

BROCHURE

UNISTRUT®

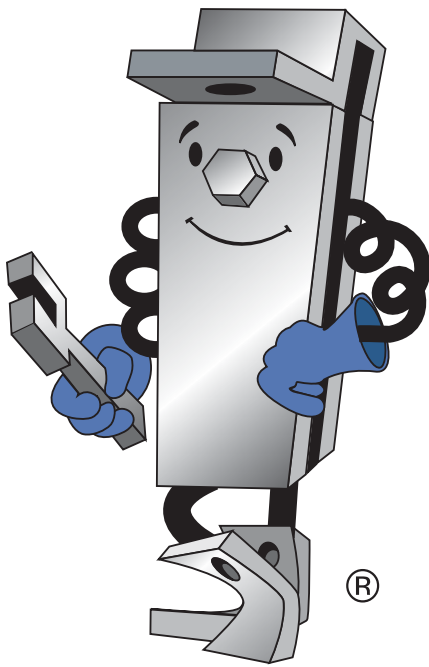
CONCRETE INSERTS

A PART OF



UNISTRUT® IS PROUD TO INTRODUCE...

The strongest Concrete Insert on the market: the Unistrut P3246. The Unistrut P3246 is the newest addition to the heavy duty concrete insert family. Unistrut offers light duty, medium duty and heavy-duty concrete inserts for a wide range of applications, including pre-cast, pre-stressed or poured-in-place concrete floors, walls and ceilings. Fiberglass concrete inserts, spot inserts, channel nuts and closure strips are also available. Unistrut's wide range of styles and accessories allow for more ways to design and build structures in a variety of finishes and materials. Unistrut offers concrete inserts to solve all your insert application requirements. Choose Unistrut Concrete Inserts today!



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Unistrut is proud to introduce the strongest Concrete Insert in the market, the Unistrut P3246. The P3246 is designed for heavy duty applications with up to 5,700 lbs. tension capacity in 3,000 psi concrete. The Unistrut P3246 is used for hanging piping equipment, shelving, mechanical boxes and more. Its unique conical design and non-conductive cross-bars provide incredible strength while minimizing the risk of unintended electrical contact. One P3246 has the load carrying capacity to replace multiple ceiling anchorage points, minimizing the number of inserts. This results in a cleaner installation with significant material and labor cost savings!

P3246



P3246 Installed

FEATURES AND BENEFITS

- Up to 5,700 lbs. tension capacity in 3,000 psi concrete
- Sizes available to accept threaded rod from 3/4" to 1-1/2"
- Fiberglass rods to interface with the rebar or reinforcing rods, reducing the potential for a galvanic interaction
- Stainless steel body with fiberglass rods to prevent corrosion
- Meets several industry and federal specifications, including: A-A-1192A (Type 18), WW-H-171-E (Type 18), ANSI/MSS SP-69 and MSS SP-58 (Type 18)

NEW

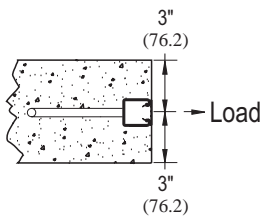
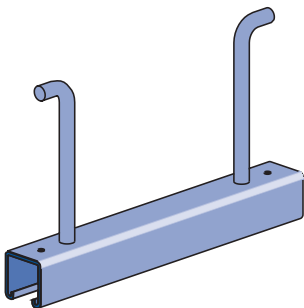
PART NUMBER	THREADED HOLE SIZE ^a	MAXIMUM ALLOWABLE LOAD (LBS)		
		Vertical	Shear ^b	45° Pull
P3246-75 ST	3/4" - 10	3,230 ^a	1,930	2,740
P3246-87 ST	7/8" - 9	4,480 ^a	2,680	3,800
P3246-1 ST	1" - 8	5,700	3,540	5,000
P3246-125 ST	1 1/4" - 7	5,700	5,700	6,000
P3246-150 ST	1 1/2" - 6	5,700	8,280	6,000

Safety factor of 5 in 3,000 psi concrete

^a Limited by Threaded Rod Safe Load in accordance with MSS-SP-58

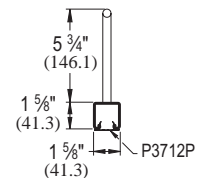
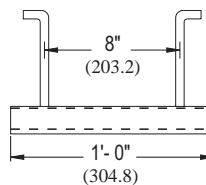
^b Limited by MSS-SP-58 Tension Safe Load multiplied by 0.6

P3754 1 1/8" x 1 1/8" Channel



FEATURES AND BENEFITS

- Closure strip P3712 P and a styrene bead end cap that fits inside the channel to inhibit concrete seepage are included
- The recommended design load when used for curtain wall anchorage is 5,000 pounds and is based on use in average, good concrete. The design load includes 1/3 increase in load as permitted by AISI Specifications and Uniform Building Code when stresses are produced by wind or earthquake and other loads
- The recommended design load is based on using two P1010 nuts at no less than 3" O.C. and no closer than 2" to either end of the insert. The distance between the insert centerline and the concrete edge must be a minimum of 3"
- All nuts and fittings for P3200 series concrete inserts will fit
- Material: Cold formed from 12 Ga. (2.7mm) steel conforming to ASTM A1011 SS GR 33 or ASTM A653 GR 33 A. Stainless steel available on special order.
- Finish: Choice of hot-dipped galvanized (HG) conforming to ASTM A123 or A153, or pre-galvanized (PG) conforming to ASTM A653-G90



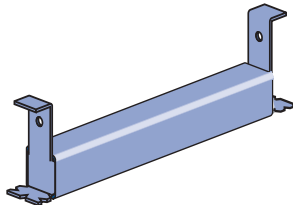
PART NUMBER	INSERT LENGTH ±1/4" (6.4MM) IN (MM)	WT/100 PCS LBS (KG)	MAX. ANCHOR SPACING IN (MM)	MAX. ALLOWABLE POINT LOAD LBS (KN)	SPACING OF POINT LOADS IN (MM)	MAX. ALLOWABLE UNIFORM LOAD LBS (KN)
P3754	12 304.8	210 95.3	8 203.2	2,500 11.12	3 76.2	5,000 22.24

Safety factor of 3

MEDIUM DUTY

P3200 SERIES - 1 5/8" x 1 3/8"

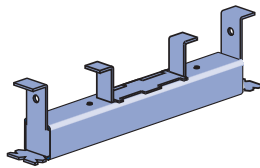
P3249 thru P3252



"NC" Suffix – No Closure Strip, With End Caps

"WC" Suffix – With Closure Strip & End Caps

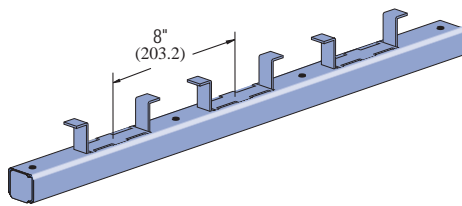
P3253



"NC" Suffix – No Closure Strip, With End Caps & Back Plates

"WC" Suffix – With Closure Strip, End Caps & Back Plates

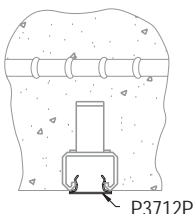
P3254 thru P3270



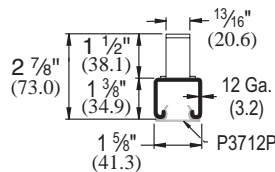
"NC" Suffix – No Closure Strip, W/End Caps & Back Plates

"WC" Suffix – W/Closure Strip, End Caps & Back Plates

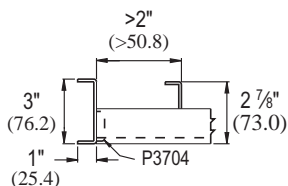
"X" – No Closure Strip, No End Caps, W/Back Plates



P3712P



P3712P



P3704

FEATURES AND BENEFITS

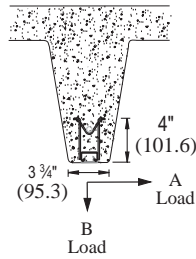
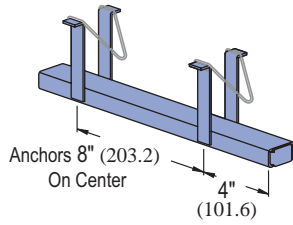
- Includes closure and end caps unless otherwise requested
- P3280 end cap used when distance to first anchor is up to 2" (51 mm)
- P3704 end cap is used when end distance to first anchor is over 2" (51 mm)
- Nail or anchor inserts to forms every 16" (406.4 mm) to 24" (609.6 mm)
- Anchors are 8" (203.2 mm) on center
- Material: Cold formed from 12 Ga. (3) steel conforming to ASTM A1011 SS GR 33 or ASTM A653 GR 33. A. Stainless steel available on special order
- Finish: Choice of hot-dipped galvanized (HG) conforming to ASTM A123 or A153, or pre-galvanized (PG) conforming to ASTM A653-G90

***IN-STOCK NOW**

Part Number	Insert Length In/Ft (mm)	Wt/100 pcs Lbs (kg)	Max. Allowable Point Load Lbs (kN)	Min. Spacing of Pt. Loads In (mm)	Max. Allowable Uniform Load Lbs (kN)
P3249	3"	85	500	—	500
	76.2	39	2.22	—	2.22
P3250	4"	100	800	—	800
	101.6	45	3.56	—	3.56
P3251	6"	130	1,000	—	1,000
	152.4	59	4.45	—	4.45
P3252	8"	159	1,200	—	1,200
	203.2	72	5.34	—	5.34
P3253	12"	227	2,000	—	2,000
	304.8	103	8.90	—	8.90
P3254	16"	270	2,000	12	4,000
	406.4	122	8.90	304.8	17.79
P3255	20"	357	2,000	12	4,000
	508.0	162	8.90	304.8	17.79
P3256	24"	399	2,000	12	4,000
	609.6	181	8.90	304.8	17.79
P3257	32"	527	2,000	12	2,000
	812.8	239	8.90	304.8	2,976.3 (kg/m)
P3257A	36"	616	2,000	12	2,000
	914.4	279	8.90	304.8	2,976.3 (kg/m)
P3258	40"	661	2,000	12	2,000
	1,016.0	300	8.90	304.8	2,976.3 (kg/m)
P3259	4'	786	2,000	12	2,000
	1,219.2	357	8.90	304.8	2,976.3 (kg/m)
P3260	5'	1,003	2,000	12	2,000
	1,524.0	455	8.90	304.8	2,976.3 (kg/m)
P3261	6'	1,173	2,000	12	2,000
	1,828.8	532	8.90	304.8	2,976.3 (kg/m)
P3262	7'	1,390	2,000	12	2,000
	2,133.6	630	8.90	304.8	2,976.3 (kg/m)
P3263	8'	1,560	2,000	12	2,000
	2,438.4	708	8.90	304.8	2,976.3 (kg/m)
P3264	9'	1,741	2,000	12	2,000
	2,743.2	790	8.90	304.8	2,976.3 (kg/m)
P3265	10'	1,947	2,000	12	2,000
	3,048.0	883	8.90	304.8	2,976.3 (kg/m)
P3266	12'	2,334	2,000	12	2,000
	3,657.6	1,059	8.90	304.8	2,976.3 (kg/m)
P3267	14'	2,717	2,000	12	2,000
	4,267.2	1,232	8.90	304.8	2,976.3 (kg/m)
P3268	16'	3,116	2,000	12	2,000
	4,876.8	1,413	8.90	304.8	2,976.3 (kg/m)
P3269	18'	3,530	2,000	12	2,000
	5,486.4	1,601	8.90	304.8	2,976.3 (kg/m)
P3270*	20'	3,882	2,000	12	2,000
	6,096.0	1,761	8.90	304.8	2,976.3 (kg/m)

Safety factor of 3

P3165 SERIES 15/8" x 7/8" Channel



"X" Suffix – No Closure Strip, No End Caps
 "WC" Suffix – With Closure Strip & End Caps

FEATURES AND BENEFITS

- Designed for use in prestressed concrete
- Anchors 8" (203.2 mm) on center; first anchor 4" (101.6 mm) from end
- Includes closure and end caps unless otherwise requested
- Material: Cold formed from 12 Ga. (2.7 mm) steel conforming to ASTM A1011 SS GR 33 or ASTM A653 GR 33. A. Stainless steel available on special order
- Finish: Choice of pre-galvanized (PG) conforming to ASTM A653-G90, or plain (PL)

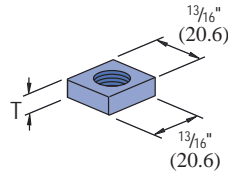
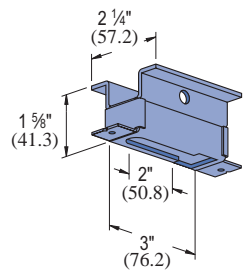
Part No.	Length Ft (M)	Wt/100 pcs Lbs (kg)
P3165	10	1,650
	3.05	748.4
P3170	20	3,280
	6.10	1,487.8

Safety factor of 3

Maximum allowable load/ft.		
Concrete	A Lbs (kN)	B Lbs (kN)
Light Wt	425	800
	1.89	3.56
Normal Wt	500	1,000
	2.22	4.45

Safety factor of 3

P3245



Square Nut for P3245 Insert

Part Number	Wt/100 pcs Lbs (kg)	Max. Allowable Pt. Load Lbs (kN)
P3245	54	1,000
	24.5	4.45

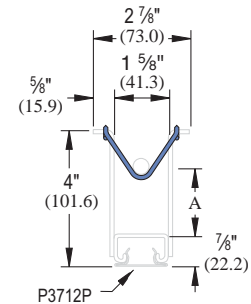
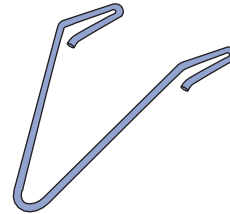
Part Number	Size/Thread In	T In (mm)	Wt/100 pcs Lbs (kg)
P3245-N4	1/4" — 20	5/16" 7.9	6 2.7
P3245-N6	3/8" — 16	5/16" 7.9	5 2.3
HSQN050	1/2" — 13	7/16" 11.1	6 2.7

Finish: Electro-galvanized
 Safety factor of 3

- For 1/4", 3/8", or 1/2" size attachment or hanger rod.
- Insert nuts to be ordered separately.

P2865-10, -15, -20

Hold-Down Springs

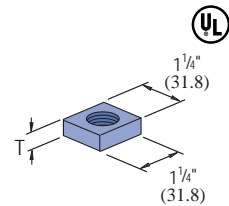
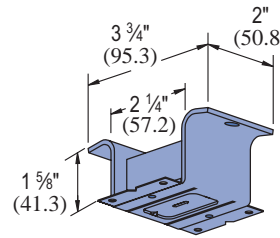


Part Number	A In (mm)	Wt/100 pcs Lbs (kg)
P2865-10	1	2
	25.4	0.9
P2865-15	1 1/2	2
	38.1	0.9
P2865-20	2	2
	50.8	0.9

Finish: Plain (PL)

M24

Spot Insert



Square Nut for M24

Part Number	Wt/100 pcs Lbs (kg)	Max. Allowable Pt. Load Lbs (kN)
M24	52	800
	23.6	3.56

Finish: Electro-galvanized
 Safety factor of 5

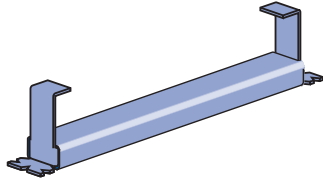
- Ribs along sides of slot give extra strength to case.
- Insert nuts M2506 thru M2524 to be ordered separately.

Part Number	Size/Thread In	T In (mm)	Wt/100 pcs Lbs (kg)
M2506	1/4" — 20	1/4" 6.4	13 5.9
M2508	3/8" — 16	3/8" 9.5	14 6.4
M2510	1/2" — 13	1/2" 12.7	14 6.4
M2512	5/8" — 11	1/2" 12.7	12 5.4
M2523	3/4" — 10	1/2" 12.7	11 5.0
M2524	7/8" — 9	1/2" 12.7	10 4.5

LIGHT DUTY

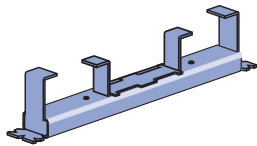
P3300 SERIES - 1 5/8" x 7/8"

P3349 thru P3351



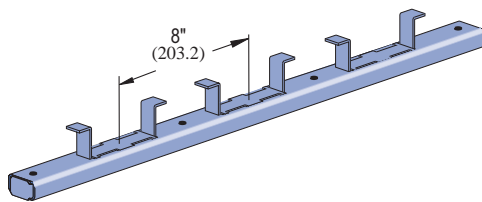
"NC" Suffix – No Closure Strip, With End Caps
 "WC" Suffix – With Closure Strip & End Caps

P3352 thru P3353

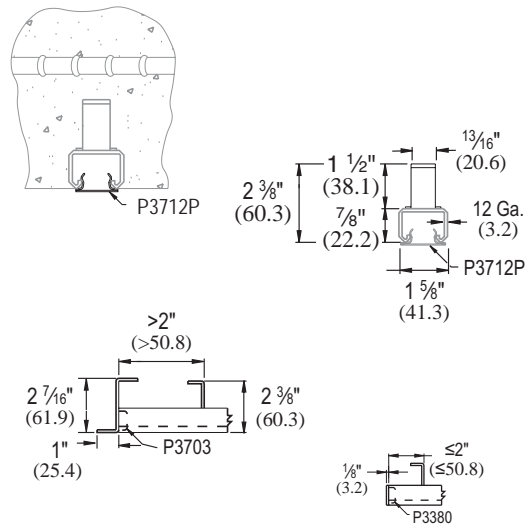


"NC" Suffix – No Closure Strip, With End Caps & Back Plates
 "WC" Suffix – With Closure Strip, End Caps & Back Plates

P3354 thru P3370



"NC" Suffix – No Closure Strip, W/End Caps & Back Plates
 "WC" Suffix – W/Closure Strip, End Caps & Back Plates
 "X" – No Closure Strip, No End Caps, W/Back Plates



FEATURES AND BENEFITS

- Includes closure and end caps unless otherwise requested
- P3380 end cap used when distance to first anchor is up to 2" (51 mm)
- P3703 end cap is used when end distance to first anchor is over 2" (51 mm)
- Nail or anchor inserts to forms every 16" (406.4 mm) to 24" (609.6 mm)
- Anchors are 8" (203.2 mm) on center
- Material: Cold formed from 12 Ga. (3 mm) steel conforming to ASTM A1011 SS GR. 33 or A653 GR 33. A. Stainless steel available on special order
- Finish: Choice of hot-dipped galvanized (HG) conforming to ASTM A123 or A153, or pre-galvanized (PG) conforming to ASTM A653-G90

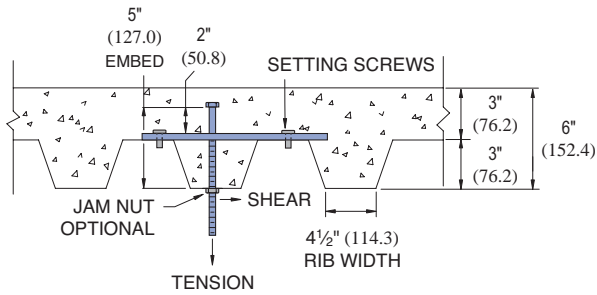
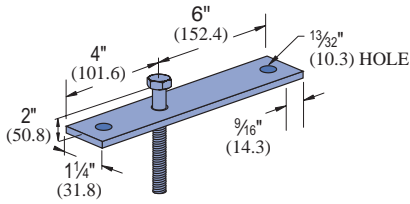
***IN-STOCK NOW**

Part Number	Insert Length In/Ft. (mm)	Wt/100 pcs Lbs (kg)	Max. Allowable Point Load Lbs (kN)	Min. Spacing of Pt. Loads In (mm)	Max. Allowable Uniform Load Lbs (kN)
P3349	3"	68	400	—	400
	76.2	31	1.78	—	1.78
P3350	4"	81	500	—	500
	101.6	37	2.22	—	2.22
P3351	6"	102	750	—	750
	152.4	46	3.34	—	3.34
P3352	8"	122	1,000	—	1,000
	203.2	55	4.45	—	4.45
P3353	12"	174	1,500	—	1,500
	304.8	79	6.67	—	6.67
P3354	16"	185.0	1,500	12	3,000
	406.4	84	6.67	304.8	13.34
P3355	20"	231	1,500	12	3,000
	508.0	105	6.67	304.8	13.34
P3356	24"	277	1,500	12	3,000
	609.6	126	6.67	304.8	13.34
P3357	32"	370	1,500	12	1,500
	812.8	168	6.67	304.8	2,232.2
P3357A	36"	416	1,500	12	1,500
	914.4	189	6.67	304.8	2,232.2
P3358	40"	463	1,500	12	1,500
	1,016.0	210	6.67	304.8	2,232.2
P3359	4'	555	1,500	12	1,500
	1,219.2	252	6.67	304.8	2,232.2
P3360	5'	694	1,500	12	1,500
	1,524.0	315	6.67	304.8	2,232.2
P3361	6'	832	1,500	12	1,500
	1,828.8	377	6.67	304.8	2,232.2
P3362	7'	971	1,500	12	1,500
	2,133.6	440	6.67	304.8	2,232.2
P3363	8'	1,110	1,500	12	1,500
	2,438.4	503	6.67	304.8	2,232.2
P3364	9'	1,249	1,500	12	1,500
	2,743.2	567	6.67	304.8	2,232.2
P3365	10'	1,387	1,500	12	1,500
	3,048.0	629	6.67	304.8	2,232.2
P3366	12'	1,665.0	1,500	12	1,500
	3,657.6	755	6.67	304.8	2,232.2
P3367	14'	1,942	1,500	12	1,500
	4,267.2	881	6.67	304.8	2,232.2
P3368	16'	2,220	1,500	12	1,500
	4,876.8	1,007	6.67	304.8	2,232.2
P3369	18'	2,497	1,500	12	1,500
	5,486.4	1,133	6.67	304.8	2,232.2
P3370*	20'	2,775	1,500	12	1,500
	6,096.0	1,259	6.67	304.8	2,232.2

Safety factor of 3

P3700 SERIES

Deck Insert



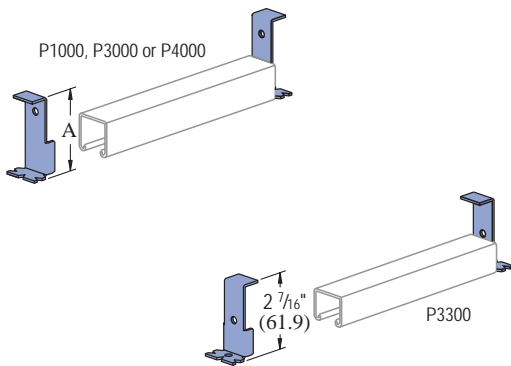
Part Number	Rod Dia. In	Tension Load Lbs (kN)	Shear Load Lbs (kN)	Wt/100 pcs Lbs (kg)
P3700-37	3/8	850 3.78	600 2.67	89 40.4
P3700-50	1/2	1,380 6.14	1000 4.45	111 50.3
P3700-62	5/8	1920 8.54	1760 7.83	141 64.0

Notes:

1. Allowable loads have been determined by the manufacturer's testing, analysis, and technical specification
2. Values are based on a safety factor of 5
3. 20 Gauge Metal Deck

P1703, P1704, P3704, P3703

End Cap Anchors

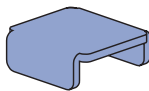


Part Number	Channel	"A" In (mm)	Wt/100 pcs Lbs (kg)
P1703	P1000	2 ¹³ / ₃₂	30
		61.1	13.6
P1704	P1000	3 ¹⁷ / ₃₂	37
		89.7	16.8
P3703	P3300	2 ⁷ / ₁₆	17
		61.9	7.7
P3704	P3000	3	20
		76.2	9.1

Note: End cap anchor for use with 1 1/8" wide standard Unistrut inserts only.

P2407, P3280, P3380

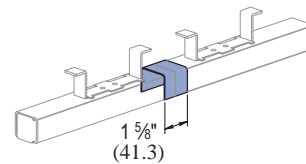
End Caps



Part Number	Fits Channel	Wt/100 pcs Lbs (kg)
P2407	P1000	10
		4.5
P3280	P3000	8
		3.6
P3380	P3300	5
		2.3

P3663, P4663

Joint Covers



Part Number	Use With Insert Series	Wt/100 pcs Lbs (kg)
P3663	P3270	10
		4.5
P4663	P3370	6
		2.7

Note: Joint cover for use with 1 1/8" wide standard Unistrut inserts only.

Load Chart By Length

Part Number	Insert Length In (mm)	Wt/100 ft Lbs (kg)	Anchor Spacing In (mm)	Max. Allowable Point Load Lbs (kN)	Min. Spacing Between Pt. Loads In (mm)	Max. Allowable Uniform Load Lbs (kN)
P3249	3	85	3	500	-	500
		38.6	76.2	2.22	-	2.22
P3349	76.2	68	3	400	-	400
		30.8	76.2	1.78	-	1.78
P3250	4	100	4	800	-	800
		45.4	101.6	3.56	-	3.56
P3350	101.6	81	4	500	-	500
		36.7	101.6	2.22	-	2.22
P3251	6	130	6	1,000	-	1,000
		59.0	152.4	4.45	-	4.45
P3351	152.4	102	6	750	-	750
		46.3	152.4	3.34	-	3.34
P3252	8	159	8	1,200	-	1,200
		72.1	203.2	5.34	-	5.34
P3352	203.2	122	8	1,000	-	1,000
		55.3	203.2	4.45	-	4.45
P3754	12	210	8	2,500	3	5,000
		95.3	203.2	11.12	76.2	22.24
P3253	304.8	227	4	2,000	-	2,000
		103.0	101.6	8.90	-	8.90
P3353	304.8	174	4	1,500	-	1,500
		78.9	101.6	6.67	-	6.67
P3254	16	270	4	2,000	12	4,000
		122.5	101.6	8.90	304.8	17.79
P3354	406.4	185	4	1,500	12	3,000
		83.9	101.6	6.67	304.8	13.34
P3255	20	357	4	2,000	12	4,000
		161.9	101.6	8.90	304.8	17.79
P3355	508.0	231	4	1,500	12	3,000
		104.8	101.6	6.67	304.8	13.34
P3256	24	399	4	2,000	12	4,000
		181.0	101.6	8.90	304.8	17.79
P3356	609.6	277	4	1,500	12	3,000
		125.6	101.6	6.67	304.8	13.34

Continuous Concrete Insert Load Chart

Up to 20FT. (6.10M)

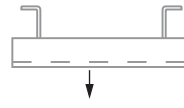
Part Number	Wt/100 ft Lbs (kg)	Anchor Spacing In (mm)	Max. Allowable Point Load Lbs (kN)	Min. Spacing Between Pt. Loads In (mm)	Max. Allowable Uniform Load Lbs/Ft (kg/m)
P3270	194	4	2,000	12	2,000
	88.0	101.6	8.90	304.8	2,976.3
P3370	139	4	1,500	12	1,500
	63.0	101.6	6.67	304.8	2,232.2
P3170*	165	8	1,000	12	1,000
	74.8	203.2	4.45	304.8	1,488.2

*When used in pre-stressed concrete "T" Beam. Load data is based on use of 3000 PSI concrete.

Spot Insert Load Chart

Part Number	Wt/100 pcs Lbs (kg)	Anchor Spacing In (mm)	Max. Allowable Point Load Lbs (kN)	Min. Spacing Between Pt. Loads In (mm)	Max. Allowable Uniform Load Lbs/Ft (kg/m)
M26/M2812	54	-	1,500	-	1,500
	24.5	-	6.67	-	2,232
M3245	52	-	1,000	-	1,000
	23.6	-	4.45	-	1,488
M24/M2512	52	-	800	-	800
	23.6	-	3.56	-	1,190

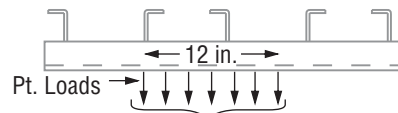
Maximum Allowable Point Load



The maximum allowable point load may be placed anywhere along the insert.

All loads placed less than 2" from the end of an insert must be reduced by 50%.

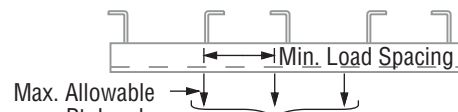
Maximum Allowable Uniform Load



Max. Allowable Uniform Load

The maximum allowable uniform load must be placed as a series of point loads.

Spacing of Multiple Point Load

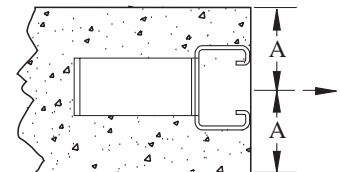
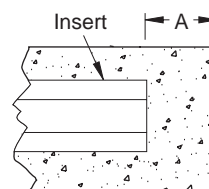


Max. Allowable Uniform Load

Pull Out Load

Minimum edge distance to achieve rated pull-out capacity

17/8" (47.6mm); P3170
A = 3" (76.2mm); all others



Material

Cold-formed inserts are manufactured from standard 12 gauge (2.7 mm) Unistrut channel sections conforming to ASTM A1011 SS GR 33 or ASTM A653 GR 33, unless otherwise noted.

To inhibit concrete seepage, all inserts (except spot inserts) are provided with closure strips and end caps or foam filler, unless otherwise requested.

Most concrete inserts are available in stainless steel on special order. Consult factory for ordering information.

Application

A wide range of heavy-duty to light-duty "continuous" and "spot" concrete inserts are available for use in pre-cast, pre-stressed or poured-in-place concrete floors, walls or ceilings.

Finishes

Heavy duty, medium duty, light duty and spot concrete inserts are available in:

Hot dipped galvanized (HG), conforming to ASTM A123 or A153

Pre-galvanized (PG), conforming to ASTM A653 GR 33

Design Load

Design loads, where shown, are based on 3,000 PSI concrete, unless noted.

Standard Lengths

Insert lengths range from 3 inches (76.2 mm) to 20 feet (6.10m) with a tolerance of $\pm 1/4$ -inch (6.4mm).

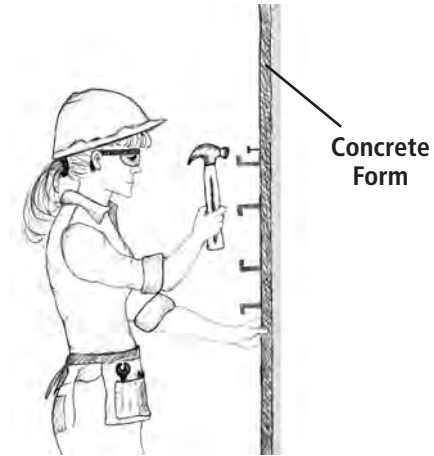
Dimensions

Imperial dimensions are illustrated in inches. Metric dimensions are shown in parentheses or as noted. Unless noted, all metric dimensions are in millimeters and rounded to one decimal place.

Custom-designed inserts are available on special order. Consult factory for ordering information.

Installing Concrete Inserts

1. Nail insert to concrete form using prepunched nail holes

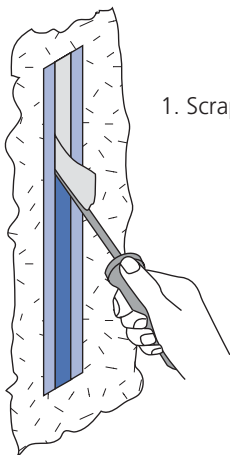


2. Attach rebars to flanges on insert

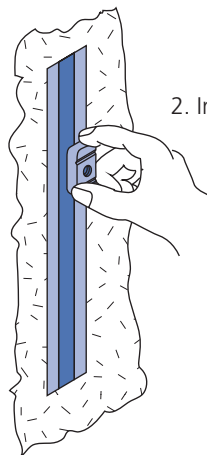


The Unistrut concrete insert is firmly fixed to the concrete side of the form before pouring. When the forms are removed, the insert is ready for use. Brackets and other components can be attached at any point of the continuous entry channel.

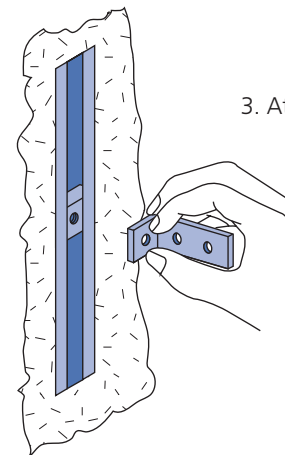
Using Installed Concrete Insert



1. Scrape out filler



2. Insert channel nut.



3. Attach fitting

16100 South Lathrop Ave
Harvey, IL 60426
TOLL-FREE / 800-468-9510
FAX / 800-468-9510

585 Finley Avenue
Ajax, Ontario, L1S 2E4 Canada
TOLL-FREE / 905-683-8131
FAX / 905-683-8987

www.unistrut.us

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