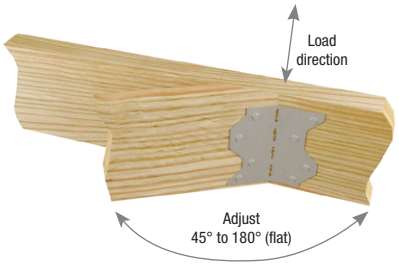
MP – 18 gauge. Field adjustable from 45° to 180° (flat)

A3 – 18 gauge. Eliminates toenailing and increases strength

AC – 16 gauge. Features staggered nail patterns which reduces wood splitting and allows installation on both sides of the supported member

JA – 14 or 16 gauge. Heavier capacity framing angle for joist support

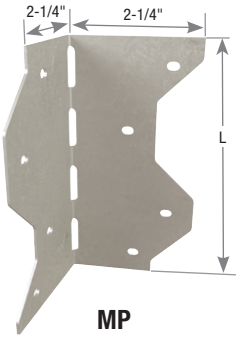
Materials: See chart
Finish: G90 galvanizing
Options: See chart for Corrosion Finish Options
Codes: IBC, FL, LA



Typical MP installation

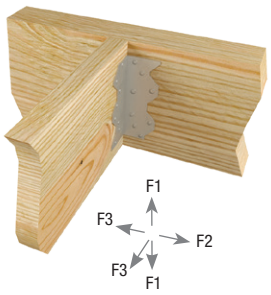
Typical MP rafter support installation

AVAILABLE IN GOLD COAT

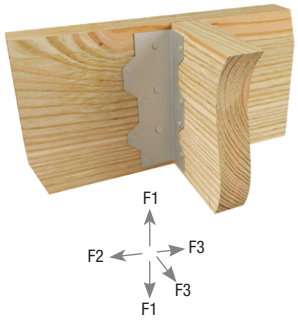


MP

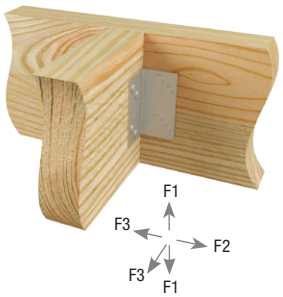
Typical JA1 installation



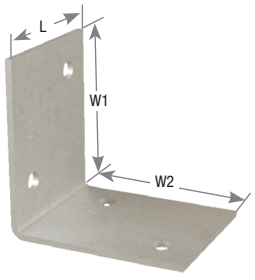
Typical JA7 installation



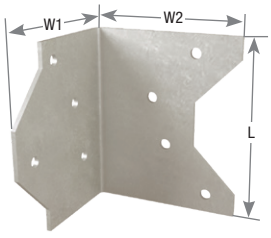
Typical AC installation



Typical A3 installation

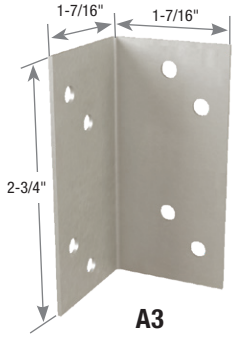


JA1



JA3

AC



A3

Continued on next page

Installation:

- Use all specified fasteners. See Product Notes, page 18.
- MP Framing Angles are fabricated at 100° and may be field adjusted by hand from 45° to 180° (flat). Bend angle only once.

MiTek USP Stock No.	Ref. No.	Steel Gauge	Dimensions (in)			Fastener Schedule[3,4]				Direction of Load	DF/SP Allowable Loads (Lbs.)[1,2]				S-P-F Allowable Loads (Lbs.)[1,2]				Corrosion Finish	Code Ref.
						Header		Joist												
			W1	W2	L	Qty	Type	Qty	Type		100%	115%	125%	160%	100%	115%	125%	160%		
A3	A23, GA1, GA2, L30	18	1-7/16	1-7/16	2-3/4	4	10d x 1-1/2	4	10d x 1-1/2	F1	480	545	590	740	410	470	510	520		IBC, FL, LA
										F2	480	545	590	605	410	470	485	505		
										F3	375	375	375	375	145	165	180	230		
MP3	LS30	18	2-1/4	2-1/4	3-3/8	3	10d	3	10d	F1	360	410	445	455	310	350	380	380		
MP5	LS50	18	2-1/4	2-1/4	4-5/8	4	10d	4	10d	F1	480	545	590	740	410	470	505	640		
MP7	LS70	18	2-1/4	2-1/4	5-7/8	5	10d	5	10d	F1	600	685	740	930	515	585	630	800		
MP9	LS90	18	2-1/4	2-1/4	6-7/8	6	10d	6	10d	F1	720	820	885	1115	620	705	760	960		
AC5	L50	16	1-5/16	2-3/8	4-7/8	3	10d	3	10d	F1	375	420	455	565	310	360	390	500		
										F2	375	420	455	565	310	360	390	500		
										F3	155	180	195	250	215	250	270	345		
						3	16d	3	16d	F1	440	500	540	670	370	425	460	545		
										F2	440	500	540	595	370	425	460	590		
										F3	175	205	220	280	280	320	345	445		
AC7	L70	16	1-5/16	2-3/8	6-15/16	4	10d	4	10d	F1	500	560	605	755	415	480	520	665		
										F2	500	560	605	755	415	480	520	665		
										F3	210	240	260	335	290	330	360	460		
						4	16d	4	16d	F1	590	665	720	895	495	565	615	770		
										F2	590	665	720	895	495	565	615	790		
										F3	235	270	295	375	370	425	465	590		
AC9	L90	16	1-5/16	2-3/8	8-7/8	5	10d	5	10d	F1	625	700	755	945	520	595	650	830		
										F2	625	700	755	900	520	595	650	830		
										F3	260	300	325	415	360	415	450	580		
						5	16d	5	16d	F1	735	835	900	1120	615	710	770	985		
										F2	735	835	900	900	615	710	770	920		
										F3	295	340	370	470	465	530	580	740		
JA1	A21	16	1-1/2	1-1/2	1-1/4	2	10d x 1-1/2	2	10d x 1-1/2	F1	220	220	220	220	195	195	195	195		
										F2	--	--	--	300	--	--	--	235		
										F3	--	--	--	150	--	--	--	100		
JA3	--	14	2-1/2	2-1/2	3	4	16d	4	10d x 1-1/2	F1	495	495	495	495	445	445	445	445		
										F2	--	--	--	465	--	--	--	365		
										F3	--	--	--	330	--	--	--	225		
JA5	--	14	2-1/2	2-1/2	5	6	16d	6	10d x 1-1/2	F1	790	825	825	825	715	740	740	740		
										F2	--	--	--	890	--	--	--	695		
										F3	--	--	--	495	--	--	--	335		
JA7	--	14	2-1/2	2-1/2	7	8	16d	8	10d x 1-1/2	F1	1055	1185	1270	1560	955	1070	1145	1410		
										F2	--	--	--	1450	--	--	--	1135		
										F3	--	--	--	490	--	--	--	335		
JA9	--	14	2-1/2	2-1/2	9	10	16d	10	10d x 1-1/2	F1	1320	1485	1590	1950	1190	1340	1430	1760		
										F2	--	--	--	1465	--	--	--	1150		
										F3	--	--	--	775	--	--	--	530		

1) Allowable loads have been increased 60% for wind and seismic loads; no further increase shall be permitted.
2) Loads are shown per angle, and may be doubled if installed in pairs. When using a single angle, joist must be constrained from rotation.
3) Stainless steel ring shank nails must be used with stainless steel connectors to achieve tabulated allowable loads.
4) **NAILS:** 10d x 1-1/2 nails are 0.148" dia. x 1-1/2" long, 10d nails are 0.148" dia. x 3" long, 16d nails are 0.162" dia. x 3-1/2" long.
New products or updated product information are designated in **blue font**.

Corrosion Finish
Stainless Steel · Gold Coat · HDG · Triple Zinc

MP34 – Framing angle without tabs

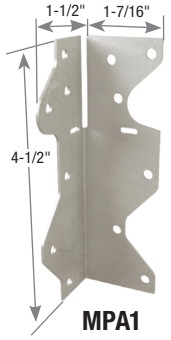
MPA1 – Tabs enable two and three-way connections

MP4F – Connects 2x framing with floor sheathing up to 5/8"

MP6F – Connects 3x framing with floor sheathing up to 3/4". Better choice for connections where floor sheathing is between sole plate and rim board

Materials: See chart
Finish: G90 galvanizing
Options: See chart for Corrosion Finish Options
Codes: IBC, FL, LA

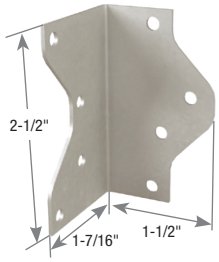
AVAILABLE IN GOLD COAT



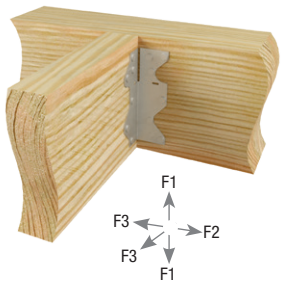
MPA1

Typical MP34 installation

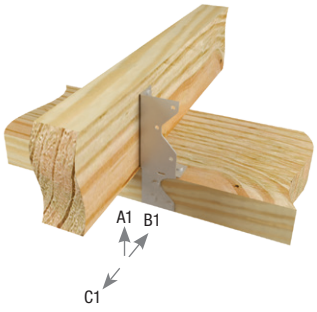
MPA1-GC



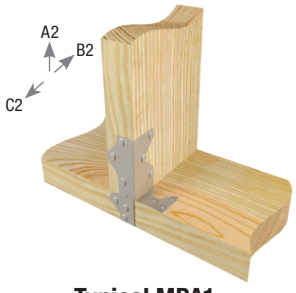
MP34



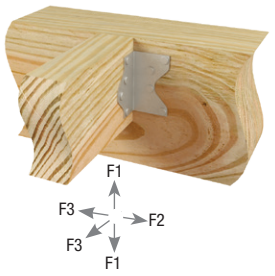
Typical MPA1
joist / header installation
Figure 1



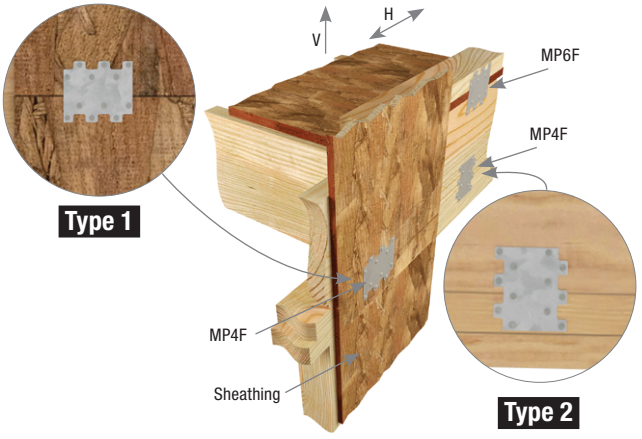
Typical MPA1
rafter / plate installation
Figure 2



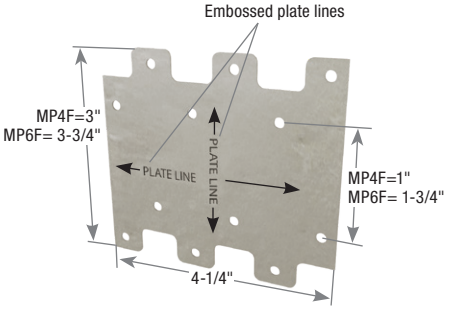
Typical MPA1
stud / plate installation
Figure 3



Typical MP34
joist / header installation
Figure 4



Typical MPF installation



MPF

Continued on next page

Installation:

- Use all specified fasteners. See Product Notes, page 18.
- **Bend tabs only once.**
- MP4F connects 2x framing with floor sheathing up to 5/8".
- MP6F connects 3x framing with floor sheathing up to 3/4", and is a better choice for connections where floor sheathing is between sole plate and rim board.

MiTek USP Stock No.	Ref. No.	Steel Gauge	Installation Type[2,4]	Fastener Schedule[5,6]				Direction of Load[2]	DF/SP Allowable Loads (Lbs.)[1,3,4]				S-P-F Allowable Loads (Lbs.)[1,3,4]				Corrosion	Finish	Code Ref.
				Header or Stud		Joist or Plate													
				Qty	Type	Qty	Type		100%	115%	125%	160%	100%	115%	125%	160%			
MPA1	A35	18	Figure 1	6	8d x 1-1/2	6	8d x 1-1/2	F1	600	615	615	615	515	515	515	515			
				6	8d x 1-1/2	6	8d x 1-1/2	F2	600	685	735	750	515	585	630	630			
				6	8d x 1-1/2	6	8d x 1-1/2	F3	280	320	350	435	180	205	225	290			
			Figure 2	6	8d x 1-1/2	3	8d x 1-1/2	A1	300	340	370	370	260	295	310	310			
				6	8d x 1-1/2	3	8d x 1-1/2	B1	300	340	370	385	260	295	315	325			
				6	8d x 1-1/2	3	8d x 1-1/2	C1	255	255	255	255	215	215	215	215			
			Figure 3	6	8d x 1-1/2	6	8d x 1-1/2	A2	440	440	440	440	350	370	370	370			
				6	8d x 1-1/2	6	8d x 1-1/2	B2	240	240	240	240	200	200	200	200			
				6	8d x 1-1/2	6	8d x 1-1/2	C2	330	330	330	330	280	280	280	280			
MP34	A34	18	Figure 4	4	8d x 1-1/2	4	8d x 1-1/2	F1	400	455	490	525	345	390	420	440			
				4	8d x 1-1/2	4	8d x 1-1/2	F2	400	455	490	590	345	390	420	495			
				4	8d x 1-1/2	4	8d x 1-1/2	F3	185	215	230	295	120	140	150	190			
MP4F	LTP4	20	Type 1	6	8d x 1-1/2	6	8d x 1-1/2	V	590	670	720	750	505	575	615	645			IBC, FL, LA
				6	8d x 1-1/2	6	8d x 1-1/2	H	590	670	720	750	505	575	615	645			
			Type 2	6	8d x 1-1/2	6	8d x 1-1/2	V	590	670	720	750	505	575	615	645			
				6	8d x 1-1/2	6	8d x 1-1/2	H	585	585	585	585	505	575	615	645			
			Type 1	6	8d	6	8d	V	590	670	720	750	505	575	615	645			
				6	8d	6	8d	H	590	670	720	750	505	575	615	645			
			Type 2	6	8d	6	8d	V	590	670	720	750	505	575	615	645			
				6	8d	6	8d	H	585	585	585	585	505	575	615	645			
MP6F	LTP5	20	Type 1	6	8d x 1-1/2	6	8d x 1-1/2	V	590	595	595	595	505	510	510	510			
				6	8d x 1-1/2	6	8d x 1-1/2	H	590	595	595	595	505	510	510	510			
			Type 2	6	8d x 1-1/2	6	8d x 1-1/2	V	590	595	595	595	505	510	510	510			
				6	8d x 1-1/2	6	8d x 1-1/2	H	590	595	595	595	505	510	510	510			
			Type 1	6	8d	6	8d	V	590	595	595	595	505	510	510	510			
				6	8d	6	8d	H	590	595	595	595	505	510	510	510			
			Type 2	6	8d	6	8d	V	590	595	595	595	505	510	510	510			
				6	8d	6	8d	H	590	595	595	595	505	510	510	510			

1) Allowable loads have been increased 60% for wind or seismic loads; no further increase shall be permitted.
2) Refer to drawings for installation type and definition of the various load directions.
3) If installing MP4F or MP6F over plywood, use 8d common nails for 100% of table load.
4) Loads are shown per angle. When using a single anchor, joist must be constrained from rotation.
5) Stainless steel ring shank nails must be used with stainless steel connectors to achieve tabulated allowable loads.
6) **NAILS:** 8d x 1-1/2 nails are 0.131" dia. x 1-1/2" long, 8d nails are 0.131" dia. x 2-1/2" long

New products or updated product information are designated in **blue font**.

Corrosion Finish

Stainless Steel | Gold Coat | HDG | Triple Zinc

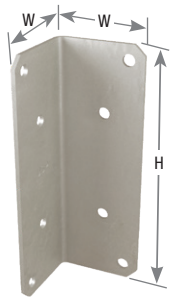
ML Angles

ML angles are multi-purpose angles that install easily with MiTek's WS15 structural wood screws. The staggered fastener pattern allows for back-to-back installations.

Materials: 12 gauge
Finish: G-185 galvanizing
Codes: IBC, FL, LA

Installation:
- Use all specified fasteners. See Product Notes, page 18.
- MiTek WS15 structural wood screws (1/4" dia. x 1-1/2" long) are not supplied with ML angles.

Typical ML26-TZ installation
(ML24-TZ similar)



ML26-TZ
(ML24-TZ similar)

MiTek USP Stock No.	Ref. No.	Steel Gauge	Dimensions (in) W	Dimensions (in) H	Fastener Schedule[2,3] Header Qty	Fastener Schedule[2,3] Joist Qty	Fastener Schedule[2,3] Type	DF/SP Allowable Loads (Lbs.)[1] F1 100%	DF/SP F1 115%	DF/SP F1 125%	DF/SP F1 160%	S-P-F Allowable Loads (Lbs.)[1] F1 100%	S-P-F F1 115%	S-P-F F1 125%	S-P-F F1 160%	Corrosion	Finish	Code Ref.
ML24-TZ	ML24Z	12	2	4	3	3	WS15	655	655	655	655	565	650	655	655			IBC, FL, LA
ML26-TZ	ML26Z	12	2	6	4	4	WS15	920	1060	1090	1090	755	865	940	1090			

1) Allowable loads have been increased 60% for wind and seismic loads; no further increase shall be permitted.
2) MiTek's WS15 structural wood screws are 1/4" dia. x 1-1/2" long and are not included with angles.
3) For exterior applications use MiTek's WS15-EXT structural wood screws with exterior coat finish.
New products or updated product information are designated in **blue font.**

Corrosion Finish Stainless Steel Gold Coat HDG Triple Zinc

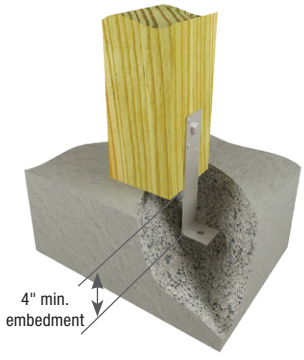
TDL Concrete Angles

These angles secure wood posts to concrete or wood floors in light-duty applications.

Materials: 12 gauge
Finish: G90 galvanizing
Options: See chart for Corrosion Finish Options

Installation:
- Use all specified fasteners. See Product Notes, page 18.
- The TDL10 can be embedded into concrete. Minimum embedment depth is 4" to achieve allowable loads.
- **Moisture barrier may be required.**

Typical TDL5 interior installation



Typical TDL10 embedded interior installation

MiTek USP Stock No.	Ref. No.	Steel Gauge	Dimensions (in) W	Dimensions (in) H	Dimensions (in) D	Fastener Schedule[4,5] Anchor Bolts Qty	Anchor Bolts Dia. (in)	Strap Nails Qty	Strap Nails Type	Strap Bolts Qty	Strap Bolts Dia. (in)	DF/SP Allowable Loads (Lbs.)[1,2,3] Uplift 160% Nails	Uplift 160% Bolts	Corrosion	Finish	Code Ref.
TDL5	A24	12	2	5-3/16	2-1/4	1	1/2	4	16d	1	1/2	955	1105			--
TDL10	A311	12	2	9-3/4	2-1/4	1	1/2	4	16d	1	1/2					

1) Allowable loads are based on the use of either nails or bolts; nail and bolt values cannot be combined.
2) The bolt values are based on single shear with a minimum member thickness of 3-1/2".
3) Allowable loads have been increased in accordance with the code; no further increase shall be permitted.
4) Designer must specify anchor bolt type, length, and embedment.
5) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.

Corrosion Finish Stainless Steel Gold Coat HDG Triple Zinc

TDL10

B / BL Corner Braces

These multi-purpose braces are designed to provide reinforcement for 90° wood-to-wood connections.

Materials: 12 gauge
Finish: G90 galvanizing

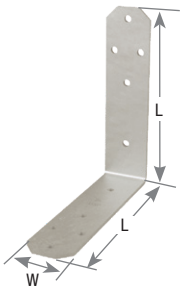
Some model designs may vary from illustration shown

Installation:
• Use all specified fasteners. See Product Notes, page 18.

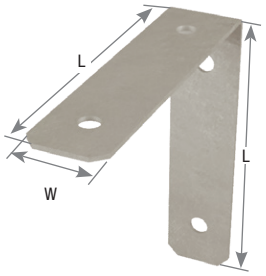
MiTek USP Stock No.	Ref. No.	Steel Gauge	Dimensions (in)		Fastener Schedule				Code Ref.
					Nails[2]		Bolts[1]		
			W	L	Qty	Type	Qty	Type	
B23	--	12	2	2-5/8	6	16d	--	--	--
B24	--	12	2	3-5/8	8	16d	--	--	
BL3	A33	12	1-1/4	3-1/16	8	16d	--	--	
BL4	A44	12	1-1/4	4-13/16	10	16d	--	--	
BL6	--	12	1-1/4	6-9/16	12	16d	--	--	
BL8	--	12	1-1/4	8-5/16	14	16d	--	--	
B66	A66	12	1-1/2	6	--	--	4	3/8	
B88	A88	12	2	8	--	--	6	3/8	

1) Bolts shall conform to ASTM A 307 or better.
2) **NAILS:** 16d nails are 0.162" dia. x 3-1/2" long.

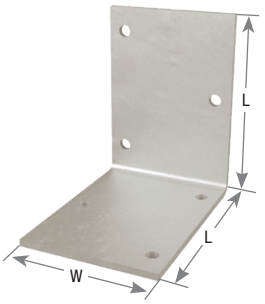
Typical B66 installation



BL4



B66



B23

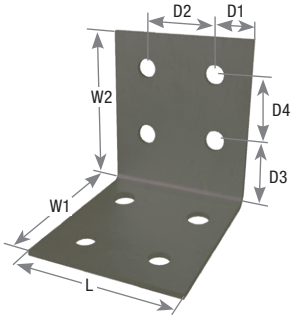
KHL Heavy Angles

Designed for heavy-duty reinforcement of 90° framing intersections.

Materials: See chart
Finish: Primer
Options: See chart for Corrosion Finish Options

Installation:
• Use all specified fasteners. See Product Notes, page 18.
• **Connectors are not load rated.**

Typical KHL35 installation

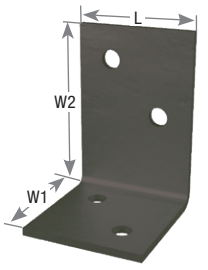


KHL55

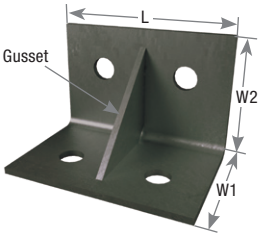
MiTek USP Stock No.	Ref. No.	Steel Gauge	Dimensions (in)							Fastener Schedule			Corrosion	Finish	Code Ref.
			W1	W2	L	D1	D2	D3	D4	Bolts[1] Qty	Bolts[1] Dia.	Gussets			
KHL33	HL33	7	3-1/4	3-1/4	2-1/2	1-1/4	--	2	--	2	5/8	--			--
KHL35	HL35	7	3-1/4	3-1/4	5	1-1/4	2-1/2	2	--	4	5/8	--			
KHL35G	HL35G	7	3-1/4	3-1/4	5	1-1/4	2-1/2	2	--	4	5/8	1			
KHL37	HL37	7	3-1/4	3-1/4	7-1/2	1-1/4	2-1/2	2	--	6	5/8	--			
KHL335	SPECANGLE	3	3-1/2	5-1/4	3-1/2	--	--	--	--	4	1/2	--			
KHL43	HL43	3	4-1/4	4-1/4	3	1-1/2	--	2-3/4	--	2	3/4	--			
KHL46	HL46	3	4-1/4	4-1/4	6	1-1/2	3	2-3/4	--	4	3/4	--			
KHL49	HL49	3	4-1/4	4-1/4	9	1-1/2	3	2-3/4	--	6	3/4	--			
KHL53	HL53	7	5-3/4	5-3/4	2-1/2	1-1/4	--	2	2-1/2	4	5/8	--			
KHL55	HL55	7	5-3/4	5-3/4	5	1-1/4	2-1/2	2	2-1/2	8	5/8	--			
KHL57	HL57	7	5-3/4	5-3/4	7-1/2	1-1/4	2-1/2	2	2-1/2	12	5/8	--			
KHL73	HL73	3	7-1/4	7-1/4	3	1-1/2	--	2-3/4	3	4	3/4	--			
KHL76	HL76	3	7-1/4	7-1/4	6	1-1/2	3	2-3/4	3	8	3/4	1			
KHL79	HL79	3	7-1/4	7-1/4	9	1-1/2	3	2-3/4	3	12	3/4	2			

1) All bolts shall meet or exceed the specifications of ASTM A 307.

Corrosion Finish Stainless Steel Gold Coat HDG Triple Zinc



KHL335



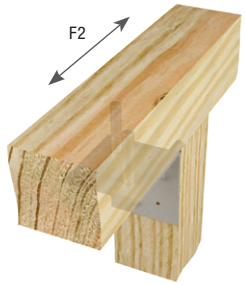
KHL35G

ANJ Heavy Angles

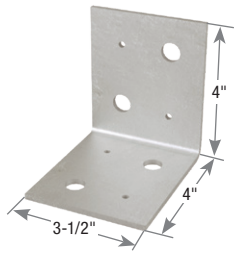
The ANJ44S is a 7 gauge heavy duty angle intended to securely attach a post and beam together.

Materials: 7 gauge
Finish: Hot-dip galvanized

Installation:
- Install with (2) 1/2" x 2-1/2" HDG lag screws into each leg.



Typical ANJ44S-HDG installation



ANJ44S-HDG

MiTek USP Stock No.	Ref. No.	Steel Gauge	Dimensions (in) W	H	L	Fastener Schedule[1] Header Qty	Header Lag Screw	Joist Qty	Joist Lag Screw	DF/SP Allowable Loads (Lbs.) F2 100%	F2 115%	F2 125%	Corrosion Finish	Code Ref.
ANJ44S-HDG	--	7	3-1/2	4	4	2	1/2" HDG	2	1/2" HDG	510	585	640		--

Corrosion Finish
- Stainless Steel
- Gold Coat
- HDG
- Triple Zinc

1) Loads based on use of (2) 1/2" x 2-1/2" lag screws, loaded parallel to grain, in Douglas Fir-Larch (G=0.50).

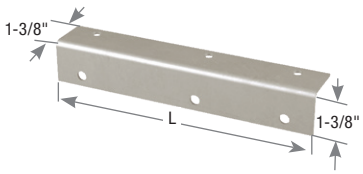
SCA Stair Angles

Stair angles simplify stair construction. There is no need to calculate and notch stair stringers. Stronger and safer than wood blocking, and the angle and fasteners are hidden from view.

Materials: 12 gauge
Finish: G-185 galvanizing
Codes: IBC, FL, LA

Installation:
- Use all specified fasteners. See Product Notes, page 18.
- MiTek WS15-EXT (1/4" dia. x 1-1/2" long) structural wood screws are not supplied with SCA angles.
- Use the SCA9-TZ for single 2x10 stair treads. Use the SCA10-TZ for double 2 x 6 stair treads.
- To calculate stair construction do the following:
  1. Find the number of steps needed by dividing the vertical drop in inches from the deck surface to grade by 7. Round off to the nearest whole number. (Ex: Vertical drop of 39" divided by 7" equals 5.57 rounded off is 6)
  2. Find the step rise by dividing the vertical drop by the number of steps (39" divided by 6 = 6.5")
  3. Find the step run by measuring the depth of your tread board (Ex: (2) 2x6s with 1/4" gap will have a run of 11-1⁄4")
  4. Find the stairway span by multiplying the run by the number of treads minus one (Ex: 11-1/4" x 5 = 56-1/4")
- Using the above calculations, mark stair angle locations on each stringer. Attach a stair angle to the inside of each stringer at the marked locations. Attach stringers to deck rim joist and railing posts. Position tread-boards on angles and fasten from below.

Typical SCA9-TZ installation



SCA9-TZ

AVAILABLE IN GOLD COAT

Typical SCA10-TZ installation

MiTek USP Stock No.	Ref. No.	Steel Gauge	L (in)	Fastener Schedule[2,3] Qty	Type	DF/SP Allowable Loads (Lbs.)[1] Download 100%	Corrosion Finish	Code Ref.
SCA9-TZ	TA9Z	12	9	6	WS15-EXT	445		IBC, FL, LA
SCA10-TZ	TA10Z	12	10	8	WS15-EXT	595		

Corrosion Finish
- Stainless Steel
- Gold Coat
- HDG
- Triple Zinc

1) Loads assume rise over run of 7/11.
2) MiTek's WS15-EXT structural wood screws are 1/4" dia. x 1-1/2" long and are not included with SCA angles.
3) HDG lag screws may be substituted for specified MiTek WS15-EXT structural wood screws with no load reduction.
New products or updated product information are designated in **blue font**.