



*Drive with Speed,  
Quality and Confidence*



# What Makes Us ÜberGrade?



**RECESSED  
STAR DRIVE**

*Drive with Speed, Quality and Confidence*



**CEE THREAD™**

Zero Stripping, with (6) points of contact

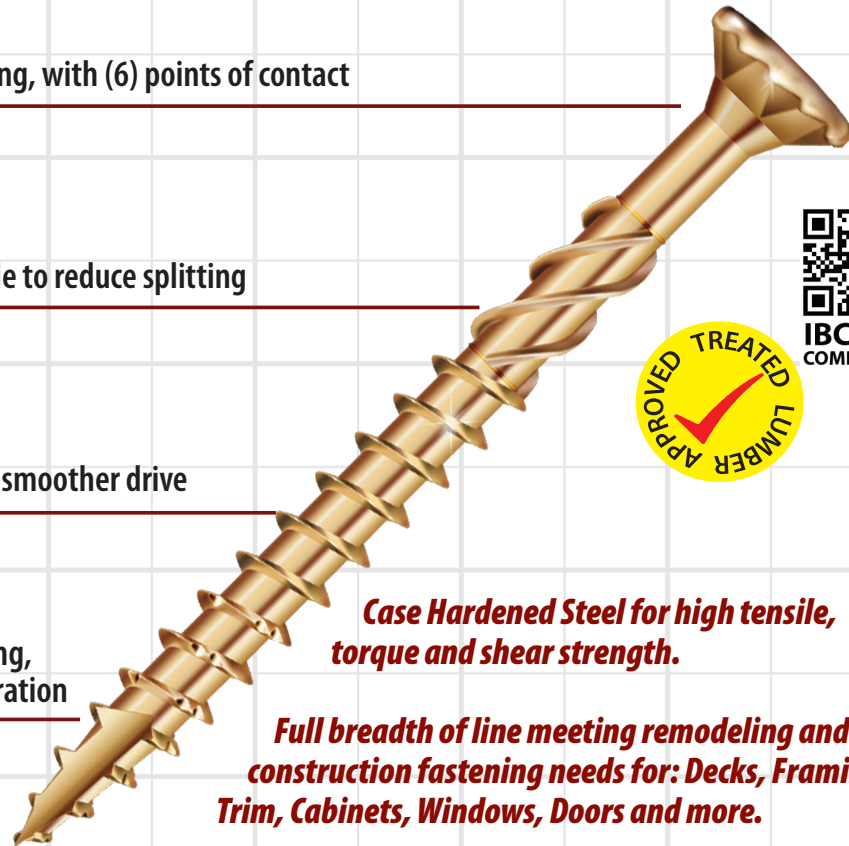
Enlarges hole to reduce splitting

**W-CUT™**

Low torque, smoother drive

**ZIP-TIP™**

No pre-drilling,  
faster penetration



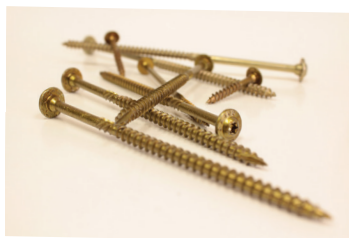
**IBC/IRC  
COMPLIANT**



**Case Hardened Steel for high tensile,  
torque and shear strength.**

**Full breadth of line meeting remodeling and new  
construction fastening needs for: Decks, Framing,  
Trim, Cabinets, Windows, Doors and more.**

**BUILDING CODE APPROVED**—for structural use in treated lumber. GRK screws have been evaluated for structural and AC257 corrosion resistance to be in compliance with IBC/IRC specifications. That's why all our fasteners come with a limited lifetime warranty, so you can rest assured your installations will last the life of your project.



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## Selection Guide

# Fastener Selection Guide and Quick Reference Product Locator

Always build your project according to current ICC (International Code Council) specifications. GRK's Climatek™ coating meets or exceeds standards, including AC257, for use in various type of preservative treated wood.

Please view ICC Report #ESR-2442, and ESR-3201 for more details. Visit <http://www.grkfasteners.com/index.php/en/techdata/code-approvals>.

No pre-drilling required for most GRK products, unless required or specified by building material. Always place deck boards with outer edge of growth rings facing up (bark side up). Do not use deck cleaners which contain bleach with coated metals. Consult building material supplier's/manufacture's recommendations for exact instructions. Decking screws should be countersunk 1/8".

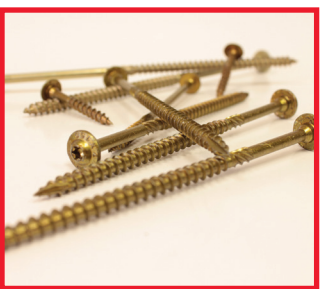


### R4™ MULTI-PURPOSE FRAMING SCREWS:

Frame with ease and confidence. Multi-use screw for wood, particle board, sheet metal, cement fibre board, laminate and wood decking and melamine. They are self tapping eliminating pre-drilling featuring a countersinking head with cutting teeth, W-Cut™ for reducing torque, CEE Thread™ for no splitting and our Climatek™ AC257 code approved coating. For deck boards consisting of pressure treated lumber, cedar & redwood use #9 or #10 gauge screws.

For Southern Yellow Pine use #10. For use in all applications including pressure treated lumber.

They are ESR code approved under ICC Report ESR-3201.



### RSS™ RUGGED STRUCTURAL SCREWS:

Speedy lag bolt alternative with Immense drawing power. Ideal for use anywhere you would use a traditional lag screw and more, but with no pre-drilling required. For use in all applications including pressure treated lumber. They are self tapping eliminating pre-drilling featuring a washer head with cutting teeth, W-Cut™ for reducing torque, CEE Thread™ for no splitting and our Climatek™ AC257 code approved coating. They are ESR code approved under ICC Report ESR-2442.

**RSS™ JTS:** Joist & Truss Fastener: Used for joists and trusses.

**RSS™ LPS:** Panel Fastener: For Structural Insulated Panel Systems.

**RSS™ LTF:** Timber Frame Fastener: Designed specifically for the Log Home & Timber frame market.



### KAMELEON™ COMPOSITE DECK SCREWS:

Heads blend in with decking with no mushrooming effect. Use in plastic or composite decking. They come in a variety of deck matching colours of which Pebble Grey, Saddle, Woodland Brown and Madeira are approved for use with Trex Select™ deck boards.

The Kameleon screws are self tapping featuring fibre trapping rings, a countersinking head with cutting teeth, CEE Thread™, W-Cut™ threads for reduced torque and our Climatek™ AC257 code approved coating. They are ESR code approved under ICC Report ESR-3201.



### FIN/TRIM™ TRIM HEAD SCREWS:

Smallest head on the market for a clean finish. Perfect for all interior and exterior finishing applications including deck rails, exterior wood trim, stairs, banisters, window and door trim, base boards, crown moulding and joining cabinets. For use in all applications including pressure treated lumber.

They are self-tapping eliminating pre-drilling featuring the W-Cut™ threads for reduced torque, and our Climatek™ AC257 code approved coating. They are ESR code approved under ICC Report ESR-3201.



## RT COMPOSITE™ TRIM HEAD SCREWS:

Reverse thread design prevent mushrooming for a clean finish. Engineered for use in exterior applications including classic composite trim and decking, cPVC trim and moulding. For use in all applications including pressure treated lumber. RT™ Composite Trim screws are self-tapping eliminating pre-drilling featuring the W-Cut™ threads for reduced torque, and our Climatek™ AC257 code approved coating. They are ESR code approved under ICC Report ESR-3201.



## LOW PROFILE CABINET™ SCREWS:

Built in washer head presses in flush against any material. Used for cabinet and vinyl siding installation. These unique screws are thin enough to prevent most material splitting, while providing sufficient strength to guarantee a secure installation.

They are self tapping eliminating pre-drilling featuring the W-Cut™ threads for reduced torque and our Climatek™ AC257 code approved coating.



## TOP STAR™ SHIM SCREWS:

For plumb installation of wooden door and window frames. No more shims! Other uses include cabinets, insulation, paneling and built-in-wall units.

The two-piece "unique screw within a screw" design reduces labour when installing wooden doors or windows. A unique 2 piece crown/bit allows for quick and easy driving.



## CALIBURN™ SCREWS:

Heavy duty concrete and masonry fastener. For attaching a variety of materials and fixtures to concrete. Easy driving high carbon steel allows the screws to create threads while being driven into the concrete. Proper pre-drilling with correct drill bit required. Caliburn™ screws are Climatek™ AC257 code approved coating.

**Caliburn Screw:** Tapered concrete screw for securing wood.

**Caliburn™ PH Screw:** Pan head concrete screw for a more aesthetic look

**Caliburn™ XL Screws:** Washer head style concrete screw for strong connections



**R4™**

## Multi-Purpose Framing Screws Frame with Ease and Confidence



### APPROVALS/LISTING

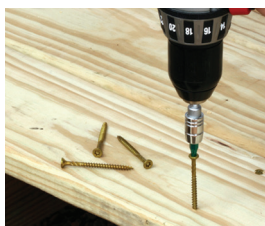


### DESCRIPTION/SUGGESTED SPECIFICATIONS

#### Multi-Purpose Framing Screws—

GRK's R4™ self-countersinking screw has a patented underhead with saw-blade like cutting teeth and six self-contained cutting pockets. Together they act similar to a circular saw-blade, transporting the drill dust away from the edge of the screw hole while cutting a perfectly clean hole into even the most brittle materials without cracking any surface treatment.

#### ÜberGrade™

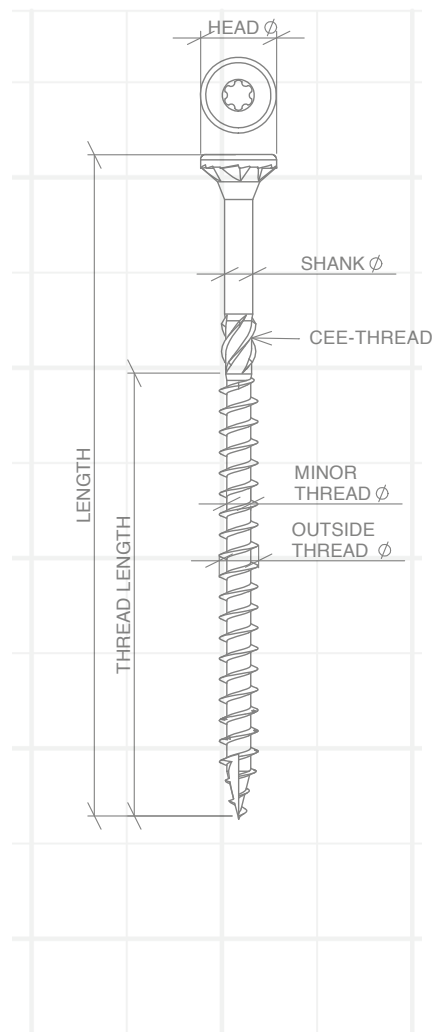


This design enhances the R4™'s versatility by allowing the fastener to countersink into even the hardest woods. The head of the screw closes the hole off with precision, leaving no damaged fibres around the head.

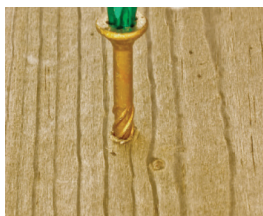
R4™ screws 2" and longer have a four threaded CEE Thread. This enlarges the screw hole for the non-threaded portion of the fastener, allowing the wood to settle easily. It increases the screw's drawing strength and reduces the friction on the screw shank that lowers the driving torque.

### ADVANTAGES

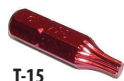
- **Recessed Star Drive:** Zero Stripping, with 6 points of contact.
- **CEE Thread:** Enlarges hole to reduce splitting.
- **W-Cut™:** Low torque, smoother drive.
- **Zip-Tip™:** No pre-drilling, faster penetration.
- **Cutting Pockets:** provide a clean hole, reduces splitting, and bore with precision.
- **ESR-3201 Approved** for structural application.
- **Case Hardened Steel:** for high tensile, torque and shear strength.
- **Climatek™ Coating** is AC257 code approved for use in treated lumber.
- For interior/exterior use in; wood, plastic, cement fibre board, particle board, sheet metal, wood decking and melamine.



## APPLICATIONS



## SELECTION CHART



T-15



T-25



T-25



T-25

U.S. (STD.) SIZE (DIA. X LENGTH)	METRIC SIZE (DIA. X LENGTH)	BULK PART NO.	BULK BOX QTY.	PRO-PAK PART NO.	PRO-PAK PAIL QTY.	HANDY-PAK PART NO.	HANDY-PAK CTN. SIZE/QTY.
#8 x 1-1/2"	4.0 x 40			01073	1,000		
#8 x 2"	4.0 x 50			01077	850	02077	S/100
#9 x 1-3/4"	4.5 x 45					02097	S/100
#9 x 2"	4.5 x 50	00099	3,700	01099	690		
#9 x 2-1/2"	4.5 x 63	00101	2,900	01101	575	02101	M/100
#9 x 2-3/4"	4.5 x 70			01103	480		M/100
#9 x 3-1/8"	4.5 x 80	00105	1,900	01105	425	02105	M/100
#10 x 2-1/2"	5.0 x 63	00133	2,500	01133	470		
#10 x 2-3/4"	5.0 x 70	00135	2,000				
#10 x 3-1/8"	5.0 x 80	00137	1,500	01137	350	02137	M/100
#10 x 3-1/2"	5.0 x 90	00139	1,200	01139	300	02139	M/50
#10 x 4"	5.0 x 100	00141	1,000	01141	270	02141	M/50
#10 x 4-3/4"	5.0 x 120	00143	800	01143	230	02143	M/50
#12/14 x 4"	6.0 x 100	00165	800				
#12/14 x 5-5/8"	6.0 x 140	00173	600			02173	M/50
#12/14 x 6-3/8"	6.0 x 160	00177	1,000			02177	M/9
#12/14 x 7-1/4"	6.0 x 180	00179	1,000			02179	M/9
#12/14 x 8"	6.0 x 200	00181	500			02181	M/9
#12/14 x 10"	6.0 x 250					02187	M/12
#12/14 x 12"	6.0 x 300					02193	M/12

2" bit included in Pro-Paks, 1" bits in Handy-Paks.

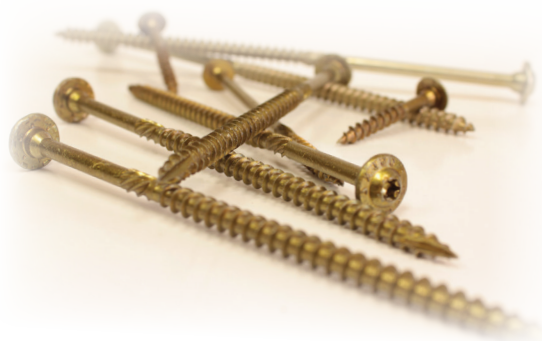
\*Does not come with the Zip-Tip™ feature. **NOTE:** Pro-Paks need to be ordered in multiples of two.



## RSS™

**Rugged Structural  
Screws**

**Speedy Lag Bolt  
Alternative with  
Immense Drawing  
Power**



## DESCRIPTION/SUGGESTED SPECIFICATIONS

### Rugged Structural Screws—

GRK's RSS™ screw is made of specially hardened steel to provide you with high tensile, torque and shear strength. The sharp threads and points bite instantly into the material (including hardwood), reducing the splitting effect due to smaller shanks.

RSS™ screws that are 3" 1/8" and longer have CEE Threads which enlarge the screw hole for the non-threaded portion of the fastener, allowing the wood to settle easily and increases the screw's drawing strength. The CEE Thread also reduces the friction on the screw shank which can result in lowering the driving torque and the likelihood of splitting the wood. This is why the RSS™ screw is an efficient lag screw alternative.

### ÜberGrade™



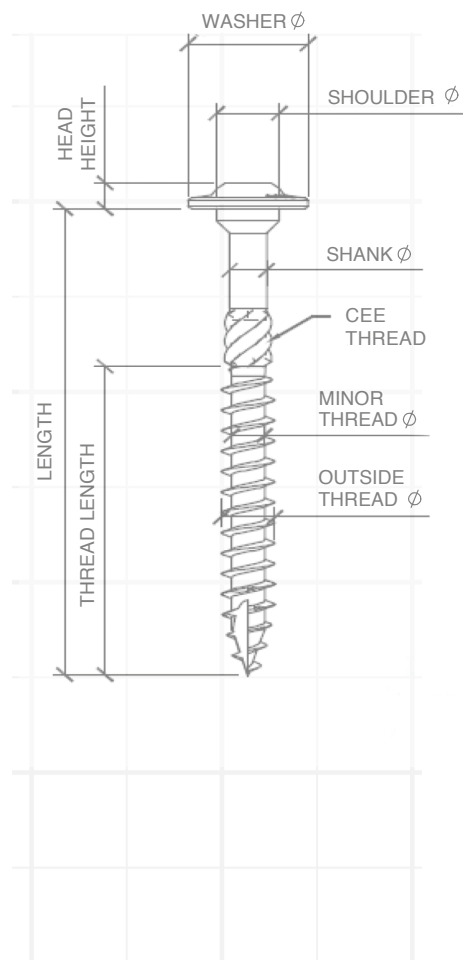
Our round head with built-in shield (washer type head) has no sharp edges like conventional lag screws. The added shoulder (nominal diameter) underneath the washer has the ability to center the RSS™ screw in pre-drilled hardware like hinges and connector plates.

RSS™ JTS - Used for joists and trusses

RSS™ LTF - Designed for log home and timber frame

## ADVANTAGES

- **Recessed Star Drive:** Zero Stripping, with 6 points of contact.
- **CEE Thread:** Enlarges hole to reduce splitting.
- **W-Cut™:** Low torque, smoother drive.
- **Zip-Tip™:** No pre-drilling, faster penetration.
- **Washer Head:** for immense holding power.
- **Cutting Pockets:** provide a clean hole, reduces splitting, and bore with precision.
- **ESR-2442 Approved** for structural application.
- **Case Hardened Steel:** for high tensile, torque and shear strength.
- **Climatek™ Coating** is AC257 code approved for use in treated lumber.
- For interior/exterior use in; carrying beams, ledger boards, stair rails, deck posts, playground equipment and other professional applications.
- **Advantages:** Factored Resistances as per CSA 086-14



## APPROVALS/LISTING



## SELECTION CHART



T-25



T-25



T-30



T-40



T-25



T-40

SHANK DIAMETER	THREAD DIAMETER	LENGTH	BULK PART NO.	BULK BOX QTY.	PRO-PAK PART NO.	PRO-PAK PAIL QTY.	HANDY-PAK PART NO.	HANDY-PAK CTN. SIZE/QTY.
0.138	0.194 (#10)	1-1/2"	10127*	2,300				
		2-3/4"	10135	1,000				
		3-1/8"	10137	800			12137	M/50
0.169	0.25 (1/4)	1-1/2"	10151*	1,000			12151	M/50
		2"	10155*	800			12155	M/50
		2-1/2"	10157	700			12157	M/50
		3-1/8"	10161	500			12161	M/50
		3-1/2"	10163	400			12163	M/50
0.1988	0.3125 (5/16)	2-1/2"	10217	600	12217	100		
		2-3/4"	10219	500	12219	100		
		3-1/8"	10221	500	12221	100		
		3-1/2"	10223	500	12223	100		
		4"	10225	400	12225	100		
		5-1/8"	10231	300	12231	50		
		6"	10235	300	12235	50		
0.2228	0.375 (3/8")	3-1/8"	10273	400	12273	50		
		4"	10275	400	12275	50		
		5-1/8"	10278	300	12278	50		
		6"	10281	300	12281	50		
		7-1/4"	10285	200	12285	50		
		8"	10287	300	12287	50		
		10"	10293	300	12293	50		
		12"	10299	300	12299	50		
		14-1/8"	10307	200	12307	50		
	16"	10311	100	12311	50			
RSS™ JTS – JOIST AND TRUSS SCREW								
0.173	0.25 (1/4)	3-3/8"	91727†	400				
		5"	91735	300				
RSS™ LTF – TIMBER FRAME SCREW								
0.22	0.31 (3/8)	8"	91287	300			93287	M/50
		10"	91293	300			93293	M/50
		12"	91299	300			93299	M/50
		15"	91308	300			93308	M/50
		20"					93323	M/25

### RSS™ BLISTER-PAK

SHANK DIAMETER	THREAD DIAMETER	LENGTH	Part No.	QTY
0.1988	0.3125 (5/16)	3-1/8"	13221	15
		4"	13225	12
		5-1/8"	13231	10
		6"	13235	8

### RSS™ SMALLER HANDY-PAK

SHANK DIAMETER	THREAD DIAMETER	LENGTH	Part No.	QTY
0.1988	0.3125 (5/16)	3-1/8"	14221	M/25
		4"	14225	M/25
		5-1/8"	14231	M/20
		6"	14235	M/20

**NOTE:** Pro-Paks need to be ordered in multiples of two.

\*Does not come with the **Zip-Tip™** feature. †Does not have the added **CEE-THREAD™** feature. 2" bit included in Pro-Paks, 1" bits in Handy-Paks.

## Conversion Guide

### GRK RSS vs. Lag Bolt

**No more  
pre-drilling...  
Just grab a screw  
and drill!!**

# Convert from a lag screw to GRK RSS Fasteners

## PERFORMANCE DATA

**(Compliant for use with Canadian National Building Code)**

FACTORED RESISTANCES PERFORMANCE COMPARISON FOR D.FIR MEMBERS<sup>(1,2,3,4,5)</sup>

APPLICATION: 2" LEDGER BOARD TO 2" RIM BOARD (LBS)

LAG SCREWS				GRK SCREWS		
LAG SIZE	LENGTH	SHEAR RESISTANCE	PULL-OUT	TYPE OF SCREW	SHEAR RESISTANCE	PULL-OUT
1/4"	3	171	360	GRK RSS (3") (10273)	366	517
1/4"	4	200	360	GRK RSS (4") (10275)	466	517
3/8"	3	249	618	GRK RSS (3") (10273)	366	517
3/8"	4	322	618	GRK RSS (4") (10275)	466	517
1/2"	3	320	779	GRK RSS (3") (10273)	366	517
1/2"	4	427	779	GRK RSS (4") (10275)	466	517
5/8"	3	385	920	GRK RSS (3") (10273)	366	517
5/8"	4	513	920	GRK RSS (4") (10275)	466	517

<sup>1</sup> Lag Screw Factored Resistances have been developed in accordance with 12.6 CSA 086-14. Apply adjustment factors where applicable.

<sup>2</sup> Factored withdrawn resistance shown assume the entire threaded portion of the screw is installed in to the main member

<sup>3</sup> Minimum spacing, edge and end distances shall be in accordance with 12.6 .2 CSA 086-14

<sup>4</sup> GRK RSS Screw spacing must comply with 12.11.5 CSA 086-14 (See Spacing Tables)

<sup>5</sup> Dimensions of Lag screw based on Table 15 & 16 ASME B18.2.1-2012

## EXAMPLE DECK DESIGN: ATTACHING LEDGER BOARD TO YOUR HOUSE!

### Assumptions:

- Deck Span = 8' out from the house
- 10' Wide
- LL = 40 PSF; DL = 10 PSF

Total lateral resistance required = 2900 lbs

### Possible Solutions:

Using 1/4" by 3" Lag Bolts =  $2900 / 242 = 12$  lags

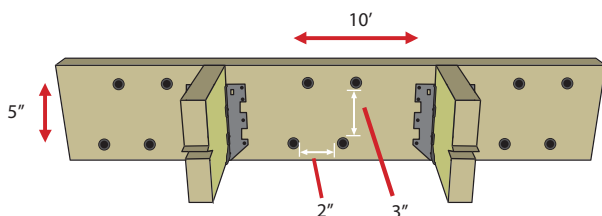
Using 3/8" by 3" Lag Bolts =  $2900 / 249 = 12$  Lags (see example below)

Using 1/2" by 3" Lag Bolts =  $2900 / 320 = 9$

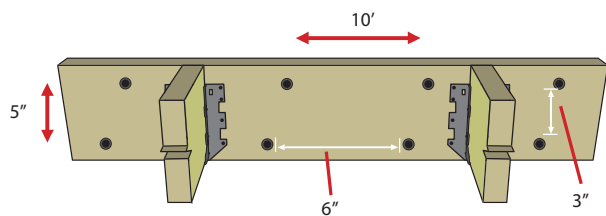
Using 5/8" by 3" Lag Bolts =  $2900 / 385 = 8$

Using 3/8" \* 3.125 RSS =  $2900 / 366 = 8$  screws (see example below)

### LAG SOLUTION: 12 LAG SCREWS



### RSS SOLUTION: 8 RSS SCREWS<sup>1</sup> NO PRE-DRILLING



<sup>1</sup> RSS Spacing must comply with 12.11.5 CSA 086-14



# Technical Data

## Factored Resistances (RSS 1/4")

### FACTORED RESISTANCES FOR D.FIR MEMBERS (LBS)

SIZE			MODEL/ BULK PART NO.	THREADED LENGTH (in)	THREADED LENGTH (mm)	D-FIR LARCH <sup>1</sup>										0.48	
SHANK DIAMETER	THREAD DIA (in)	LENGTH (in)				FACTORED LATERAL RESISTANCE (Kd=1.00) WOOD SIDE MEMBER THICKNESS (mm & in)											WITHDRAWL (LBS)
						38.1	50.8	63.5	76.2	88.9	101.6	114.3	127	152.4	203.2		
						1.5	2	2.5	3	3.5	4	4.5	5	6	8		
.169	1/4	2.5	10217	1.5	38.1	225	---	---	---	---	---	---	---	---	---	363	
		3.125	22400	2	50.8	281	253	---	---	---	---	---	---	---	---	484	
		3.5	10163	2.75	69.85	300	300	225	---	---	---	---	---	---	---	665	

<sup>1</sup> See Foot Notes below

### FACTORED RESISTANCES FOR S-P-F MEMBERS (LBS)

SIZE			MODEL/ BULK PART NO.	THREADED LENGTH (in)	THREADED LENGTH (mm)	SPRUCE-PINE-FIR <sup>(1,2,3,4,5)</sup>										0.42	
SHANK DIAMETER	THREAD DIA (in)	LENGTH (in)				FACTORED LATERAL RESISTANCE (Kd=1.00) WOOD SIDE MEMBER THICKNESS (mm & in)											WITHDRAWL (LBS)
						38.1	50.8	63.5	76.2	88.9	101.6	114.3	127	152.4	203.2		
						1.5	2	2.5	3	3.5	4	4.5	5	6	8		
.169	1/4	2.5	10217	1.5	38.1	197	---	---	---	---	---	---	---	---	---	286	
		3.125	22400	2	50.8	246	222	---	---	---	---	---	---	---	---	382	
		3.5	10163	2.75	69.85	268	268	197	---	---	---	---	---	---	---	525	

<sup>1</sup> Factored resistances shown have been developed in accordance with 12.11 CSA 086-14 based on testing per ICC-ES AC233. Apply the adjustment factors Kd, Ksf and Kt as per 15.2.2 where applicable. Do not install in end grain.

<sup>2</sup> Factored withdrawal resistances shown are only applicable to short term loads as per 12.11.5 CSA 086-14

<sup>3</sup> Factored withdrawal resistances shown assume the entire threaded portion of the screw is installed into the main member.

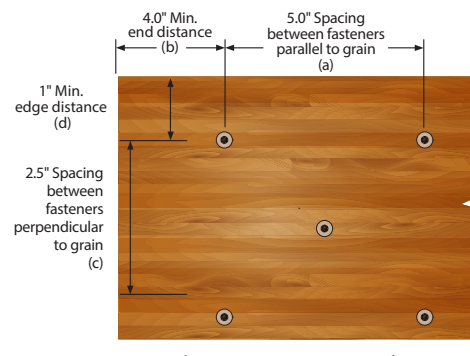
<sup>4</sup> Minimum spacing, edge and end distances shall be in accordance with 12.9.2.1 CSA 086-14 using the corresponding shank diameter. See table below.

<sup>5</sup> Divide table value by 224.8 to convert to kN (1Kn = 224.8 lbs)

### STANDARD RSS SCREW (SIZE 1/4")

	GEOMETRY	MINIMUM DIMENSIONS (in)	
		D. FIR-L	S-P-F
A	Spacing parallel to grain	5.0	4.0
B	End distance parallel to grain	4.0	3.0
C	Spacing perpendicular to grain	2.5	2.0
D	Edge distance perp to grain	1	1.0

<sup>1</sup> Additional screws may be staggered diagonally between rows.



D-Fir Larch Spacing Requirements<sup>1</sup>

### MAXIMUM FASTENER SPACING FOR DECK LEDGER TO RIM BOARD 1/4" (in.)

LEDGER SIZE	MODEL	RIM BOARD	SPECIFIED LIVE LOAD psf (kPa)	MAXIMUM DECK JOIST SPAN (ft.) <sup>(1,2,3,4,5,6)</sup>					
				6	8	10	12	14	16
2x	10157	2x SPF	40 (1.9)	11.0	8.0	6.5	5.5	4.5	4.0
		2x SPF	50 (2.4)	9.0	7.0	5.5	4.5	4.0	3.5
		2x SPF	100 (4.8)	5.0	3.5	3.0	2.5	2.0	2.0

<sup>1</sup> Solid Sawn lumber ledger board shall be a minimum of 2 x 8. Spacings apply to S-P-F, Hem-Fir or D-Fir-L

<sup>2</sup> Spacing requirements are based on testing as per ICC-ES and modified to meet the requirements of 12.9.2.1 CSA 086-14 assuming dry service conditions.

<sup>3</sup> Tabulated values are based on the listed specified live loads in combination with 10 psi specified dead load.

<sup>4</sup> RSS Screws shall be placed in accordance with screw spacing shown in tables above.

<sup>5</sup> Factored resistances shown assume the entire threaded portion of the screw is installed into the main member.

<sup>6</sup> Spacing calculated based on factored resistance shown in tables above.

## Factored Resistances (RSS 5/16")

### FACTORED RESISTANCES FOR D-FIR MEMBERS (LBS)

SIZE			MODEL/ BULK PART NO.	THREADED LENGTH (in)	THREADED LENGTH (mm)	D-FIR LARCH <sup>1</sup>										0.48
SHANK DIAMETER	THREAD DIA (in)	LENGTH (in)				FACTORED LATERAL RESISTANCE (Kd=1.00) WOOD SIDE MEMBER THICKNESS (mm & in)										WITHDRAWL (LBS)
						38.1	50.8	63.5	76.2	88.9	101.6	114.3	127	152.4	203.2	
						1.5	2	2.5	3	3.5	4	4.5	5	6	8	
.1988	5/16	2.5	10217	1.5	38.1	263	---	---	---	---	---	---	---	---	---	413
		2.75	10219	1.75	44.45	289	---	---	---	---	---	---	---	---	---	482
		3.125	10221	2.125	53.975	329	296	---	---	---	---	---	---	---	---	585
		3.5	10223	2.5	63.5	368	368	263	---	---	---	---	---	---	---	689
		4	10225	2.75	69.85	398	421	394	263	398	---	---	---	---	---	757
		5.125	10231	3.5	88.9	398	451	481	464	411	296	---	---	---	---	964
		6	10235	3.875	98.425	398	451	481	481	481	451	394	263	---	---	1067

<sup>1</sup> See Foot Notes below

### FACTORED RESISTANCES FOR S-P-F MEMBERS (LBS)

SIZE			MODEL/ BULK PART NO.	THREADED LENGTH (in)	THREADED LENGTH (mm)	SPRUCE-PINE-FIR <sup>(1,2,3,4,5)</sup>										0.42
SHANK DIAMETER	THREAD DIA (in)	LENGTH (in)				FACTORED LATERAL RESISTANCE (Kd=1.00) WOOD SIDE MEMBER THICKNESS (mm & in)										WITHDRAWL (LBS)
						38.1	50.8	63.5	76.2	88.9	101.6	114.3	127	152.4	203.2	
						1.5	2	2.5	3	3.5	4	4.5	5	6	8	
.1988	5/16	2.5	10217	1.5	38.1	230	---	---	---	---	---	---	---	---	---	326
		2.75	10219	1.75	44.45	253	---	---	---	---	---	---	---	---	---	381
		3.125	10221	2.125	53.975	287	259	---	---	---	---	---	---	---	---	462
		3.5	10223	2.5	63.5	322	322	230	---	---	---	---	---	---	---	544
		4	10225	2.75	69.85	357	368	345	230	357	---	---	---	---	---	598
		5.125	10231	3.5	88.9	357	403	439	415	369	259	---	---	---	---	761
		6	10235	3.875	98.425	357	403	439	439	439	403	345	230	---	---	843

<sup>1</sup> Factored resistances shown have been developed in accordance with 12.11 CSA 086-14 based on testing per ICC-ES AC233. Apply the adjustment factors Kd, Ksf and Kt as per 15.2.2 where applicable. Do not install in end grain.

<sup>2</sup> Factored withdrawal resistances shown are only applicable to short term loads as per 12.11.5 CSA 086-14

<sup>3</sup> Factored withdrawal resistances shown assume the entire threaded portion of the screw is installed into the main member.

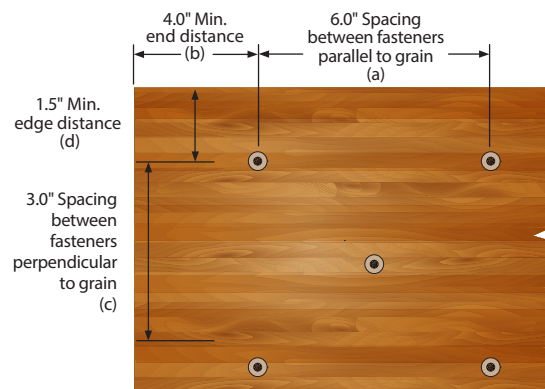
<sup>4</sup> Minimum spacing, edge and end distances shall be in accordance with 12.9.2.1 CSA 086-14 using the corresponding shank diameter. See table on page G 13.

<sup>5</sup> Divide table value by 224.8 to convert to kN (1Kn = 224.8 lbs)

### STANDARD RSS SCREW (SIZE 5/16")

	GEOMETRY	MINIMUM DIMENSIONS (in)	
		D. FIR-L	S-P-F
A	Spacing parallel to grain	6.0	5.0
B	End distance parallel to grain	4.0	3.0
C	Spacing perpendicular to grain	3.0	2.0
D	Edge distance perp to grain	1.5	1.0

<sup>1</sup> Additional screws may be staggered diagonally between rows.



D-Fir Larch Spacing Requirements<sup>1</sup>

Factored Resistances (RSS 5/16") continued on page G 13

## Factored Resistances (RSS 5/16") continued from page G 12

### MAXIMUM FASTENER SPACING FOR DECK LEDGER TO RIM BOARD 5/16" (in.)

LEDGER SIZE	MODEL	RIM BOARD	SPECIFIED LIVE LOAD psf (kPa)	MAXIMUM DECK JOIST SPAN (ft.) <sup>(1,2,3,4,5,6)</sup>					
				6	8	10	12	14	16
2x	10221	2x SPF	40 (1.9)	16.0	12.0	9.5	8.0	7.0	6.0
		2x SPF	50 (2.4)	13.0	10.0	8.0	6.5	5.5	5.0
		2x SPF	100 (4.8)	7.0	5.5	4.0	3.5	3.0	2.5

<sup>1</sup> Solid Sawn lumber ledger board shall be a minimum of 2 x 8. Spacings apply to S-P-F, Hem-Fir or D.Fir-L

<sup>2</sup> Spacing requirements are based on testing as per ICC-ES and modified to meet the requirements of 12.9.2.1 CSA 086-14 assuming dry service conditions.

<sup>3</sup> Tabulated values are based on the listed specified live loads in combination with 10 psi specified dead load.

<sup>4</sup> RSS Screws shall be placed in accordance with screw spacing shown in tables above.

<sup>5</sup> Factored resistances shown assume the entire threaded portion of the screw is installed into the main member.

<sup>6</sup> Spacing calculated based on factored resistance shown in tables above.

## Factored Resistances (RSS 3/8")

### FACTORED RESISTANCES FOR D.FIR MEMBERS (LBS)

SIZE			MODEL/ BULK PART NO.	THREADED LENGTH (in)	THREADED LENGTH (mm)	D-FIR LARCH <sup>1</sup>										0.48  WITHDRAWL (LBS)
SHANK DIAMETER	THREAD DIA (in)	LENGTH (in)				FACTORED LATERAL RESISTANCE (Kd=1.00) WOOD SIDE MEMBER THICKNESS (mm & in)										
						38.1	50.8	63.5	76.2	88.9	101.6	114.3	127	152.4	203.2	
						1.5	2	2.5	3	3.5	4	4.5	5	6	8	
.2228	3/8	3.125	10273	1.5	38.1	366	329	---	---	---	---	---	---	---	---	449
		4	10275	2.75	69.85	466	468	439	---	---	---	---	---	---	---	823
		5.125	10278	3.5	88.9	466	525	582	540	476	329	---	---	---	---	1048
		6	10281	4	101.6	466	525	582	582	466	466	466	---	---	---	1197
		7.25	10285	4.5	114.3	466	525	582	582	466	582	582	554	366	---	1347
		8	10287	4.375	111.125	466	525	582	582	582	582	582	582	525	---	1310
		10	10293	5	127	466	525	582	582	582	582	582	582	582	525	1497
		12	10299	5.875	149.2	466	525	582	582	582	582	582	582	582	582	1759
		14.125	10307	5.875	149.2	466	525	582	582	582	582	582	582	582	582	1759
		16	10311	5.75	146.1	466	525	582	582	582	582	582	582	582	582	1721

<sup>1</sup> See Foot Notes below

### FACTORED RESISTANCES FOR S-P-F MEMBERS (LBS)

SIZE			MODEL/ BULK PART NO.	THREADED LENGTH (in)	THREADED LENGTH (mm)	SPRUCE-PINE-FIR <sup>(1,2,3,4,5)</sup>										0.42  WITHDRAWL (LBS)
SHANK DIAMETER	THREAD DIA (in)	LENGTH (in)				FACTORED LATERAL RESISTANCE (Kd=1.00) WOOD SIDE MEMBER THICKNESS (mm & in)										
						38.1	50.8	63.5	76.2	88.9	101.6	114.3	127	152.4	203.2	
						1.5	2	2.5	3	3.5	4	4.5	5	6	8	
.2228	3/8	3.125	10273	1.5	38.1	320	288	---	---	---	---	---	---	---	---	354
		4	10275	2.75	69.85	410	410	384	---	---	---	---	---	---	---	650
		5.125	10278	3.5	88.9	419	470	521	483	416	288	---	---	---	---	827
		6	10281	4	101.6	419	470	521	531	419	419	419	---	---	---	945
		7.25	10285	4.5	114.3	419	470	521	531	419	531	531	496	320	---	1063
		8	10287	4.375	111.125	419	470	521	531	531	531	531	531	470	---	1034
		10	10293	5	127	419	470	521	531	531	531	531	531	531	470	1182
		12	10299	5.875	149.2	419	470	521	531	531	531	531	531	531	531	1388
		14.125	10307	5.875	149.2	419	470	521	531	531	531	531	531	531	531	1388
		16	10311	5.75	146.1	419	470	521	531	531	531	531	531	531	531	1359

<sup>1</sup> Factored resistances shown have been developed in accordance with 12.11 CSA 086-14 based on testing per ICC-ES AC233. Apply the adjustment factors Kd, Ksf and Kt as per 15.2.2 where applicable. Do not install in end grain.

<sup>2</sup> Factored withdrawal resistances shown are only applicable to short term loads as per 12.11.5 CSA 086-14

<sup>3</sup> Factored withdrawal resistances shown assume the entire threaded portion of the screw is installed into the main member.

<sup>4</sup> Minimum spacing, edge and end distances shall be in accordance with 12.9.2.1 CSA 086-14 using the corresponding shank diameter. See table on page G 15.

<sup>5</sup> Divide table value by 224.8 to convert to kN (1Kn = 224.8 lbs)

Factored Resistances (RSS 3/8") continued on page G 14



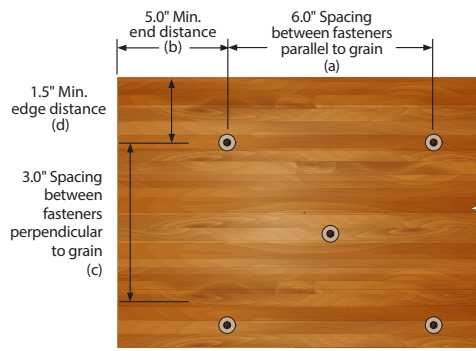
# RSS™ Rugged Structural Screws

## Factored Resistances (RSS 3/8") continued from page G 13

### STANDARD RSS SCREW (SIZE 3/8" OR LTF)

	GEOMETRY	MINIMUM DIMENSIONS (in)	
		D. FIR-L	S-P-F
A	Spacing parallel to grain	6.0	5.0
B	End distance parallel to grain	5.0	3.0
C	Spacing perpendicular to grain	3.0	2.5
D	Edge distance perp to grain	1.5	1.0

<sup>1</sup> Additional screws may be staggered diagonally between rows.



D-Fir Larch Spacing Requirements<sup>1</sup>

### MAXIMUM FASTENER SPACING FOR DECK LEDGER TO RIM BOARD 3/8" (in.)

LEDGER SIZE	MODEL	RIM BOARD	SPECIFIED LIVE LOAD psf (kPa)	MAXIMUM DECK JOIST SPAN (ft.) <sup>(1,2,3,4,5,6)</sup>					
				6	8	10	12	14	16
2x	10273	2x SPF	40 (1.9)	17.5	12.5	10.6	16.5	7.5	6.5
		2x SPF	50 (2.4)	14.5	10.5	9.0	7.5	6.5	5.5
		2x SPF	100 (4.8)	8.0	6.0	4.5	4.0	3.5	---

<sup>1</sup> Solid Sawn lumber ledger board shall be a minimum of 2 x 8. Spacings apply to S-P-F, Hem-Fir or D-Fir-L.

<sup>2</sup> Spacing requirements are based on testing as per ICC-ES and modified to meet the requirements of 12.9.2.1 CSA 086-14 assuming dry service conditions.

<sup>3</sup> Tabulated values are based on the listed specified live loads in combination with 10 psi specified dead load.

<sup>4</sup> RSS Screws shall be placed in accordance with screw spacing shown in tables above.

<sup>5</sup> Factored resistances shown assume the entire threaded portion of the screw is installed into the main member.

<sup>6</sup> Spacing calculated based on factored resistance shown in tables above.

## Factored Resistances (JTS - Joint and Truss Screw)

### FACTORED RESISTANCES FOR D.FIR MEMBERS (LBS)

SIZE			MODEL/ BULK PART NO.	THREADED LENGTH (in)	THREADED LENGTH (mm)	D-FIR LARCH <sup>(1,2,3,4,5)</sup>										0.48
SHANK DIAMETER	THREAD DIA (in)	LENGTH (in)				FACTORED LATERAL RESISTANCE (Kd=1.00) WOOD SIDE MEMBER THICKNESS (mm & in)										WITHDRAWAL (LBS)
						38.1	50.8	63.5	76.2	88.9	101.6	114.3	127	152.4	203.2	
						1.5	2	2.5	3	3.5	4	4.5	5	6	8	
.173	1/4	3.375	91727	1.375	34.925	311	311	201	---	---	---	---	---	---	---	334
		5	91735	1.625	41.275	337	383	397	383	337	230	---	---	---	---	395
		6.75	91743	1.5	38.1	337	383	397	397	397	397	397	360	---	---	364

<sup>1</sup> See Foot Notes below

### FACTORED RESISTANCES FOR S-P-F MEMBERS (LBS)

SIZE			MODEL/ BULK PART NO.	THREADED LENGTH (in)	THREADED LENGTH (mm)	SPRUCE-PINE-FIR <sup>(1,2,3,4,5)</sup>										0.42  WITHDRAWAL (LBS)	
SHANK DIAMETER	THREAD DIA (in)	LENGTH (in)				FACTORED LATERAL RESISTANCE (Kd=1.00) WOOD SIDE MEMBER THICKNESS (mm & in)											
						38.1	50.8	63.5	76.2	88.9	101.6	114.3	127	152.4	203.2		
						1.5	2	2.5	3	3.5	4	4.5	5	6	8		
.173	1/4	3.375	91727	1.375	34.925	272	272	176	---	---	---	---	---	---	---	264	
		5	91735	1.625	41.275	302	342	362	342	302	201	---	---	---	---	312	
		6.75	91743	1.5	38.1	302	342	362	362	362	362	362	322	---	---	288	

<sup>1</sup> Factored resistances shown have been developed in accordance with 12.11 CSA 086-14 based on testing per ICC-ES AC233. Apply the adjustment factors Kd, Ksf and Kt as per 15.2.2 where applicable. Do not install in end grain.

<sup>2</sup> Factored withdrawal resistances shown are only applicable to short term loads as per 12.11.5 CSA 086-14

<sup>3</sup> Factored withdrawal resistances shown assume the entire threaded portion of the screw is installed into the main member.

<sup>4</sup> Minimum spacing, edge and end distances shall be in accordance with 12.9.2.1 CSA 086-14 using the corresponding shank diameter. See table on page G 16.

<sup>5</sup> Divide table value by 224.8 to convert to kN (1Kn = 224.8 lbs)

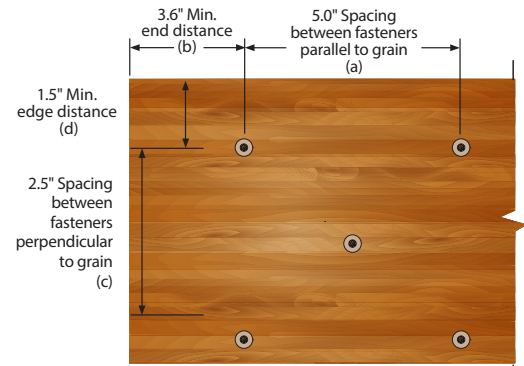
## Factored Resistances (RSS JTS) continued on page G 15

## Factored Resistances (RSS JTS) continued from page G 14

### STANDARD RSS SCREW (JTS/LPS)

	GEOMETRY	MINIMUM DIMENSIONS (in)	
		D. FIR-L	S-P-F
A	Spacing parallel to grain	5.0	4.0
B	End distance parallel to grain	3.6	3.0
C	Spacing perpendicular to grain	2.5	2.0
D	Edge distance perp to grain	1.5	1.0

<sup>1</sup> Additional screws may be staggered diagonally between rows.



D-Fir Larch Spacing Requirements<sup>1</sup>

## Factored Resistances (RSS LTF - Timber Frame Screw)

### FACTORED RESISTANCES FOR D-FIR MEMBERS (LBS)

SIZE			MODEL/ BULK PART NO.	THREADED LENGTH (in)	THREADED LENGTH (mm)	D-FIR LARCH <sup>1</sup>										0.48
SHANK DIAMETER	THREAD DIA (in)	LENGTH (in)				FACTORED LATERAL RESISTANCE (Kd=1.00) WOOD SIDE MEMBER THICKNESS (mm & in)										WITHDRAWL (LBS)
						38.1	50.8	63.5	76.2	88.9	101.6	114.3	127	152.4	203.2	
						1.5	2	2.5	3	3.5	4	4.5	5	6	8	
.220	3/8	8	22300	3.875	98.4	449	2254	551	551	551	551	551	551	507	---	1160
		10	22400	3.875	98.4	449	507	551	551	551	551	551	551	551	507	1160
		12	22500	3.875	98.4	449	507	551	551	551	551	551	551	551	551	1160

<sup>1</sup> See Foot Notes below

### FACTORED RESISTANCES FOR S-P-F MEMBERS (LBS)

SIZE			MODEL/ BULK PART NO.	THREADED LENGTH (in)	THREADED LENGTH (mm)	SPRUCE-PINE-FIR <sup>(1,2,3,4,5)</sup>										0.42
SHANK DIAMETER	THREAD DIA (in)	LENGTH (in)				FACTORED LATERAL RESISTANCE (Kd=1.00) WOOD SIDE MEMBER THICKNESS (mm & in)										WITHDRAWL (LBS)
						38.1	50.8	63.5	76.2	88.9	101.6	114.3	127	152.4	203.2	
						1.5	2	2.5	3	3.5	4	4.5	5	6	8	
.220	3/8	8	22300	3.875	98.4	403	454	502	502	502	502	502	502	454	---	916
		10	22400	3.875	98.4	403	454	502	502	502	502	502	502	502	454	916
		12	22500	3.875	98.4	403	454	502	502	502	502	502	502	502	502	916

<sup>1</sup> Factored resistances shown have been developed in accordance with 12.11 CSA 086-14 based on testing per ICC-ES AC233. Apply the adjustment factors Kd, Ksf and Kt as per 15.2.2 where applicable. Do not install in end grain.

<sup>2</sup> Factored withdrawal resistances shown are only applicable to short term loads as per 12.11.5 CSA 086-14

<sup>3</sup> Factored withdrawal resistances shown assume the entire threaded portion of the screw is installed into the main member.

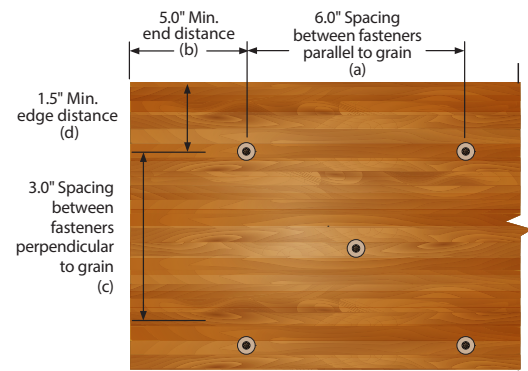
<sup>4</sup> Minimum spacing, edge and end distances shall be in accordance with 12.9.2.1 CSA 086-14 using the corresponding shank diameter. See table below.

<sup>5</sup> Divide table value by 224.8 to convert to kN (1Kn = 224.8 lbs)

### STANDARD RSS SCREW (SIZE 3/8" OR LTF)

	GEOMETRY	MINIMUM DIMENSIONS (in)	
		D. FIR-L	S-P-F
A	Spacing parallel to grain	6.0	5.0
B	End distance parallel to grain	5.0	3.0
C	Spacing perpendicular to grain	3.0	2.5
D	Edge distance perp to grain	1.5	1.0

<sup>1</sup> Additional screws may be staggered diagonally between rows.



D-Fir Larch Spacing Requirements<sup>1</sup>

# Kameleon™

## Composite Deck Screws

*Heads Blend in  
with Decking.  
No Mushrooming  
Effect*



## APPROVALS/LISTING



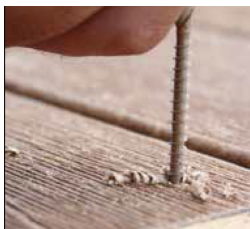
## DESCRIPTION/SUGGESTED SPECIFICATIONS

### Composite Deck Screws—

GRK's Kameleon™ screws are an excellent choice for composite and PVC decking applications. The underhead has saw-blade like cutting teeth that cut a perfectly clean hole into the decking.

The Kameleon™ also features five to seven rings that have three indented fibre traps on each ring designed to trap fibres and eliminate the mushroom effect.

### ÜberGrade™

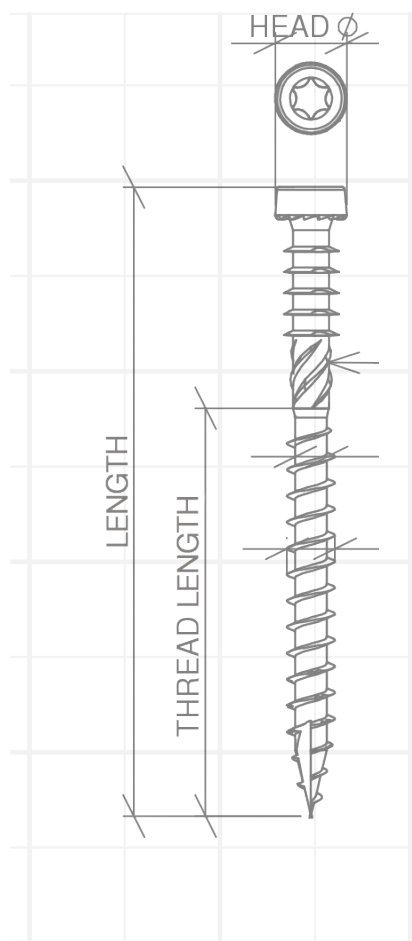
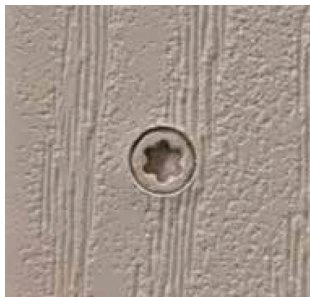


The CEE Thread feature enlarges the screw hole allowing the composite decking to settle easily, increases the screw's drawing strength, and reduces the friction on the screw shank, which can result in lowering the overall driving torque.

The Kameleon™ is also available in many different colors including: Grey, Sand, Tan, Brown, Redwood, and Pebble Grey.

## ADVANTAGES

- **Recessed Star Drive:** Zero Stripping, with 6 points of contact.
- **CEE Thread:** Enlarges hole to reduce splitting.
- **W-Cut™:** Low torque, smoother drive.
- **Zip-Tip™:** No pre-drilling, faster penetration.
- **Fibre Trapping Rings:** are designed to prevent mushrooming and dimpling.
- **Cutting Pockets:** provide a clean hole, reduces splitting, and bore with precision.
- **ESR-3201 Approved** for structural application.
- **Case Hardened Steel:** for high tensile, torque and shear strength.
- **Climatek™ Coating** is AC257 code approved for use in treated lumber.
- For interior/exterior use in; both composite and PVC decking.





# Kameleon™ Composite Deck Screws

## SELECTION CHART



T-20

	U.S. (STD.) SIZE (DIA. X LENGTH)	METRIC SIZE (DIA. X LENGTH)	HANDY-PAK PART NO.	HANDY-PAK CTN. SIZE/QTY.
Grey	#9 x 2-1/2"	4.5 x 63	67151	M/100
Tan	#9 x 2-1/2"	4.5 x 63	67155	M/100
Brown	#9 x 2-1/2"	4.5 x 63	67158	M/100



**NOTE:** 1" bits in Handy-Paks.

# Fin/Trim™

*Finishing Trim  
Head Screws  
Smallest Head on  
the Market for a  
Clean Finish*



## APPROVALS/LISTING



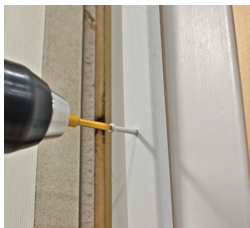
## DESCRIPTION/SUGGESTED SPECIFICATIONS

### Finishing Trim Head Screws—

GRK's Trim™ Head screws are an excellent choice for most fine carpentry applications, as well as window extension jambs and more. Our Trim™ Head screws have the smallest screw head available; with screw lengths from 1-1/4" (30 mm) to 5" (125 mm).

### ÜberGrade™

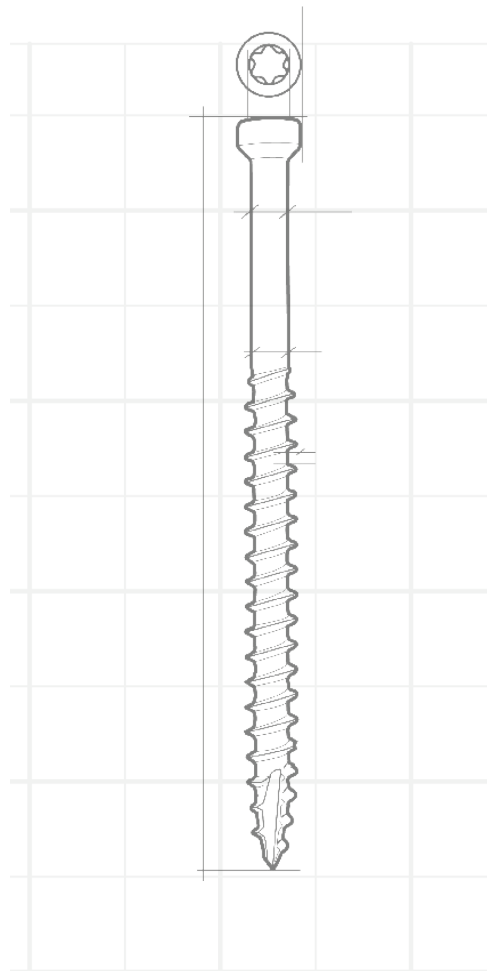
Most material splitting is prevented because of the Trim™ Head screw's exceptionally small head and the W-Cut thread design.



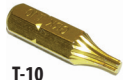
Fin/Trim™ screws are also available in white Climatek™ coated finish to blend in with white wooden trim boards.

## ADVANTAGES

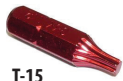
- **Recessed Star Drive:** Zero Stripping, with 6 points of contact.
- **Trim Head:** for a clean finished look.
- **W-Cut™:** Low torque, smoother drive.
- **Zip-Tip™:** No pre-drilling, faster penetration.
- **ESR-3201 Approved** for structural application.
- **Case Hardened Steel:** for high tensile, torque and shear strength.
- **Climatek™ Coating** is AC257 code approved for use in treated lumber.
- For interior/exterior use.
- Available in **Climatek™** or white powder coated finish.



## SELECTION CHART



T-10



T-15

U.S. (STD.) SIZE (DIA. X LENGTH)	METRIC SIZE (DIA. X LENGTH)	BULK PART NO.	BULK BOX QTY.	PRO-PAK PART NO.	PRO-PAK PAIL QTY.	HANDY-PAK PART NO.	HANDY-PAK CTN. SIZE/QTY.
#8 x 1-1/4"	4.0 x 30					17720	S/100
#8 x 1-1/2"	4.0 x 40					17724	S/100
#8 x 2"	4.0 x 50					17728	S/100
#8 x 2-1/2"	4.0 x 63	15730	3,500	16730	605	17730	S/100
#8 x 2-3/4"	4.0 x 70					17732	S/100
#8 x 3-1/8"	4.0 x 80	15734	2,500			17734	M/100
#9 x 3-1/8"	4.5 x 80	15756	1,900				
#9 x 4"	4.5 x 100	15760	1,000			17760	M/100
#9 x 5"	4.5 x 125					17766	M/100

**Excellent for all of  
your trimwork and fine  
carpentry finishing.**



**NOTE:** Pro-Paks need to be ordered in multiples of two. 2" bit included in Pro-Paks, 1" bits in Handy-Paks.



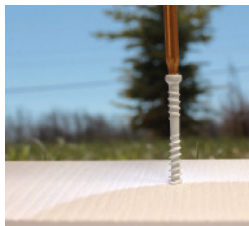
# Composite Exterior Trim Screws Reverse Thread Design Prevents Mushrooming

## DESCRIPTION/SUGGESTED SPECIFICATIONS

### Exterior Trim Screws—

GRK has modified its innovative FIN/Trim™ Head screw to include reverse threading under the head of the fastener. This technology makes the RT Composite™ Trim Screw ideal for use in composite and cellular PVC trim.

### ÜberGrade™

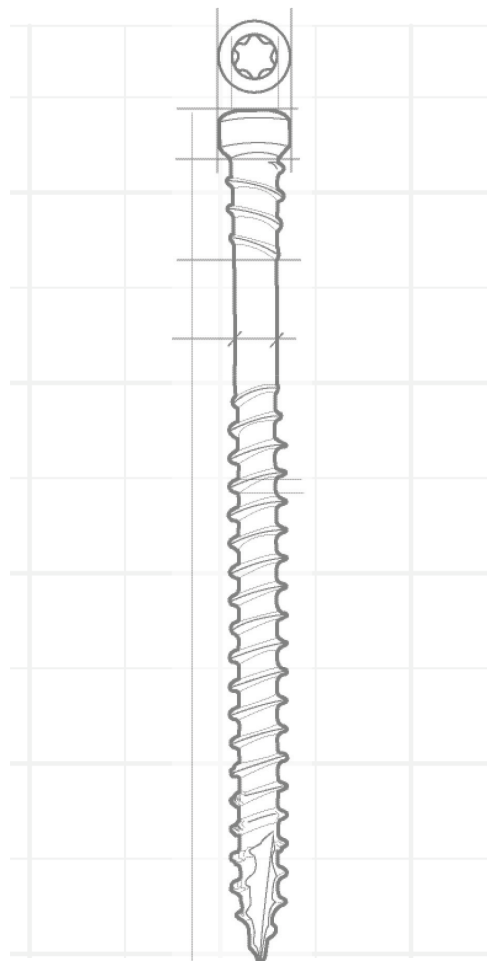


Based on extensive tests, GRK has found that the reverse thread helps the screw head disappear beneath the surface of the classic wood composite material, reducing or eliminating the dimple that sometimes appears when using the FIN/Trim™ screw.

The reverse thread feature is available in RT Composite™ screws from 2" to 3-1/8" in length in both regular Climatek™ coating and in white Climatek™ coated finish to blend in with popular white exterior composite and cellular PVC trim.

## ADVANTAGES

- **Recessed Star Drive:** Zero Stripping, with 6 points of contact.
- **Reverse Threads** eliminate mushrooming.
- **Trim Head:** for a clean finished look.
- **W-Cut™:** Low torque, smoother drive.
- **Zip-Tip™:** No pre-drilling, faster penetration.
- **ESR-3201 Approved** for structural application.
- **Case Hardened Steel:** for high tensile, torque and shear strength.
- **Climatek™ Coating is AC257** code approved for use in treated lumber.
- For interior/exterior use in; exterior PVC trim (Azek, Kleer, Koma), no pre-drilling is necessary. Climatek™ coated screws work well with CAMO system.
- Available in **Climatek™** or white powder coated finish.

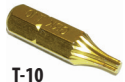


## APPROVALS/LISTING





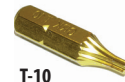
## SELECTION CHART



T-10



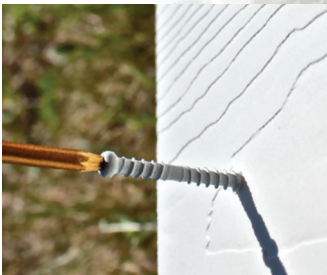
T-15



T-10

U.S. (STD.) SIZE (DIA. X LENGTH)	METRIC SIZE (DIA. X LENGTH)	BULK PART NO.	BULK BOX QTY.	PRO-PAK PART NO.	PRO-PAK PAIL QTY.	HANDY-PAK PART NO.	HANDY-PAK CTN. SIZE/QTY.
#8 x 2"	4.0 x 50					17077	S/100
#8 x 2-1/2"	4.0 x 63	15079	3,500	16079	605	17079	S/100
#8 x 3-1/8"	4.0 x 80	15083	2,500				
#9 x 3-1/8"	4.5 x 80	15105	1,900				
<b>WHITE RT COMPOSITE™</b>							
#8 x 2-1/2"	4.0 x 63					17630	S/100

**Supreme Drawing Power  
is perfect for trimwork  
and deck construction.**



**NOTE:** Pro-Paks need to be ordered in multiples of two. 2" bit included in Pro-Paks, 1" bits in Handy-Paks.

# Low Profile™

**Low Profile  
Cabinet™ Screws**  
**Built-in Washer  
Head Presses  
Flush Against  
any Material**



## APPROVALS/LISTING



## DESCRIPTION/SUGGESTED SPECIFICATIONS

### Cabinet Screws—

GRK's Cabinet™ screws are designed specifically for use in cabinet construction and installation. Cabinet™ screws are manufactured in a #8 gauge (4 mm) diameter for universal size convenience.

These screws are thin enough to prevent most material splitting, while providing sufficient strength to guarantee a secure installation. The washer head design presses flush against any material surface.

### ÜberGrade™

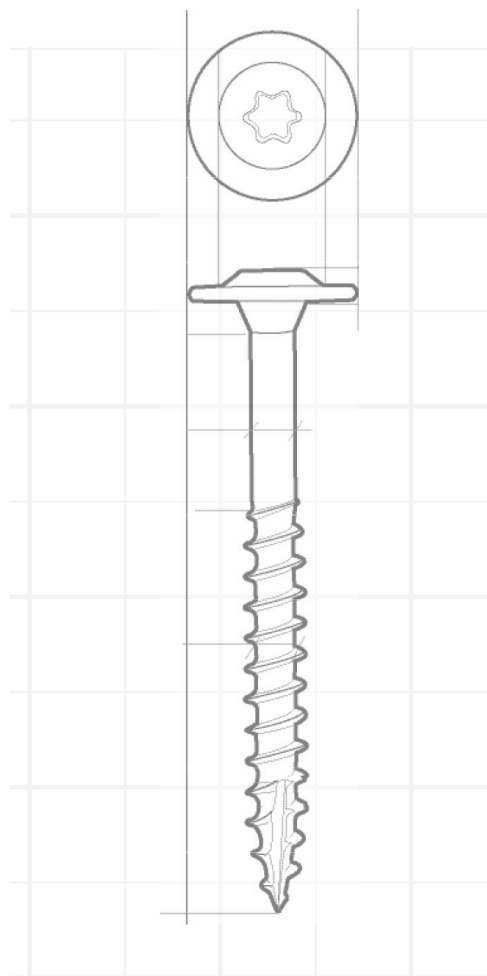


Builders have discovered that short Cabinet™ screws can sometimes be used in vinyl siding installation, which makes this fastener ideal for both interior and exterior applications.

The Cabinet screw can also be used for light duty framing applications where a smaller diameter shank is necessary, yet a need exists for drawing power delivered by the washer head.

## ADVANTAGES

- **Recessed Star Drive:** Zero Stripping, with 6 points of contact.
- **Washer Head:** Creates a flush, clean hold for a strong and secure installation.
- **W-Cut™:** Low torque, smoother drive.
- **Zip-Tip™:** No pre-drilling, faster penetration.
- **Case Hardened Steel:** for high tensile, torque and shear strength.
- **Climatek™ Coating** is AC257 code approved for use in treated lumber.
- For interior/exterior use.

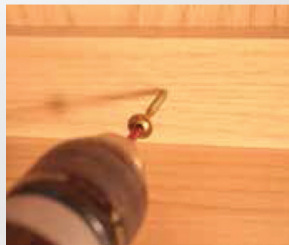




## SELECTION CHART



U.S. (STD.) SIZE (DIA. X LENGTH)	METRIC SIZE (DIA. X LENGTH)	BULK PART NO.	BULK BOX QTY.	HANDY-PAK PART NO.	HANDY-PAK CTN. SIZE/QTY.
#8 x 1"	4.0 x 25			12067	S/100
#8 x 1-1/4"	4.0 x 30	10069	4,000	12069	S/100
#8 x 1-1/2"	4.0 x 40			12073	M/100
#8 x 1-3/4"	4.0 x 45			12075	M/100
#8 x 2"	4.0 x 50			12077	M/100
#8 x 2-1/2"	4.0 x 63			12079	M/100



***Ideal for Cabinets...and so much more. Also excellent for a variety of interior or exterior jobs.***

**NOTE:** 1" bits in Handy-Paks.

# Top Star™

## Adjustable Shim Screws

*For Plumb  
Installation of  
Wooden Doors  
and Windows.  
No More Shims!*



## DESCRIPTION/SUGGESTED SPECIFICATIONS

### Adjustable Shim Screws—

GRK's adjustable Top Star™ shim screw, is in fact a screw within a screw that allows you to install wooden doors or windows without the use of shims.

### ÜberGrade™



Door stop or cover caps will hide hole

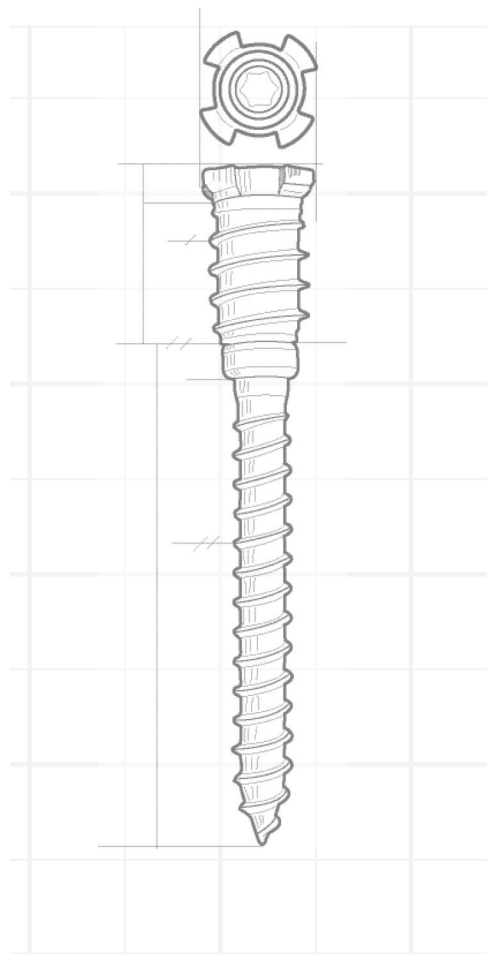
The quick and easy system reduces labour and allows for hassle free adjustment to ensure plumb installation.

Our product is suited to meet the needs of both professional contractors and weekend warriors making the job easier for one person.

Fine adjustments are as simple as the turn of a screw, even after years of use and settling.

## ADVANTAGES

- **Recessed Star Drive:** Zero Stripping, with 6 points of contact.
- **4-point 3/8" diameter Threaded Sleeve** provides a secure hold on your wooden frame.
- **Micro-Adjustments** allow for an absolutely plumb installation.
- Use with GRK's **Top Star™ Crown** and **T-15 Star bit system**.
- **White Zinc Plated** finish for lasting durability.
- **For Shim Free installation** of wooden doors, windows, insulation, paneling, built-in wall units and cabinets.





## SELECTION CHART

U.S. (STD.) SIZE (DIA. X LENGTH)	METRIC SIZE (DIA. X LENGTH)	BULK PART NO.	BULK BOX QTY.	BLISTER-PAK PART NO.	BLISTER-PAK QTY.
3/8" x 2-1/2"	6.0 x 63	20157	100	24050	6
3/8" x 3-1/8"	6.0 x 80	20161	100	24100	6
<b>CROWN / BIT</b>					
Includes: (1) Crown / Bit with each				86465	1



**The Bit drives the Top Star™ into the material when the Crown and Bit are combined. Using the Bit without the Crown adjusts the distance.**

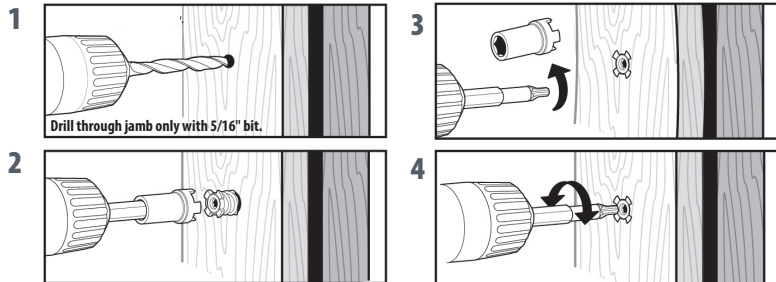
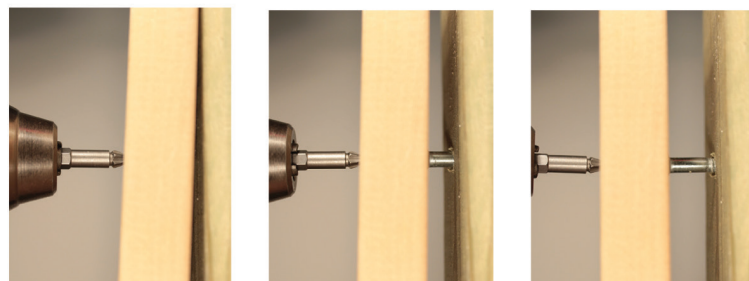
**The Threaded Sleeve moves independently from the Top Star™ unless locked by the Crown. When locked, the Top Star™ gets driven into the material. Unlocked, the installed Top Star™ is ready for levelling.**

## The Complete Top Star™ System Includes:

**BIT**

**CROWN**

**THREADED SLEEVE**



**NOTE:** Crown and Star bit system included in each bulk box. 5/16" drill bit not included.



# Caliburn™

## Concrete Screws Heavy Duty Concrete and Masonry Fastener



### APPROVALS/LISTING



### DESCRIPTION/SUGGESTED SPECIFICATIONS

#### Concrete Screws—

Caliburn™ Concrete screws are professionally engineered fasteners with a patented thread design for ease of driving the screw in concrete and similar applications.

Available in three different head designs for multiple applications. Caliburn™, Caliburn™ PH and Caliburn™ XL are Climatek™ coated for high corrosion resistance.

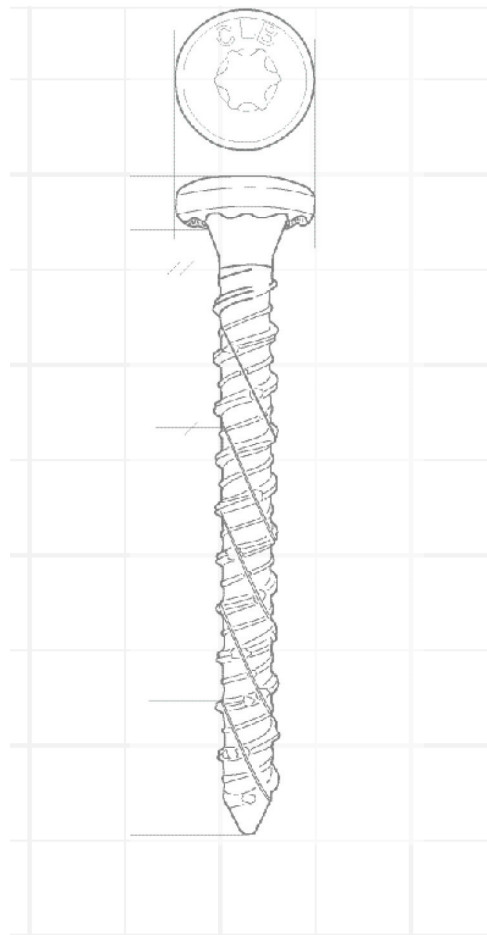
#### ÜberGrade™



Caliburn's uncompromised draw and pullout strength make it possible to be used in jobs which previously required an anchor. The screws aggressive thread design afford it the ability to be removed and reinserted into the same pilot hole numerous times—without the concern of the fastener breaking or the threads wearing.

### ADVANTAGES

- **Recessed Star Drive:** Zero Stripping, with 6 points of contact.
- **Aggressive Heavy duty threads** lock into concrete and can be removed and reinserted without screw damage.
- **Countersinking Bugle Head** locks wood to concrete for complete installation and effective anchoring.
- **Caliburn™ PH** pan head, which is ideal for an exposed finished look including installation of electrical boxes.
- **Caliburn™ XL** washer head design for superior holding power.
- **Climatek™ Coating is AC257** code approved for use in treated lumber.
- Ideal for use in anchoring to concrete or wood to concrete applications including basement framing and sheds.





## SELECTION CHART



T-30



T-30



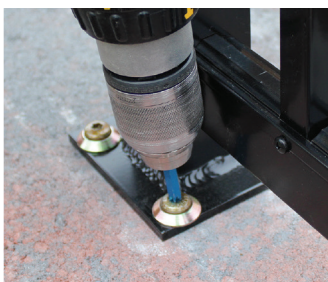
T-40

U.S. (STD.) SIZE (DIA. X LENGTH)	METRIC SIZE (DIA. X LENGTH)	HANDY-PAK PART NO.	HANDY-PAK CTN. SIZE/QTY.
1/4" x 1-3/4"	6.0 x 45	57153	M/50
1/4" x 2-1/4"	6.0 x 55	57156	M/50
1/4" x 2-3/4"	6.0 x 70	57159	M/50
1/4" x 3-1/2"	6.0 x 90	57163	M/50
<b>CALIBURN™ PH</b>			
1/4" x 2-1/4"	6.0 x 55	57831	M/50
<b>CALIBURN™ XL</b>			
19/64" x 2-3/4"	7.5 x 70	57774	M/25
19/64" x 3-1/2"	7.5 x 90	57778	M/25
19/64" x 5"	7.5 x 125	57785	M/25



**Great for a wide variety of indoor / outdoor home renovation projects**

1" bits in Handy-Paks.



## Selection Guide

### Star Drive Bits, Crown/Bit and Magnetic Bit Holder



BIT SIZE	BIT COLOUR	FITS	CARDED PART NO.	CARDED QTY/PER PACK	BOX PART NO.	QTY/BOX
T-10 2"	yellow	Trim™ Head #8	87419	2	86419	1,000
T-15 2"	red	R4™ Screw #6 & 8 Trim™ Head #9 Cabinet™ Screw Vinyl Window #8	87427	2		
T-20 2"	purple	Kameleon™ Screws	87435	2		
T-25 2"	green	R4™ #9,10 & 12, Caliburn™, Caliburn PH™, RSS™ #10 & 1/4"	87443	2	86443	1,000
T-30 2"	black	RSS™ Structural Screw 5/16" & 3/8", Caliburn™ & Caliburn PH™	87451	2	86451	1,000
T-40 2"	blue	Caliburn XL™ Screws RSS™ Structural Screw 3/8"	87459	2	86459	1,000
<b>CROWN/BIT</b>						
		TOP STAR™	86465	1		



# High Impact Merchandisers Designed to Drive Sales

Displays are free with qualifying order.

## Universal Display:

Ideal for end-cap with large selection of GRK product.

## Heavy Duty Rack Display:



**ITW Construction Products**

Call our toll free number 800-387-9692 or visit [www.itwconstruction.ca](http://www.itwconstruction.ca) for general information.  
Visit GRK Fasteners web site [www.grkfasteners.com](http://www.grkfasteners.com) for the most current product and technical information.

**GRK**  
FASTENERS  
Since 1968

## PERFORMANCE TABLES

TABLE 1: RSS™ FASTENER SPECIFICATIONS

FASTENER DESIGNATION		OVERALL LENGTH¹ (INCHES)	LENGTH OF THREAD² (INCHES)	MINOR THREAD DIAMETER³ (INCHES)	SHANK DIAMETER³ (INCHES)	OUTSIDE THREAD DIAMETER³ (INCHES)	ALLOWABLE STEEL STRENGTH		
							BENDING YIELD STRENGTH⁴ F <sub>YB</sub> (PSI)	TENSILE (LBF)	SHEAR (LBF)
RSS	1/4 x 2-1/2"	2-3/8	1-1/2	0.152	0.169	0.236	170,400	1,112	754
	1/4 x 2-3/4"	2-3/4	1-3/4						
	1/4 x 3-1/8"	3-1/8	2						
	1/4 x 3-1/2"	3-1/2	2-3/8						
	5/16 x 2-1/2"	2-3/8	1-1/2	0.167	0.195	0.276	190,900	1,415	982
	5/16 x 2-3/4"	2-3/4	1-3/4						
	5/16 x 3-1/8"	3-1/8	2-1/8						
	5/16 x 3-1/2"	3-1/2	2-1/2						
	5/16 x 4"	3-7/8	2-3/4						
	5/16 x 5-1/8"	5	3-1/2						
	5/16 x 6"	5-7/8	3-7/8						
	3/8 x 3-1/8"	3-1/8	2-1/8	0.191	0.219	0.313	178,000	1,941	1,231
	3/8 x 4"	3-7/8	2-3/4						
	3/8 x 5-1/8"	5-1/8	3-1/2						
	3/8 x 6"	5-7/8	4						
	3/8 x 7-1/4"	7	4-1/2						
	3/8 x 8"	7-7/8	4-3/8						
	3/8 x 10"	9-3/4	5						
	3/8 x 12"	11-7/8	5-7/8						
	3/8 x 14-1/8"	14-1/8	5-7/8						
	3/8 x 16"	15-5/8	5-3/4						
LFT	3/8 x 8"	7-7/8	3-7/8	0.191	0.220	0.310	167,600	1,714	1,094
	3/8 x 10"	9-7/8	3-7/8						
	3/8 x 12"	11-3/4	3-7/8						
	3/8 x 15"	14-3/4	3-7/8						
	3/8 x 20"	19-5/8	3-7/8						
JTS	1/4 x 3-3/8"	3-3/8	1-3/8	0.152	0.171	0.240	226,300	1,104	769
	1/4 x 5"	5	1-5/8						
	1/4 x 6-3/4"	6-3/4	1-1/2						

for S1: 1 inch = 25.4 mm; 1 psi = 6.9 kPa.

<sup>1</sup> Overall length of fastener is measured from the underside of the head to bottom of the tip. See Figure 1.

<sup>2</sup> Length of thread includes tip. See detailed illustration, Figure 1.

<sup>3</sup> Minor thread, shank and outside thread diameters are shown in table without manufacturing tolerances.

<sup>4</sup> Bending yield strength determined in accordance with ASTM F 1575 using the minor thread diameter.

**PERFORMANCE TABLES**
**TABLE 2: RSS™ WITHDRAWAL DESIGN VALUES (W)<sup>1</sup>**
**[WITHDRAWAL VALUES (W) ARE IN POUNDS PER INCH OF THREAD PENETRATION INTO SIDE GRAIN OF MAIN MEMBER]**

FASTENER DESIGNATION AND DIAMETER Ø		WITHDRAWAL, W (LBS./IN.) FOR SPECIFIC GRAVITIES OF:	
		0.42 ≤ G < 0.55	0.55 ≤ G < 0.67
RSS	Ø 1/4	151	186
	Ø 5/16	165	227
	Ø 3/8	180	259
LTF	Ø 3/8	163	216
JTS	Ø 1/4	152	191

for S1: 1 inch = 25.4 mm

<sup>1</sup> Fastener withdrawal was tested in accordance with ASTM D 1761.

<sup>2</sup> Withdrawal values (W) shall be multiplied by the length of thread penetration in the main member (including tip).

**TABLE 3: RSS™ PULL-THROUGH DESIGN VALUES (P)<sup>1</sup>**
**[PULL-THROUGH VALUES (P) ARE IN POUNDS PER INCH OF SIDE MEMBER THICKNESS]**

FASTENER DESIGNATION AND DIAMETER Ø		PULL-THROUGH, P (LBS./IN.) FOR SPECIFIC GRAVITIES OF:	
		0.42 ≤ G < 0.55	0.55 ≤ G < 0.67
RSS	Ø 1/4	165	275
	Ø 5/16	207	418
	Ø 3/8	196	351
LTF	Ø 3/8	202	373
JTS	Ø 1/4	154	372

for S1: 1 inch = 25.4 mm

<sup>1</sup> Fastener pull-through testing was performed in accordance with ASTM D 1037 with 3/4" thick side members.

**These figures are only offered as a guide and are not reduced by any safety factor. For safety factor requirements in your area, contact your local building official, architect or engineer.**

## PERFORMANCE TABLES

**TABLE 4: RSS™ LATERAL DESIGN VALUES (Z) FOR SINGLE SHEAR (TWO-MEMBER) CONNECTIONS<sup>1</sup>**  
**[FOR SAWN LUMBER OR SCL WITH BOTH MEMBERS OF IDENTICAL SPECIFIC GRAVITY]**

FASTENER DESIGNATION	SIDE MEMBER THICKNESS $T_s$ (INCHES):	FASTENER PENETRATION $P$ (INCHES)	LATERAL VALUE, Z (POUNDS) FOR SPECIFIC GRAVITIES OF:			
			0.42 ≤ G < 0.55		0.55 ≤ G < 0.67	
			PARALLEL TO GRAIN $Z_{  }$	PERPENDICULAR TO GRAIN, $Z_{\perp}$	PARALLEL TO GRAIN $Z_{  }$	PERPENDICULAR TO GRAIN, $Z_{\perp}$
RSS	1/4 x 2-1/2"	3/4	153	137	175	175
	1/4 x 2-3/4"	3/4				
	1/4 x 3-1/8"	3/4				
	1/4 x 3-1/2"	3/4				
	5/16 x 2-1/2"	3/4	168	133	214	178
	5/16 x 2-3/4"	3/4				
	5/16 x 3-1/8"	3/4				
	5/16 x 3-1/2"	3/4				
	5/16 x 4"	1-1/2	239	236	333	257
	5/16 x 5-1/8"	1-1/2				
	5/16 x 6"	2	265	299	472	289
	3/8 x 3-1/8"	3-4	188	156	251	220
	3/8 x 4"	1-1/2	224	205	274	264
	3/8 x 5-1/8"	1-1/2				
	3/8 x 6"	2	270	296	325	288
	3/8 x 7-1/4"	2-3/4	423	291	593	304
	3/8 x 8"	3-1/2				
	3/8 x 10"	3-1/2				
	3/8 x 12"	3-1/2				
	3/8 x 14-1/8"	3-1/2				
	3/8 x 16"	3-1/2				
LFT	3/8 x 8"	4	433	315	556	402
	3/8 x 10"	6				
	3/8 x 12"	8				
	3/8 x 15"	11	N/A	N/A	N/A	N/A
	3/8 x 20"	16				
JTS	1/4 x 3-3/8"	1-3/4	157	168	217	217
	1/4 x 5"	1-3/4	168	221	241	237
	1/4 x 6-3/4"	1-3/4				

for S1: 1 inch = 25.4 mm

<sup>1</sup> Lateral load testing was performed in accordance with ASTM D 1761.

These figures are only offered as a guide and are not reduced by any safety factor. For safety factor requirements in your area, contact your local building official, architect or engineer.



## PERFORMANCE TABLES

TABLE 5: CONNECTION GEOMETRY

CONNECTION GEOMETRY/CRITERIA	DIAMETERS <sup>1</sup>	RSS, JTS & PHEINOX 1/4" NOMINAL DIAMETER (INCHES)	RSS & PHEINOX 5/16" NOMINAL DIAMETER (INCHES)	RSS & LTF 3/8" NOMINAL DIAMETER (INCHES)
<b>MINIMUM EDGE DISTANCE</b>				
LOADING PARALLEL TO GRAIN	8	1-1/2	1-5/8	1-7/8
LOADING PERPENDICULAR TO GRAIN, LOADED EDGE	8	1-1/2	1-5/8	1-7/8
LOADING PERPENDICULAR TO GRAIN, UNLOADED EDGE	8	1-1/2	1-5/8	1-7/8
<b>MINIMUM END DISTANCE</b>				
TENSION LOAD PARALLEL TO GRAIN	15	2-5/8	3	3-3/8
COMPRESSION LOAD PARALLEL TO GRAIN	10	1-3/4	2	2-1/4
LOAD PERPENDICULAR TO GRAIN	10	1-3/4	2	2-1/4
<b>SPACING (PITCH) BETWEEN FASTENERS IN A ROW</b>				
PARALLEL TO GRAIN	15	2-5/8	3	3-3/8
PERPENDICULAR TO GRAIN	10	1-3/4	2	2-1/4
<b>SPACING (GAGE) BETWEEN ROWS AND FASTENERS</b>				
IN-LINE	5	7/8	1	1-1/8
STAGGERED	2.5	1/2	1/2	5/8
<b>MINIMUM PENETRATION INTO MAIN MEMBER FOR SINGLE SHEAR CONNECTIONS</b>				
	6 <sup>2</sup>	1-1/8	1-1/4	1-3/8

for S1: 1 inch = 25.4 mm

<sup>1</sup> Diameter is the shank diameter as specified in Table 1.

<sup>2</sup> Reduce lateral load values provided in Table 4 when penetration is less than 10D.

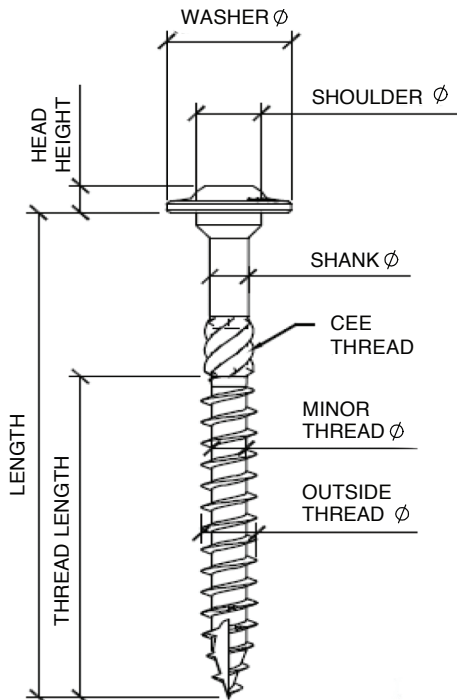


FIGURE 1 - FASTENER DIMENSIONS

SCREW TYPE	HEAD STAMP	WASHER Ø ± 0.020	HEAD HEIGHT ± 0.010	SHOULDER Ø ± 0.010	CEE THREAD <sup>2</sup>
RSS 1/4 (6.0 mm)		0.533	0.110	0.244	LENGTH ≥ 3-1/8"
RSS 5/16 (7.0 mm)		0.620	0.157	0.301	LENGTH ≥ 3-1/8"
RSS 3/8 (8.0 mm)		0.689	0.181	0.364	LENGTH ≥ 3-1/8"
LTF 3/8 (8.0 mm)		0.688	0.181	0.364	LENGTH ≥ 3-1/8"
JTS 1/4 (6.3 mm)		0.534	0.090	0.244	LENGTH ≥ 5"

### NOTES:

- See table 1 for overall length, thread length, shank diameter, outside thread diameter and minor thread diameter.
- CEE thread on screws with lengths greater than or equal to those indicated, not used for calculations.

## PERFORMANCE TABLES

TABLE 1: FASTENER SPECIFICATIONS

FASTENER DESIGNATION	OVERALL LENGTH <sup>1</sup> (INCHES)	LENGTH OF THREAD <sup>2</sup> (INCHES)	MINOR THREAD DIAMETER <sup>3</sup> (INCHES)	SHANK DIAMETER <sup>3</sup> (INCHES)	OUTSIDE THREAD DIAMETER <sup>3</sup> (INCHES)	ALLOWABLE STEEL STRENGTH		
						BENDING YIELD STRENGTH <sup>4</sup> <i>F<sub>yb</sub></i> (PSI)	TENSILE (PSI) [POUNDS]	SHEAR (PSI) [POUNDS]
R4	9 x 2"	2	0.117	0.130	0.174	158,800	<b>61,760</b> [627]	<b>39,660</b> [428]
	9 x 2-1/2"	2-3/8						
	9 x 2-3/4"	2-3/4						
	9 x 3-1/8"	3-1/8						
	10 x 2-1/2"	2-3/8	0.128	0.142	0.194	143,590	<b>62,640</b> [846]	<b>44,520</b> [542]
	10 x 2-3/4"	2-3/4						
	10 x 3-1/8"	3-1/8						
	10 x 3-1/2"	3-1/2						
	10 x 4"	3-7/8						
	10 x 4-3/4"	4-5/8						
	12 x 2-1/2"	2-3/8	0.153	0.172	0.238	134,280	<b>60,580</b> [1,134]	<b>38,610</b> [655]
	12 x 2-3/4"	2-3/4						
	12 x 3-1/8"	3-1/8						
	12 x 3-1/2"	3-1/2						
	12 x 4"	3-7/8						
	12 x 4-3/4"	4-5/8						
	12 x 5-5/8"	5-1/2						
	12 x 6-3/8"	6-1/4						
	12 x 7-1/4"	7						
	12 x 8"	7-7/8						
	12 x 10"	9-3/4						
	12 x 12"	11-3/4						
TRIM	8 x 2-1/2"	2-3/8	0.106	0.116	0.160	148,410	<b>56,580</b> [499]	<b>40,000</b> [360]
	8 x 2-3/4"	2-3/4						
	8 x 3-1/8"	3-1/8						
	9 x 2-1/2"	2-3/8	0.114	0.128	0.176	147,280	<b>57,000</b> [576]	<b>42,160</b> [425]
	9 x 2-3/4"	2-3/4						
	9 x 3-1/8"	3-1/8						
KAMELEON	9 x 2-1/2"	2-1/2	0.119	0.134	0.177	160,210	<b>57,490</b> [634]	<b>37,870</b> [437]
	9 x 2-3/4"	2-3/4						
	9 x 3-1/8"	3-1/8						

for S1: 1 inch = 25.4 mm; 1 psi = 6.9 kPa.

<sup>1</sup> Overall length of fastener is measured from the top of the head to bottom of the tip. See Figure 1.

<sup>2</sup> Length of thread includes tip. See detailed illustration, Figure 1.

<sup>3</sup> Minor thread, shank and outside thread diameters are shown in table without manufacturing tolerances.

<sup>4</sup> Bending yield strength determined in accordance with ASTM F 1575 using the minor thread diameter.

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SCREW TYPE	HEAD Ø	CEE-THREAD
R4 - #9 (4.5 mm)	$0.328 \pm 0.006$	LENGTH = > 2"
R4 - #10 (5.0 mm)	$0.368 \pm 0.006$	LENGTH = > 2"
R4 - #12 (6.0 mm)	$0.439 \pm 0.010$	LENGTH = > 2"
TRIM - #8 (4.0 mm)	$0.197 \pm 0.006$	N/A
TRIM - #9 (4.5 mm)	$0.230 \pm 0.006$	N/A
KAMELEON - #9 (4.5 mm)	$0.258 \pm 0.006$	ALL LENGTHS

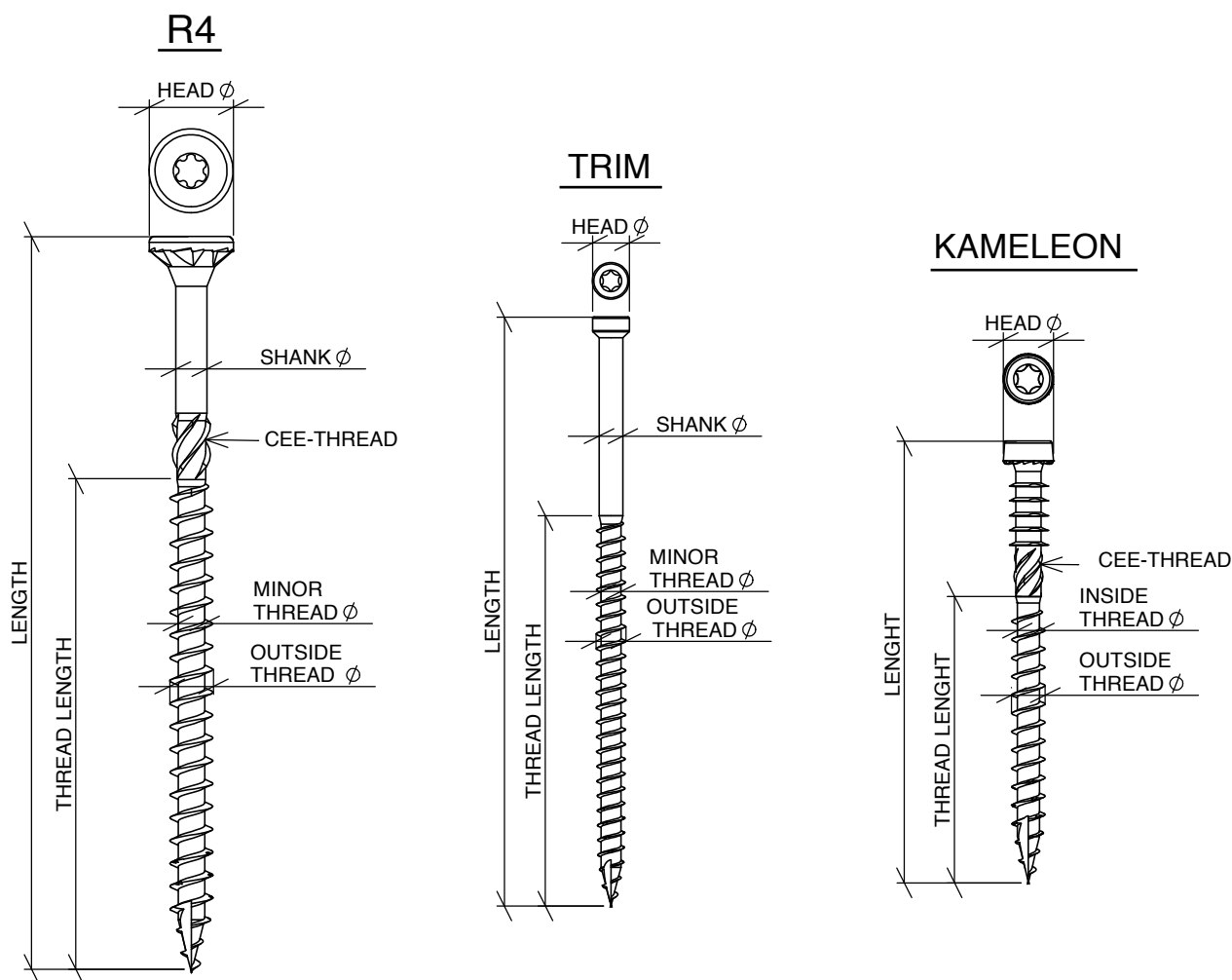


FIGURE 1 - FASTENER DIMENSIONS

### NOTES:

1. See table 1 for overall length, thread length, shank diameter, outside thread diameter and minor thread diameter.
2. CEE thread on screws with lengths greater than or equal to those indicated, not used for calculations.
3. Dimensions given if not otherwise stated are in inches (for SI 1 inch = 25.4 mm)

## PERFORMANCE TABLES

**TABLE 2: DESIGN WITHDRAWAL VALUES (W)<sup>1</sup>**

[TABULATED WITHDRAWAL VALUES (W) ARE IN POUNDS PER INCH OF THREAD PENETRATION INTO SIDE GRAIN OF MAIN MEMBER]

FASTENER DESIGNATION		WITHDRAWAL, W (LBS./IN.) FOR SPECIFIC GRAVITIES OF:
		0.67
R4	# 9	179
	# 10	249
	#12	255
TRIM	# 8	175
	# 9	221
KAMELEON	# 9	186

for S1: 1 inch = 25.4 mm; 1 lbf/in = 175.127 N/m.

<sup>1</sup> Fastener withdrawal was tested in accordance with ASTM D 1761.

<sup>2</sup> Values must not be multiplied by any adjustment/safety factor.

**TABLE 3: DESIGN PULL-THROUGH VALUES (P)<sup>1</sup>**

[TABULATED PULL-THROUGH VALUES (P) ARE IN POUNDS PER INCH OF SIDE MEMBER THICKNESS]

FASTENER DESIGNATION		PULL-THROUGH, P (LBS./IN.) FOR SPECIFIC GRAVITIES OF:
		0.67
R4	# 9	162
	# 10	275
	#12	407
TRIM	# 8	61
	# 9	94
KAMELEON	# 9	143

for S1: 1 inch = 25.4 mm; 1 lbf/in = 175.127 N/m.

<sup>1</sup> Fastener pull-through testing was performed in accordance with ASTM D 1037.

<sup>2</sup> Values must be multiplied by all applicable adjustment factors. (20.15 NDS Table 11.3.1)

<sup>3</sup> Minimum side member thickness must be 3/4".



## PERFORMANCE TABLES

**TABLE 4: REFERENCE LATERAL DESIGN VALUES (Z) FOR SINGLE SHEAR (TWO MEMBER) CONNECTIONS<sup>1</sup>**  
**[FOR SAWN LUMBER OR SCL WITH BOTH MEMBERS OF IDENTICAL SPECIFIC GRAVITY]**

	FASTENER DESIGNATION	SIDE MEMBER THICKNESS, $T_s$ (INCHES)	FASTENER PENETRATION, $P$ (INCHES)	REFERENCE LATERAL ULTIMATE VALUE, $Z$ (POUNDS) FOR SPECIFIC
				0.67
				PARALLEL TO GRAIN, $Z_{  }$
R4	9 x 2"	3/4	1-1/8	175
	9 x 2-1/2"	3/4	1-1/2	
	9 x 2-3/4"	3/4	2	
	9 x 3-1/8"	3/4	2-3/8	
	10 x 2-1/2"	3/4	1-1/2	203
	10 x 2-3/4"	3/4	2	
	10 x 3-1/8"	3/4	2-3/8	
	10 x 3-1/2"	3/4	2-3/4	
	10 x 4"	3/4	3-1/8	242
	10 x 4-3/4"	3/4	3-7/8	
	12 x 2-1/2"	3/4	1-1/2	
	12 x 2-3/4"	3/4	2	
	12 x 3-1/8"	3/4	2-3/8	
	12 x 3-1/2"	3/4	2-3/4	
	12 x 4"	3/4	3-1/8	
	12 x 4-3/4"	3/4	3-7/8	
	12 x 5-5/8"	3/4	4-3/4	
	12 x 6-3/8"	3/4	5-1/2	
	12 x 7-1/4"	3/4	6-1/4	
	12 x 8"	3/4	7	
	12 x 10"	3/4	9	
	12 x 12"	3/4	11	
TRIM	8 x 2-1/2"	3/4	1-1/2	84
	8 x 2-3/4"	3/4	2	
	8 x 3-1/8"	3/4	2-1/2	
	9 x 2-1/2"	3/4	1-1/2	104
	9 x 2-3/4"	3/4	2	
	9 x 3-1/8"	3/4	2-3/8	
KAMELEON	9 x 2-1/2"	3/4	1-5/8	159
	9 x 2-3/4"	3/4	1-7/8	
	9 x 3-1/8"	3/4	2-3/8	

for S1: 1 inch = 25.4 mm

<sup>1</sup> Lateral load testing was performed in accordance with ASTM D 1761.

<sup>2</sup> Values must be multiplied by all applicable adjustment factors. (20.15 NDS Table 11.3.1)



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