2281845, 2083774
GX-WF 75 × 2.8 RD 34 galv	2281846, 2083775
GX-WF 80 × 2.8 RD 34 galv	2281847, 2083776
GX-WF 70 × 3.1 RD 34 galv	2281848, 2083777
GX-WF 75 × 3.1 RD 34 galv	2281849, 2083778
GX-WF 80 × 3.1 RD 34 galv	2281615, 2083779
GX-WF 90 × 3.1 RD 34 galv	2281834, 2083780

Hot-dip galvanized steel nail, service class 3

Designation	Item no.
GX-WF 51 × 2.8 D 34 HDG	2281616, 2083781
GX-WF 63 × 2.8 D 34 HDG	2281617, 2083782
GX-WF 75 × 2.8 D 34 HDG	2281618, 2083783
GX-WF 75 × 3.1 D 34 HDG	2281619, 2083784
GX-WF 80 × 3.1 D 34 HDG	2281800, 2083785
GX-WF 90 × 3.1 D 34 HDG	2281801, 2083786
GX-WF 51 × 2.8 RD 34 HDG	2281802, 2083787
GX-WF 63 × 2.8 RD 34 HDG	2281803, 2083788
GX-WF 75 × 2.8 RD 34 HDG	2281804, 2083789
GX-WF 80 × 2.8 RD 34 HDG	2281805, 2083790
GX-WF 63 × 3.1 RD 34 HDG	2281806, 2083791
GX-WF 75 × 3.1 RD 34 HDG	2281807, 2083792
GX-WF 80 × 3.1 RD 34 HDG	2281808, 2083793
GX-WF 90 × 3.1 RD 34 HDG	2281809, 2083794
GX-WF 50 × 2.8 R 34 HDG	2281810
GX-WF 65 × 2.8 R 34 HDG	2281811
GX-WF 51 × 2.8 R 34 HDG	2281812

Stainless steel nail, service class 3

Designation	Item no.
GX-WF 51 × 2.8 RD 34 A2	2281828, 2006654
GX-WF 63 × 2.8 RD 34 A2	2281829, 2006655
GX-WF 80 × 3.1 RD 34 A2	2281830, 2006656
GX-WF 55 × 2.8 R 34 A2	2281831, 2006657
GX-WF 65 × 2.8 R 34 A2	2281832, 2006658
GX-WF 80 × 2.8 R 34 A2	2281813, 2006659

