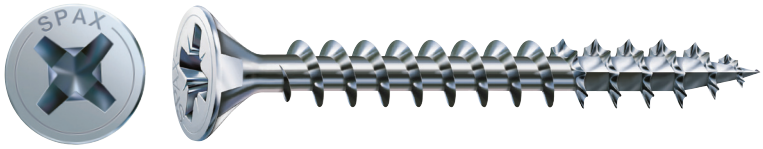
Unidrive Combination (PH & SQ) Flat Head Zinc

Multi-Material Construction

SPAX® ENGINEERED FASTENERS



MADE IN USA
WITH GLOBALLY SOURCED MATERIALS

DESCRIPTION

SPAX® Unidrive (combination drive — Phillips and Square) Flat Head fasteners with zinc coating are designed for use in multiple material connections often found inside residential buildings. These fasteners are often used by home owners to replace older screw types and the standard full thread design works best when the side member being attached to the main member is pre-drilled. The flat head design provides a countersinking feature for a clean-flush finish.

MATERIALS & COATING

Cold-rolled “carbon steel” wire, heat treated and plated with a zinc finish to prevent red rust. “Clear zinc” is tested and recognized for use in above ground contact pressure treated lumber for interior dry/damp general construction applications (e.g., AWPA UC1-UC2).

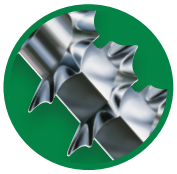
Patented *MULTI-Head*

Countersinks screw head flush with material.

U.S. Patent No. 7,334,976

Unique *4CUT™* Point

Prevents splitting and requires no pre-drilling in wood.



Patented Serrations

Allow for quicker, easier fastening.

U.S. Patent No. 7,101,133

TYPICAL INTERIOR APPLICATIONS

- Replacing loose or stripped screws
- Hanging signs, clocks, and pictures
- Recreational wood crafts
- Cabinet frames
- Subflooring attachments
- Hinge installation
- Indoor furniture
- Installing plumbing supports

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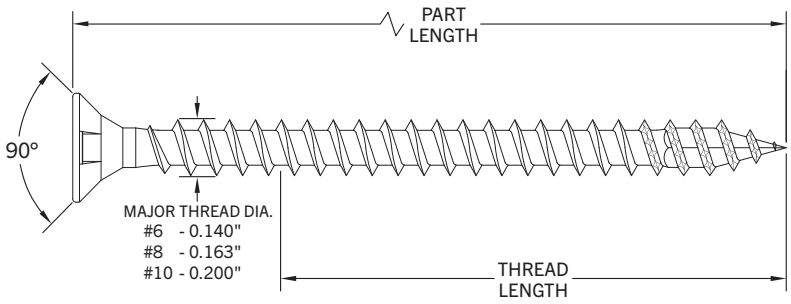

PRODUCT SELECTION

PART LENGTH	THREAD LENGTH	HEAD SIZE	PHILLIPS #	SQUARE #	APPROX. QTY.	PKG. TYPE	MASTER QTY.	PART NO.
#6 x 5/8"	Full	0.270"	2	1	50	Retail Pax®*	10	4101010350162
					582	1 lb. Box	5	4101010350164
#6 x 3/4"	Full	0.270"	2	1	45	Retail Pax®*	10	4101010350202
					480	1 lb. Box	5	4101010350204
#6 x 1"	Full	0.270"	2	1	40	Retail Pax®*	10	4101010350252
					384	1 lb. Box	5	4101010350254
#6 x 1-1/4"	Full	0.270"	2	1	35	Retail Pax®*	10	4101010350322
					335	1 lb. Box	5	4101010350324
#6 x 1-1/2"	Full	0.270"	2	1	30	Retail Pax®*	10	4101010350402
					283	1 lb. Box	5	4101010350404
#6 x 1-3/4"	Full	0.270"	2	1	25	Retail Pax®*	10	4101010350452
#8 x 5/8"	Full	0.320"	2	2	40	Retail Pax®*	10	4101010400162
					405	1 lb. Box	5	4101010400164
#8 x 3/4"	Full	0.320"	2	2	35	Retail Pax®*	10	4101010400202
					100	Large Retail Pax®*	10	41010104002042
					350	1 lb. Box	5	4101010400204
#8 x 1"	Full	0.320"	2	2	30	Retail Pax®*	10	4101010400252
					75	Large Retail Pax®*	10	41010104002542
#8 x 1-1/4"	Full	0.320"	2	2	30	Retail Pax®*	10	4101010400322
					240	1 lb. Box	5	4101010400324
#8 x 1-1/2"	Full	0.320"	2	2	25	Retail Pax®*	10	4101010400402
					197	1 lb. Box	5	4101010400404
#8 x 1-3/4"	Full	0.320"	2	2	20	Retail Pax®*	10	4101010400452
#8 x 2"	Full	0.320"	2	2	20	Retail Pax®*	10	4101010400502
					161	1 lb. Box	5	4101010400504
#8 x 2-1/2"	1.970"	0.320"	2	2	20	Retail Pax®*	10	4101010400602
					133	1 lb. Box	5	4101010400604
					1500	Bulk Pail	N/A	3101010400600
#10 x 3/4"	Full	0.390"	2	2	25	Retail Pax®*	10	4101010500202
#10 x 1"	Full	0.390"	2	2	20	Retail Pax®*	10	4101010500252

NOTE: Only sold in master cartons.
* Bit not included.

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PART LENGTH	THREAD LENGTH	HEAD SIZE	PHILLIPS #	SQUARE #	APPROX. QTY.	PKG. TYPE	MASTER QTY.	PART NO.
#10 x 1-1/4"	Full	0.390"	2	2	20	Retail Pax®*	10	4101010500322
#10 x 1-1/2"	Full	0.390"	2	2	15	Retail Pax®*	10	4101010500402
					130	1 lb. Box	5	4101010500404
					2500	Bulk Pail	N/A	3101010500400
#10 x 2"	Full	0.390"	2	2	12	Retail Pax®*	10	4101010500502
					105	1 lb. Box	5	4101010500504
					1500	Bulk Pail	N/A	3101010500500
#10 x 2-1/2"	2.275"	0.390"	2	2	12	Retail Pax®*	10	4101010500602
					88	1 lb. Box	5	4101010500604
					1500	Bulk Pail	N/A	3101010500600
#10 x 3"	2.375"	0.390"	2	2	16	Retail Pax®*	10	4101010500752
					72	1 lb. Box	5	4101010500754
					1500	Bulk Pail	N/A	3101010500750
#10 x 3-1/2"	2.375"	0.390"	2	2	57	1 lb. Box	5	4101010500904
					1500	Bulk Pail	N/A	3101010500900

NOTE: Only sold in master cartons.
* Bit not included.

Retail Pax®

1 lb. Box

Bulk Pail

#2 Phillips / #2 Square Bit

BIT SELECTION

DRIVE BIT	BIT SIZE	MASTER QTY.	PART NO.
#2 Phillips / #2 Square	1"	10	5000009190009

NOTE: Only sold in master cartons. Made in Taiwan.

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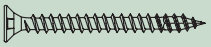
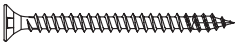
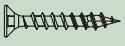
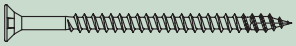
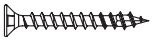
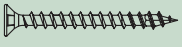
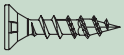
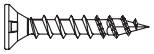
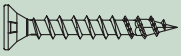
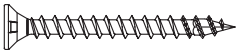
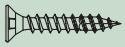
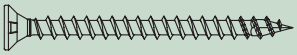
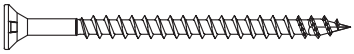
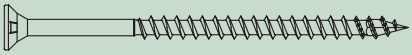
FASTENER LENGTHS

PART LENGTH	HEAD	FASTENER	PART LENGTH	HEAD	FASTENER
#6 x 5/8"			#8 x 1-3/4"		
#6 x 3/4"			#8 x 2"		
#6 x 1"			#8 x 2-1/2"		
#6 x 1-1/4"			#10 x 3/4"		
#6 x 1-1/2"			#10 x 1"		
#6 x 1-3/4"			#10 x 1-1/4"		
#8 x 5/8"			#10 x 1-1/2"		
#8 x 3/4"			#10 x 2"		
#8 x 1"			#10 x 2-1/2"		
#8 x 1-1/4"			#10 x 3"		
#8 x 1-1/2"			#10 x 3-1/2"		

MASONRY & CONCRETE PRE-DRILL SPECIFICATIONS

NOTE: In masonry/concrete, pre-drill a hole at least 1/4" to 1/2" longer than the length of the screw (refer to chart). No anchor required. In sheet metal, no pre-drilling is required up to 24 gauge.

SCREW DIAMETER	DRILL BIT	WEIGHT
#6	Not Recommended	Not Recommended
#8	1/8"	Light
#10	5/32"	Medium

PERFORMANCE SPECIFICATIONS

DrJ TER No. 2010-02
Construction Screw Properties

DIAMETER	ALLOWABLE WITHDRAWAL (W) AND HEAD PULL-THROUGH (W_H)[1,2,3,4]					
	SOUTHERN PINE (SG=0.55)		DOUGLAS-FIR (SG=0.50)		HEM FIR & SPRUCE-PINE-FIR (SG=0.42)	
	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH
	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)
#6	140	179	133	150	105	125
#8	175	157	133	157	127	123
#10	190	315	176	238	144	177

1. Tabulated withdrawal and head pull-through design values (W) and (W_H) are shown at a C_D = 1.0. Tabulated withdrawal and head pull-through values shall be adjusted by all applicable adjustment factors per *NDS Table 11.3.1*.
2. Full withdrawal strength is calculated by multiplying the length of thread embedded in the main member by the tabulated reference withdrawal values.
3. Head pull-through values for #6 diameter and larger in Souther pine, Douglas-Fir, Hem Fir and Spruce-Pine-Fir are minimum 1.0" side member thickness.
4. Head pull-through values for #8 diameter and larger in Southern Pine, Douglas-Fir, Hem-Fir and Spruce-Pine-Fir are minimum 1.5" side member thickness.
5. For wood species with an assigned specific gravity between 0.42 and 0.50, use the tabulated values for specific gravity of 0.42. For wood species with an assigned specific gravity between 0.50 and 0.55, use the tabulated values for specific gravity of 0.50. For wood species with an assigned specific gravity greater than or equal to 0.55, use the tabulated values for specific gravity of 0.55.

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DIAMETER	ALLOWABLE WITHDRAWAL (W) AND HEAD PULL-THROUGH (W_H)[1,2]											
	PLYWOOD 15/32" (0.39)		PLYWOOD 19/32" (0.39)		PLYWOOD 23/32" (0.50)		OSB 15/32" (0.50)		OSB 19/32" (0.50)		OSB 23/32" (0.50)	
	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH	WITHDRAWAL	HEAD PULL-THROUGH
	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)	W (lbs./inch)	W_H (lbs.)
#6	51	-	83	-	134	-	29	-	36	-	52	-
#8	51	120	83	120	162	212	36	68	48	78	52	110
#10	90	151	92	177	186	293	54	78	54	78	66	110

1. Tabulated withdrawal and head pull-through design values (W) and (W_H) are shown at a C_D = 1.0. Tabulated withdrawal and head pull-through values shall be adjusted by all applicable adjustment factors per *NDS Table 11.3.1*.
2. Full withdrawal strength is calculated by multiplying the length of thread embedded in the main member by the tabulated reference withdrawal values.
3. Head pull-through values for #6 diameter and larger in Souther pine, Douglas-Fir, Hem Fir and Spruce-Pine-Fir are minimum 1.0" side member thickness.
4. Head pull-through values for #8 diameter and larger in Southern Pine, Douglas-Fir, Hem-Fir and Spruce-Pine-Fir are minimum 1.5" side member thickness.
5. For wood species with an assigned specific gravity between 0.42 and 0.50, use the tabulated values for specific gravity of 0.42. For wood species with an assigned specific gravity between 0.50 and 0.55, use the tabulated values for specific gravity of 0.50. For wood species with an assigned specific gravity greater than or equal to 0.55, use the tabulated values for specific gravity of 0.55.

DIAMETER	BENDING YIELD STRENGTH[1] , f_{yb} (psi)	ALLOWABLE STEEL STRENGTH (lbs)	
		TENSILE	SHEAR[2]
#6	198,000	310	265
#8	187,000	460	345
#10	187,000	690	545

1. Bending yield strength, f_{yb}, is determined in accordance with *ASTM F1575* using minor thread diameter when fastener is tested in thread section.
2. Shear strength is determined in accordance with *AISI S904* using minor thread diameter when fastener is tested in threaded section.

DIAMETER	REFERENCE LATERAL SHEAR VALUE[4,5,6], Z (lbf)				
	MINIMUM MAIN MEMBER PENETRATION[1] (in)	MINIMUM SIDE MEMBER THICKNESS (in)	WOOD SPECIES (SPECIFIC GRAVITY[2,3])		
			SP (0.55)	DF-L (0.50)	SPF/HF (0.42)
#6 x 1-1/2"	3/4"	3/4"	57	50	37
#6 x 1-3/4"	1"	3/4"	63	56	44
#6 x 2"	1"	3/4"	63	56	44
#8 x 1-1/2"	3/4"	3/4"	70	59	43
#8 x 1-3/4"	1"	3/4"	80	69	50
#8 x 2"	1-1/4"	3/4"	80	70	55
#8 x 2-1/2"	1"	1-1/2"	84	75	58
#10 x 1-1/2"	3/4"	3/4"	86	72	53
#10 x 2"	1-1/4"	3/4"	112	99	73
#10 x 2-1/2"	1"	1-1/2"	115	101	81
#10 x 2-3/4"	1-1/4"	1-1/2"	132	117	91
#10 x 3"	1-1/2"	1-1/2"	132	121	103
#10 x 3-1/2"	1-1/2"	1-1/2"	132	121	103

SI: 1 in = 25.4 mm, 1 lbf = 4.45 N

1. Penetration depth includes the length of tapered tip.
2. The species applies to both the main and the side members. Where the Members are different specific gravities, use the lower of the two.
3. For wood species with an assigned specific gravity between 0.42 and 0.50, use the tabulated values for specific gravity of 0.42. For wood species with an assigned specific gravity between 0.50 and 0.55, use the tabulated values for specific gravity of 0.50. For wood species with an assigned specific gravity greater than or equal to 0.55, use the tabulated values for specific gravity of 0.55.
4. The fastener orientation shall be perpendicular to the grain, and the underside of the fastener head shall be installed flush with the surface of the side member.
5. Lateral design values apply to both perpendicular grain ($Z_\perp$) and parallel to grain ($Z_\parallel$) orientations.
6. Tabulated lateral design values shall be adjusted by all applicable adjustment factors per *NDS 11.3.1*.

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DIAMETER	REFERENCE LATERAL SHEAR VALUE, Z (lbf)			
	MINIMUM MAIN MEMBER PENETRATION[1] (in)	MINIMUM SIDE MEMBER THICKNESS (in)	REFERENCE LATERAL SHEAR VALUE[1,3,4], Z (lbf)	
			OSB[5] (0.50)	PLYWOOD[5] (0.39)
#6 x 1"	9/16"	7/16"	28	-
#6 x 1"	17/32"	15/32"	28	22
#6 x 1-1/4"	13/16"	7/16"	35	-
#6 x 1-1/4"	25/32"	15/32"	35	29
#6 x 1-1/4"	21/32"	19/32"	36	28
#6 x 1-1/4"	17/32"	23/32"	38	29
#6 x 1-1/2"	1-1/16"	7/16"	41	-
#6 x 1-1/2"	1-1/32"	15/32"	42	35
#6 x 1-1/2"	29/32"	19/32"	42	35
#6 x 1-1/2"	25/32"	23/32"	43	34
#6 x 1-3/4"	1-5/16"	7/16"	41	-
#6 x 1-3/4"	1-9/32"	15/32"	42	35
#6 x 1-3/4"	1-5/32"	19/32"	46	37
#6 x 1-3/4"	1-1/32"	23/32"	50	40
#6 x 2"	1-9/16"	7/16"	41	-
#6 x 2"	1-17/32"	15/32"	42	35
#6 x 2"	1-13/32"	19/32"	46	37
#6 x 2"	1-9/32"	23/32"	51	40
#8 x 1-1/4"	13/16"	7/16"	40	-
#8 x 1-1/4"	25/32"	15/32"	40	33
#8 x 1-1/4"	21/32"	19/32"	42	32
#8 x 1-1/2"	1-1/16"	7/16"	51	-
#8 x 1-1/2"	1-1/32"	15/32"	50	44
#8 x 1-1/2"	29/32"	19/32"	49	41
#8 x 1-1/2"	25/32"	23/32"	51	39
#8 x 1-3/4"	1-5/16"	7/16"	53	-
#8 x 1-3/4"	1-9/32"	15/32"	54	46
#8 x 1-3/4"	1-5/32"	19/32"	59	48
#8 x 1-3/4"	1-1/32"	23/32"	58	48
#8 x 2"	1-9/16"	7/16"	53	-
#8 x 2"	1-17/32"	15/32"	54	46
#8 x 2"	1-13/32"	19/32"	59	48
#8 x 2"	1-9/32"	23/32"	64	51
#8 x 2-1/2"	1-9/16"	7/16"	53	-
#8 x 2-1/2"	1-17/32"	15/32"	54	46
#8 x 2-1/2"	1-13/32"	19/32"	59	48
#8 x 2-1/2"	1-9/32"	23/32"	64	51
#10 x 1-1/4"	13/16"	7/16"	48	-
#10 x 1-1/4"	25/32"	15/32"	48	40
#10 x 1-1/2"	1-1/16"	7/16"	61	-
#10 x 1-1/2"	1-1/32"	15/32"	60	53
#10 x 1-1/2"	29/32"	19/32"	60	49

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DIAMETER	REFERENCE LATERAL SHEAR VALUE, Z (lbf)			
	MINIMUM MAIN MEMBER PENETRATION[1] (in)	MINIMUM SIDE MEMBER THICKNESS (in)	REFERENCE LATERAL SHEAR VALUE[1,3,4], Z (lbf)	
			OSB[5] (0.50)	PLYWOOD[5] (0.39)
#10 x 1-1/2"	25/32"	23/32"	63	48
#10 x 2"	1-9/16"	7/16"	80	-
#10 x 2"	1-17/32"	15/32"	81	70
#10 x 2"	1-13/32"	19/32"	85	72
#10 x 2"	1-9/32"	23/32"	83	71
#10 x 2-1/2"	2-1/16"	7/16"	80	-
#10 x 2-1/2"	1-17/32"	15/32"	81	70
#10 x 2-1/2"	1-29/32"	19/32"	85	72
#10 x 2-1/2"	1-25/32"	23/32"	90	74

SI: 1 in = 25.4 mm, 1 lbf = 4.45 N

1. Reference lateral design values apply to two-member single shear connections where the side member is OSB or plywood, the main member is SPF (SG = 0.42), and the fastener is installed in the face of the member and oriented perpendicular to the grain. The underside of the fastener head shall be installed flush with the surface of the side member.
2. Penetration depth includes the length of the tapered tip.
3. Lateral design values apply to both perpendicular to grain ($Z_{\perp}$) and parallel to grain ($Z_{\parallel}$) orientations.
4. Tabulated lateral design values shall be adjusted by all appplicable adjustment factors per *NDS Table 11.3.1*.
5. OSB shall comply with *DOC PS 2* and have a minimum specific gravity of 0.50. Plywood shall comply with *DOC PS 1* and have a minimum specific gravity of 0.39.