

GENERAL INFORMATION

NYLON NAILIN®

Nail Anchor

PRODUCT DESCRIPTION

The Nylon Nailin is a nail drive anchor with a body formed from engineered plastic and drive nails available in carbon and stainless steel. The anchor can be used in concrete, block, brick or stone. The anchor is pre-assembled with either a carbon steel or stainless steel nail. This anchor is not recommended for overhead, life-safety or sustained tensile loading applications.

GENERAL APPLICATIONS AND USES

- Brick Ties and Masonry Anchorage
- Maintenance
- Furring Strips
- Copper Flashing
- Electrical Fixtures
- Aluminum Frames

FEATURES AND BENEFITS

- + General purpose anchoring
- + Installs in a variety of base materials

APPROVALS AND LISTINGS

- Federal GSA Specification – Meets the proof load requirements of FF-S-325C, Group V, Type 2, Class 4, (superseded) and CID A-A 1925A, Type 3 (mushroom head), Type 4 (flat head) and Type 5 (round head)

GUIDE SPECIFICATIONS

CSI Divisions: 03 16 00 - Concrete Anchors, 04 05 19.16 - Masonry Anchors and 05 05 19 - Post-Installed Concrete Anchors. Anchors shall be Nylon Nailin anchors as supplied by DEWALT, Towson, MD. Anchors shall be installed in accordance with published instructions and the Authority Having Jurisdiction.

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ROUND HEAD NYLON NAILIN



FLAT HEAD NYLON NAILIN



MUSHROOM HEAD NYLON NAILIN

ANCHOR MATERIALS

- Nylon Body with Carbon or Stainless Steel Drive Nail

ANCHOR SIZE RANGE (TYP.)

- 3/16" diameter x 1" length to 1/4" diameter x 6" length

SUITABLE BASE MATERIALS

- Normal-Weight Concrete
- Hollow Concrete Masonry
- Brick Masonry
- Stone

INSTALLATION AND MATERIAL SPECIFICATIONS

Installation Specifications

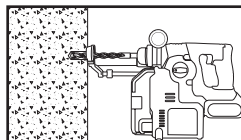
Dimension	Anchor Diameter, d					
	3/16"			1/4"		
	RH	FH	MH	RH	FH	MH
ANSI Drill Bit Size (in.)	3/16	3/16	3/16	1/4	1/4	1/4
Fixture Clearance Hole (in.)	1/4	1/4	1/4	5/16	5/16	5/16
Head Height (in.)	1/8	1/8	1/8	1/8	1/8	1/8
Head Width (in.)	3/8	3/8	9/16	7/16	7/16	9/16

Material Specifications

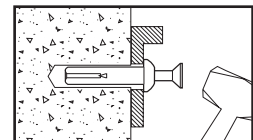
Anchor Component	Component Material			
	Round Head	Flat Head	Mushroom Head	
			Carbon	Stainless
Drive Nail	AISI 1018	AISI 1018	AISI 1018	Type 304 SS
Anchor Body	Nylon	Nylon	Nylon	Nylon
Nail Plating	ASTM B 633, SC1, Type III (Fe/Zn 5)			N/A

Installation Guidelines

Using the proper diameter bit, drill a hole into the base material to a depth of at least 1/4" deeper than the required embedment. The tolerances of the drill bit used should meet the requirements of ANSI Standard B212.15. Remove dust and debris from the hole during (e.g. dust extractor) or following drilling (e.g. suction, forced air) to extract loose particles created by drilling.



Insert the anchor through the fixture and into the drilled hole. Drive the nail into the anchor body to expand it. Be sure the head is seated firmly against the fixture and that the anchor is at the proper embedment. Take care not to overdrive the nail. This anchor is not recommended for installations at an angle or for use overhead.



PERFORMANCE DATA

Ultimate and Allowable Load Capacities for Nylon Nailin in Normal-Weight Concrete^{1,2,3}

Anchor Diameter d in.	Minimum Embed. Depth in.	Minimum Concrete Compressive Strength, f'c											
		2,000 psi				4,000 psi				6,000 psi			
		Tension		Shear		Tension		Shear		Tension		Shear	
		Ultimate lbs.	Allowable lbs.	Ultimate lbs.	Allowable lbs.	Ultimate lbs.	Allowable lbs.	Ultimate lbs.	Allowable lbs.	Ultimate lbs.	Allowable lbs.	Ultimate lbs.	Allowable lbs.
3/16	3/4	180	45	280	70	195	50	320	80	200	50	320	80
	1	200	50	280	70	220	55	320	80	230	60	320	80
1/4	5/8	120	30	320	80	140	35	500	125	180	45	500	125
	3/4	200	50	320	80	220	55	500	125	240	60	500	125
	1	230	60	320	80	250	65	500	125	260	65	500	125
	1-1/2	240	60	320	80	270	70	500	125	280	70	500	125
	2	250	65	320	80	280	70	500	125	280	70	500	125

1. Tabulated load values are for anchors installed in concrete. Concrete compressive strength must be at the specified minimum at the time of installation.
2. Allowable load capacities listed are calculated using an applied safety factor of 4.0. Anchors are not recommended for use overhead or for life safety.
3. The tabulated load values are applicable to single anchors installed at critical edge and spacing distances. Allowable load capacities are multiplied by reduction factors when anchor spacing or edge distances are less than critical distances.

Ultimate and Allowable Load Capacities for Nylon Nailin in Hollow Concrete Masonry^{1,2}

Anchor Diameter d in.	Minimum Embedment Depth in.	f'm ≥ 1,500 psi			
		Ultimate Load		Allowable Load	
		Tension lbs.	Shear lbs.	Tension lbs.	Shear lbs.
3/16	3/4	170	280	35	55
	1	180	280	35	55
1/4	5/8	110	320	20	65
	3/4	160	320	30	65
	1	170	320	35	65
	1-1/4	180	320	35	65
	1-1/2	200	320	40	65

1. Tabulated load values are for anchors installed in minimum 6-inch wide, Grade N, Type II, medium and normal-weight concrete masonry units. Mortar must be minimum Type N. Masonry compressive strength must be 1,500 psi minimum at the time of installation.
2. Allowable loads are based on average ultimate values using a safety factor of 5.0. Anchors are not recommended for use overhead or for life safety.

Ultimate and Allowable Load Capacities for Nylon Nailin in Solid or Hollow Clay Brick Masonry^{1,2}

Anchor Diameter d in.	Minimum Embedment Depth in.	f'm ≥ 1,500 psi			
		Ultimate Load		Allowable Load	
		Tension lbs.	Shear lbs.	Tension lbs.	Shear lbs.
3/16	3/4	155	320	30	65
	1	170	320	35	65
1/4	5/8	150	500	30	100
	3/4	200	500	40	100
	1	220	500	45	100
	1-1/4	240	500	50	100
	1-1/2	250	500	50	100

1. Tabulated load values are for anchors installed in Grade SW multiple wythe, solid brick masonry conforming to ASTM C62.
2. Allowable loads are calculated using an applied safety factor of 5.0. Anchors are not recommended for use overhead or for life safety.

DESIGN CRITERIA

Combined Loading

For anchors loaded in both shear and tension, the combination of loads should be proportioned as follows:

$$\left(\frac{N_u}{N_n}\right) + \left(\frac{V_u}{V_n}\right) \leq 1$$

Where: N_u = Applied Service Tension Load V_u = Applied Service Shear Load
 N_n = Allowable Tension Load V_n = Allowable Shear Load

Load Adjustment Factors for Spacing and Edge Distances in Normal-Weight Concrete¹

Anchor Dimension	Load Type	Critical Distance (Full Anchor Capacity)	Critical Load Factor	Minimum Distance (Reduced Capacity)	Minimum Load Factor
Spacing (s)	Tension and Shear	$S_{cr} = 10d$	$F_N = F_V = 1.0$	$S_{min} = 5d$	$F_N = F_V = 0.50$
Edge Distance (c)	Tension	$C_{cr} = 12d$	$F_N = 1.0$	$C_{min} = 5d$	$F_N = 0.80$
	Shear	$C_{cr} = 12d$	$F_V = 1.0$	$C_{min} = 5d$	$F_V = 0.50$

1. Allowable load values found in the performance data tables are multiplied by reduction factors when anchor spacing or edge distances are less than critical distances. Linear interpolation is allowed for intermediate anchor spacing and edge distances between critical and minimum distances. When an anchor is affected by both reduced spacing and edge distance, the spacing and edge reduction factors must be combined (multiplied). Multiple reduction factors for anchor spacing and edge distance may be required depending on the anchor group configuration.

MECHANICAL ANCHORS
NYLON NAILIN® Nail Anchor

ORDERING INFORMATION

Round Head Nylon Nailin with Carbon Steel Nail

Catalog Number	Anchor Size	Drill Dia.	Std. Box	Std. Carton	Wt./100
2431	3/16" x 1"	3/16"	100	1,000	1/2
2451	3/16" x 1-1/2"	3/16"	100	1,000	3/4
2521	1/4" x 1"	1/4"	100	1,000	3/4
2541	1/4" x 1-1/2"	1/4"	100	1,000	1
2561	1/4" x 2"	1/4"	100	1,000	1



Flat Head Nylon Nailin with Carbon Steel Nail

Catalog Number	Anchor Size	Drill Dia.	Std. Box	Std. Carton	Wt./100
2432	3/16" x 1"	3/16"	100	1,000	1/2
2452	3/16" x 1-1/2"	3/16"	100	1,000	3/4
2522	1/4" x 1"	1/4"	100	1,000	3/4
2542	1/4" x 1-1/2"	1/4"	100	1,000	1
2562	1/4" x 2"	1/4"	100	1,000	1



Mushroom Head Nylon Nailin

Catalog Number		Anchor Size	Drill Diameter	Std. Box	Std. Carton	Wt./100
Carbon	Stainless					
2433	–	3/16" x 1"	3/16"	100	1,000	1/2
2513	–	1/4" x 3/4"	1/4"	100	1,000	1/2
2523	2528	1/4" x 1"	1/4"	100	1,000	3/4
2543	2548	1/4" x 1-1/2"	1/4"	100	1,000	1
2563	–	1/4" x 2"	1/4"	100	1,000	1
2573	–	1/4" x 3"	1/4"	100	1,000	2-1/4
2583	–	1/4" x 4"	1/4"	100	1,000	2-3/4
2593	–	1/4" x 6"	1/4"	100	400	4



Mushroom Head Bodies Only

Catalog Number	Anchor Size	Drill Dia.	Std. Box	Std. Carton	Wt./100
2574	1/4" x 3"	1/4"	2500	2500	1/2

