



Swan Secure

Why Stainless Steel...and Where!

Corrosion Resistance

Corrosion resistance of nails is of primary importance for wood and plywood construction applications which are exposed to weather, high moisture or other caustic conditions. This is particularly true in cases where the wood is chemically treated.

Accelerated laboratory corrosion studies clearly demonstrate the superior corrosion resistance of stainless steel nails in preservative treated wood. One such study compared nails made of a wide variety of materials over a one year period at elevated temperature and moisture levels. At the end of the period only the 304 and 316 stainless steel nails showed no visible corrosion in CCA and ACA treated wood. Further, weight loss of these stainless steel fasteners was negligible while nails made of other materials had deteriorated to varying degrees. Complete test results are summarized as follows.*

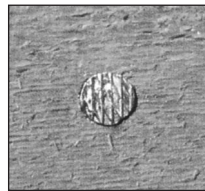
Nail Material	Weight Loss (One year of Accelerated Exposure)	Visible Corrosion
304 & 316 Stainless Steel	Negligible	None Observed
Monel	9-1/2%	Reddish Brown Color
Copper, Silicon Bronze	26%-28%	Greenish Color, Pitting
Aluminum	32%	Pronounced Pitting
Electro-Galvanized & Chromated Steel	100% (As early as 38 Weeks of Exposure)	Complete

Even high quality hot dipped galvanized nails may react under wet conditions with preservative treated wood. In Chromated Copper Arsenate (CCA) and Ammoniacal Copper Arsenate (ACA) treated wood, the zinc coating on galvanized fasteners will corrode sacrificially as positively charged zinc ions migrate toward the more noble copper compounds which make these treatments resistant to fungal attack.

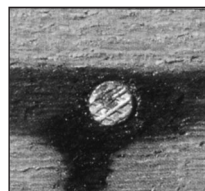
Finally, hammer blows to galvanized nails are highly likely to chip or crack the zinc coatings on at least some of the fasteners used on a project. Moisture thus given even the slightest access to unprotected steel subjects the entire nail to rapid deterioration.

Appearance

Although corrosion of fasteners can ultimately affect structural performance, a more immediate consideration in most applications is to prevent unsightly staining. Today's high cost of lumber makes even the most modest building project a considerable investment. Evaluate the added cost of stainless steel nails over nails made of plain or galvanized steel in terms of total project cost. Since expenditures for fasteners are usually minor in comparison with labor, lumber and other costs, the premium for lifetime protection from staining and streaking is easily justified.



WITH STAINLESS



WITHOUT STAINLESS

Strength

Stainless steel nails are STRONG! The tensile strength of wire used to produce Swan Secure Stainless Steel nails ranges from 125,000 to 145,000 pounds per square inch! Carefully controlled tests of nail strength and shear loading properties show that stainless steel and plain steel nails have about the same stiffness ($\pm 5\%$), and that the ultimate lateral loads for stainless steel nails are about 20% higher than comparable plain steel fasteners.*

Type 304 Versus Type 316 Stainless Steel

Both 304 and 316 are nickel/chromium Austenitic grades of stainless steel. Both are non-magnetic. 304 Stainless Steel provides more than adequate corrosion protection in most commonly encountered applications. Type 316 contains slightly more nickel than Type 304 and 2-3% molybdenum giving it better resistance to corrosion than type 304, especially in chloride environments that tend to cause pitting. It offers superior performance when exposed to sea water and resists corrosion in sulphuric acid compounds.

*Sources of test data provided upon request.

Swan Secure Wood Siding Nails 304 or 316 Stainless Steel

- Small Flat Head • Blunt Diamond Point



Penny Size	Length	Gauge	Shank Dia.	Head Dia.	Approx. Count/Lb.
3d	1-1/4	14	.083	5/32	495
4d	1-1/2	14	.083	5/32	398
5d	1-3/4	14	.083	5/32	354
6d	2	13	.095	5/32	245
7d	2-1/4	13	.095	5/32	215
8d	2-1/2	13	.095	5/32	196
10d	3	12	.109	7/32	120
16d	3-1/2	11	.120	1/4	88

Swan Secure Shake & Shingle Nails

304 or 316 Stainless Steel

- Slender Shank • Annular Thread



Penny Size	Length	Gauge	Shank Dia.	Head Dia.	Approx. Count/Lb.
3d	1-1/4	14	.083	7/32	470
4d	1-1/2	14	.083	7/32	394
5d	1-3/4	14	.083	7/32	337
6d	2	13	.095	7/32	237
8d	2-1/2	13	.095	7/32	196

Swan Secure Decorative "Pyramid Head" Siding Nails



Silicon Bronze or 316 Stainless Steel

- Annular Ring Thread • Blunt Diamond Point

Penny Size	Length	Gauge	Shank Dia.	Head Dia.	Approx. Count/Lb.
6d	2	11	.120	7/32-1/4	130
8d	2-1/2	11	.120	7/32-1/4	104
10d	3	11	.120	7/32-1/4	88
16d	3-1/2	11	.120	7/32-1/4	79

Slightly irregular "Pyramid" style decorative heads are reminiscent of old rose head nails.



Swan Secure

Swan Secure "Portlands" Fiber Cement Siding Nails 316 Stainless Steel

- Annular Ring Thread
- Sharp Diamond Point
- Checker Pattern Head



Length	Gauge	Shank Dia.	Head Dia.	Approx. Count/Lb.
1-1/4	11	.120	11/32	199
1-1/2	11	.120	9/32	179
2	11	.120	9/32	144
2-1/2	11	.120	9/32	115

Swan Secure Cedar & Redwood Decking Nails 304 Stainless Steel

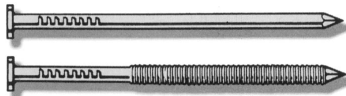
- Small Flat Head • Annular Ring Thread



Penny Size	Length	Gauge	Shank Dia.	Head Dia.	Approx. Count/Lb.
8d	2-1/2	12	.109	7/32	145
10d	3	12	.109	7/32	120
12d	3-1/4	12	.109	7/32	110
16d	3-1/2	11	.120	1/4	88

Swan Secure Stainless Steel "Un-Commons" 304 Stainless Steel or 316 Stainless Steel

- Smooth Shank or Threaded
- Smooth or Checkered Flat Head
- Diamond Point



Penny Size	Length	Gauge	Shank Dia.	Head Dia.	Approx. Count/Lb.
2d	1	15	.072	3/16	807
3d	1-1/4	14	.083	7/32	473
4d	1-1/2	12	.109	1/4	228
5d	1-3/4	12	.109	1/4	193
6d	2	11	.120	17/64	144
7d	2-1/4	11	.120	17/64	133
8d	2-1/2	10	.134	9/32	94
10d	3	9	.148	5/16	67
12d	3-1/4	9	.148	5/16	60
16d	3-1/2	8	.165	11/32	44
20d	4	6	.203	7/16	25
30d	4-1/2	6	.203	7/16	22
40d	5	6	.203	7/16	19
60d	6	4	.238	15/32	12

Swan Secure Joist Hanger Nails 304 Stainless Steel or 316 Stainless Steel



Length	Gauge	Shank Dia.	Head Dia.	Approx. Count/Lb.
1-1/2	10	.134	5/16	147
1-1/2	9	.148	5/16	126
2-1/2	10	.134	5/16	94
3	9	.148	5/16	67
3-1/2	8	.165	3/8	44

Swan Secure Post & Beam Nails 304 or 316 Stainless Steel or Bronze

- Smooth Flat Head • Diamond Point
- Annular Ring or Screw Shank



Penny Size	Length	Gauge	Shank Dia.	Head Dia.	Approx. Count/Lb.	
					Stainless	Silicon Bronze
6d	2	12	.109	17/64	175	161
8d	2-1/2	11	.120	9/32	115	104
10d	3	10	.134	5/16	79	71
12d	3-1/4	10	.134	5/16	72	65
16d	3-1/2	9	.148	5/16	56	48
20d	4	8	.165	3/8	40	36
30d	4-1/2	8	.165	3/8	35	33
40d	5	8	.165	3/8	31	29
40d	5	6	.203	7/16	19	18
60d	6	6	.203	7/16	17	15
60d	6	4	.238	15/32	12	11
70d	7	4	.238	15/32	10	9

- Slightly lighter gauge than our "Un-Commons", Post & Beam Nails are easily driven with a minimum of splitting.
- Favored for cooling tower construction, repair & upgrade. These nails are ideal for either fir or redwood jobs.
- Use longer lengths for framing jobs using pressure treated structural members
- Annular Ring thread for best withdrawal resistance.
- Screw Shank for shear loading and end grain work.

Swan Secure "Sea-Cure" Nails For Marine Service

304 Stainless or 316 Stainless Steel Commercial or Silicon Bronze, Monel

- Large Flat Head
- Annular Ring Thread
- Diamond Point



Length	Gauge	Shank Dia.	Head Dia.	Approx. Count/Lb.	
				Stainless	Copper Alloy
3/4	15	.072	3/16	1050	913
3/4	14	.083	7/32	757	664
7/8	14	.083	7/32	657	617
1	15	.072	3/16	807	689
1	14	.083	7/32	622	536
1	12	.109	17/64	364	303
1-1/4	14	.083	7/32	473	424
1-1/4	13	.095	9/32	357	324
1-1/4	12	.109	17/64	272	245
1-1/2	14	.083	7/32	413	374
1-1/2	12	.109	17/64	228	204
1-1/2	10	.134	3/8	147	132
1-3/4	12	.109	17/64	193	179
1-3/4	10	.134	3/8	130	118
2	12	.109	17/64	175	161
2	10	.134	3/8	114	104
2	8	.165	7/16	75	65
2-1/2	12	.109	17/64	138	128
2-1/2	10	.134	3/8	94	83
2-1/2	8	.165	7/16	62	54
3	10	.134	3/8	79	71
3	9	.148	3/8	67	58
3	8	.165	7/16	51	45
3	6	.203	1/2	34	31
3-1/4	9	.148	3/8	60	52
3-1/4	8	.165	7/16	48	43
3-1/4	6	.203	1/2	31	27
3-1/2	8	.165	7/16	44	40
3-1/2	6	.203	1/2	29	26
4	6	.203	1/2	25	23
4	4	.238	9/16	18	17
4-1/2	6	.203	1/2	22	20
4-1/2	4	.238	9/16	16	15
5	6	.203	1/2	19	18
5	4	.238	9/16	15	14
6	4	.238	9/16	12	11

- Large bearing surface under heads holds planking securely to framing members on new construction and re-nailing projects.
- Annular Ring "Barbed" Threads provide maximum holding power and resistance to nail head popping.
- Specify Type 316 Stainless Steel to minimize discoloration of heads and paint bleed-through.
- Silicon Bronze offers best resistance to stress-corrosion cracking under heads in salt water service.