SECTION 06 05 23

WOOD, PLASTIC, AND COMPOSITE FASTENERS

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\*\* NOTE TO SPECIFIER \*\* Starborn , Screws and Fasteners.
This section is based on the products of Starborn Screws and Fasteners , which is located at:
200 Raritan Center Pkwy.
Edison, New Jersey 08837.
Toll Free: 800-596-7747.
Phone: 800-596-7747.
Email: info@starbornindustries.com.
Web: www.starbornindustries.com.
[ [Click Here](https://arcat.com/company/starborn-industries-inc-48278) ] for additional information.
Company Overview :
Founded in Brooklyn, New York in 1961, Starborn Industries, Inc. originally owned and operated a wood products factory. In the early 1980s fasteners became the primary focus of the company, as drywall screws emerged as a construction fastener. Since the late 1980s the company has expanded its product lines while creating, designing and bringing to market its own fastener and fastener-related products specially created for the deck construction market.
Starborn is a national distributor and one of the largest importers in the USA for drywall screws. Starborn is also one of the first companies to recognize that decks have evolved into individualized statements of modern residential living and that the quality of a deck fastener plays an essential role in the stability, the finish and the longevity of a deck.
Since 1961 the company has grown from a strong local and regional player to an established national provider. In recent years Starborn has also recognized a demand for its products internationally and is now distributing in Europe, Asia, Africa, South America, the Caribbean and Australia.
Starborn Industries, Inc. is located in Edison, New Jersey, in a state-of-the-art warehouse and distribution facility. In addition to the warehouse and fulfillment staff, Starborn has a full service sales and marketing department.
Starborn Industries, Inc. is an independent, second generation family-owned and operated business.

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Screws and fasteners for cladding, rainscreen, and flooring systems.
			1. ACQ and Pressure Treated Lumber.
			2. Engineered Wood Beams.
			3. Dimensional Wood Beams.
			4. Deck Ledger Attachment.
			5. Truss to Plate Connections.
			6. Wood Decking and Cladding.
			7. PVC and Composite Decking and Cladding.
			8. PVC and Composite Deck Fascia Boards.
			9. Composite Deck Fascia.
			10. Wood Flooring.
			11. PVC Trim Board.
			12. Pressure Treated Decking.
			13. Finish Applications.
			14. Clips.
			15. Fasteners.
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 05 12 00 - Structural Steel Metal Framing.
		2. Section 05 12 13 - Architecturally-Exposed Structural Steel Framing.
		3. Section 05 21 00 - Steel Joist Framing.
		4. Section 05 40 00 - Cold-Formed Metal Framing.
		5. Section 06 10 00 - Rough Carpentry.
		6. Section 06 13 23 - Heavy Timber Framing.
		7. Section 06 13 26 - Heavy Timber Trusses.
		8. Section 06 15 00 - Wood Decking.
		9. Section 06 18 00 - Glued-Laminated Construction.
		10. Section 06 20 00 - Finish Carpentry.
		11. Section 06 53 00 - Plastic Decking.
		12. Section 06 73 00 - Composite Decking.
		13. Section 07 42 43 - Composite Wall Panels.
		14. Section 07 46 23 - Wood Siding.
		15. Section 07 46 33 - Plastic Siding.
		16. Section 07 46 43 - Composition Siding.
		17. Section 09 64 29 - Wood Strip and Plant Flooring
		18. Section 09 64 33 - Laminated Wood Flooring.
		19. Section 09 64 66 - Wood Athletic Flooring.
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. International Building Code (IBC); 2024.
		2. International Residential Code (IRC);2021.
	1. SUBMITTALS
		1. Submit under provisions of Section 01 3000.
		2. Product Data:
			1. Manufacturer's data sheets on each product to be used.
			2. Typical installation methods.

\*\* NOTE TO SPECIFIER \*\* Delete if not applicable to product type.

* + 1. Verification Samples: Two representative units of each type, size, pattern, and color.
	1. QUALITY ASSURANCE
		1. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.
		2. Comply with manufacturer's corrosion guidelines. Notify Architect if any specified screw or fastener does not meet project conditions.
	2. DELIVERY, STORAGE, AND HANDLING
		1. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
		2. Protect from damage due to weather, excessive temperature, and construction operations.
	3. WARRANTY
		1. Manufacturer's standard product warranty unless indicated otherwise.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Starborn Industries Inc. , which is located at:
		200 Raritan Center Pkwy.
		Edison, NJ 08837
		Toll Free Tel: 800-596-7747
		Fax: 732-381-9830
		Email: [request info (schecco@starbornindustries.com)](https://arcat.com/rfi?action=email&company=Starborn%252BIndustries%252BInc.%252B&message=RE%253A%2520Spec%2520Question%2520(06100sbn)%253A%2520&coid=48278&spec=06100sbn&rep=&fax=732-381-9830);Web: <https://starbornindustries.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with the provisions of Section 01 60 00.

\*\* NOTE TO SPECIFIER \*\*
CORROSION
CORROSION INFORMATION
All metal fasteners have the potential to corrode, including stainless steel screws. Corrosion can result from a number of different factors including environmental conditions, materials, construction design and other factors. No single guideline can address all corrosion possibilities.
Starborn offers four types of exterior fasteners:
- Epoxy coated carbon steel
- Epoxy coated grade 410 stainless steel
- Grade 305 stainless steel
- Grade 316 stainless steel
Choose the best fastener based on the material being fastened and the environmental conditions of the project location.
EXTERIOR COATINGS AND FINISHES
EPOXY COATED STEEL
Starborn epoxy coated carbon steel screws have zinc plating and an epoxy-based polymer resin overcoat. This coating is approved for use in pressure treated lumber. This coating is not recommended for the following applications:
- Surfaces where chlorine or de-icing salts are used.
- Projects within 1000 feet of salt water
- Redwood, cedar, tropical hardwoods or other woods with high tannin content
- Consistently wet environments
EPOXY COATED GRADE 410
Starborn epoxy coated grade 410 stainless steel has a higher carbon content than 305 and 316 stainless steel screws in order to increase hardness for penetrating through steel and aluminum joists. They are zinc plated and have an epoxy based polymer resin overcoat. This coating is approved for use in pressure treated lumber. This coating is not recommended for the following applications:
- Surfaces where chlorine or de-icing salts are used.
- Projects within 1000 feet of salt water
- Redwood, cedar, tropical hardwoods or other woods with high tannin content
- Consistently wet environments
GRADE 305 STAINLESS STEEL
Starborn grade 305 stainless steel screws provide excellent corrosion protection in most situations. However, 305 stainless is not recommended for salt water and other highly chlorified environments.
GRADE 316 STAINLESS STEEL
Starborn 316 stainless steel screws are recommended in saltwater and other highly corrosive environments to minimize potential corrosion and/or discoloration of the fastener and surrounding materials.
- Pressure Treated Lumber: Has preservative agents that help protect wood from rot and insects and is commonly used for outdoor projects. Commonly used Fasteners: In normal environments, Starborn epoxy coated carbon steel screws provide excellent corrosion resistance.
- Cedar, Redwood and Hardwoods: Many tropical hardwoods, as well as cedar and redwood, contain large amounts of tannins and other chemical compounds that provide natural protection against deterioration. The natural chemicals can also cause staining and corrosion when they come into contact with zinc or carbon steel. Stainless steel screws are always recommended.
- Composite Decking & Fascia / PVC Decking and Trim: Composite decking is basically a combination of wood pulp and recycled plastic. The ratio of wood to plastic varies depending on the brand. Compared to natural wood, the plastic in composite decking makes it more resistant to moisture and insects. Like composite, PVC is made from artificial materials. But instead of being a mix of wood and plastic, PVC decking and trim are 100% plastic. Always follow installation instructions and fastener recommendations provided by decking manufacturer to determine whether stainless steel screws are required or if epoxy coated screws are sufficient.
ENIVIRONMENTAL CONDITIONS TO CONSIDER
Environmental conditions must be considered separately from the material being fastened.
Common Example:
A treated lumber deck can normally be fastened with epoxy coated steel screws, but a treated lumber deck next to a swimming pool should be fastened with grade 316 stainless because it is a corrosive environment.
Below are some examples of environmental conditions to consider when choosing the right fastener:
Salt air or water
Swimming pools, docks, "splash-zones"
Surfaces where de-salting and harsh chemical cleaning products are used
Consistently wet environments
Wood in direct contact with ground
Applications near water (especially salt water), swimming pools and other similar environments are subject to accelerated corrosion. The use of 316 stainless is recommended. However, staining or corrosion is still possible. Washing residues and salt deposits from the surface regularly will minimize potential corrosion and discoloration of surrounding materials.
STAINLESS STEEL IS RUST RESISTENT NOT RUST-PROOF
Stainless steel is armed with built-in corrosion resistance, but it can corrode in certain conditions.
Tea staining of stainless steels is a phenomenon that can occur where water is in regular contact with the metal surface. This is a common occurrence along the coastal areas.
There are several precautions you can take to help prevent tea-staining occurring which include choosing the correct grade of stainless for your application and adequate cleaning or washing of the installed screw heads. It is important that residues and salt deposits are regularly washed from the surface. Regular maintenance is strongly advised.

* 1. STRUCTURAL WOOD SCREWS

\*\* NOTE TO SPECIFIER \*\* F23 for Decks only.

* + 1. Structural Wood Screws - Structural F23 - Model XF23C:
			1. Use:
				1. ACQ and pressure treated lumber.
				2. Deck Ledger Attachment: 4 inch (101.60 mm) and 5 inch (127 mm) lengths.
				3. Cladding Attachment Through Foam Sheathing
				4. Single sided joining of multi-ply dimensional wood beams: 2-7/8 inch (73.02 mm), 4 inch (101.60 mm), and 6 inch (152.40 mm) lengths.
			2. Material: 10B21 Steel.
			3. Coating: Black exterior coating.
			4. Head: Flat.
			5. Thread: Coarse.
			6. Point: Tri-Forge Point.
			7. Size:
				1. 2-7/8 inch (73.02 mm).
				2. 4 inch (101.60 mm).
				3. 5 inch (127 mm).
				4. 6 inch (152.40 mm).
				5. 8 inch (203.20 mm).
				6. 10 inch (254 mm).
			8. Recess Size and Type: T-40, Star drive.
			9. Head Diameter: 18.5 mm to 19.60 mm.
			10. Head Angle: 40 Degrees.
			11. Body Diameter: 5.77 mm to 5.87 mm.
			12. Major Diameter: 7.60 mm to 8.00 mm.
			13. Thread Pitch: 7 tpi.

\*\* NOTE TO SPECIFIER \*\* F23 for Decks only.

* + 1. Structural Wood Screws - Structural F23 Stainless - Model XF23U:
			1. Use:
				1. ACQ and pressure treated lumber.
				2. Coastal and severe corrosion environments where salt water is a concern
				3. Deck Ledger Attachment: 4 inch (101.60 mm) and 5 inch (127 mm) lengths.
				4. Cladding Attachment Through Foam Sheathing
			2. Material: 316 Stainless Steel.
			3. Coating: Available in uncoated or head-coated
			4. Head: Flat.
			5. Thread: Coarse.
			6. Point: Type 17 Auger.
			7. Size:
				1. 2-7/8 inch (73.02 mm).
				2. 4 inch (101.60 mm).
				3. 5 inch (127 mm).
				4. 6 inch (152.40 mm).
			8. Recess Size and Type: T-40, Star drive.
			9. Head Diameter: 17 mm to 18 mm.
			10. Head Angle: 40 Degrees.
			11. Body Diameter: 5.77 mm to 5.87 mm.
			12. Major Diameter: 7.60 mm to 8.00 mm.
			13. Thread Pitch: 7 tpi.
		2. Structural Wood Screws - Structural F23-E - Model XF23E :
			1. Use: Single sided joining of multi-ply engineered wood beams.
			2. Material: 10B21 Steel.
			3. Coating: Gray interior coating.
			4. Head: Flat.
			5. Thread: Coarse.
			6. Point: Tri-Forge Point.
			7. Size:
				1. 3-3/8 inch (85.73 mm).
				2. 5 inch (127 mm).
				3. 6-3/4 inch (171.45 mm).
			8. Recess Size and Type: T-40, Star drive.
			9. Head Diameter: 18.5 mm to 19.60 mm.
			10. Head Angle : 40 Degrees.
			11. Body Diameter: 5.77 mm to 5.87 mm.
			12. Major Diameter: 7.60 mm to 8.00 mm.
			13. Thread Pitch: 7 tpi.
			14. Lengths For :
				1. 2-ply beam.
				2. 3-ply beam.
				3. 4-ply beam.

\*\* NOTE TO SPECIFIER \*\* F23-W for Decks only.

* + 1. Structural Wood Screws - Structural F23-W - Model XF23 W :
			1. Use: Single sided joining of multi-ply dimensional wood beams.
			2. Material: 10B21 Steel.
			3. Coating: Gray interior coating.
			4. Head: Flat.
			5. Thread: Coarse.
			6. Point: Tri-Forge Point.
			7. Size:
				1. 2-7/8 inch (73.02 mm).
				2. 4-3/8 inch (111.13 mm).
				3. 5-7/8 inch (149.23 mm).
			8. Recess Size and Type: T-40, Star drive.
			9. Head Diameter: 18.5 mm to 19.6 mm.
			10. Head Angle: 40 Degrees.
			11. Body Diameter: 5.77 mm to 5.87 mm.
			12. Major Diameter: 7.60 mm to 8.00 mm.
			13. Thread Pitch: 7 tpi.
			14. Lengths For:
				1. 2-ply beam.
				2. 3-ply beam.
				3. 4-ply beam.
		2. Structural Wood Screws - Structural H19 - Model XH19C:
			1. Use:
				1. ACQ and pressure treated lumber.
				2. Truss to Single Top Plate Connection: 4 inch (101.60 mm) length.
				3. Truss to Double Top Plate Connection: 6 inch (152.40 mm) length.
				4. Bottom Plate to Rim Board: 4 inch (101.60 mm), 6 inch (152.40 mm), 8 inch (203.20 mm), and 10 inch (254 mm) lengths.
				5. Cladding over Foam Sheathing
			2. Material: 10B21 Steel.
			3. Coating: Black exterior coating.
			4. Head: Hex.
			5. Thread: Coarse.
			6. Point: Tri-Forge Point.
			7. Size:
				1. 2-7/8 inch (73.02 mm).
				2. 4 inch (101.60 mm).
				3. 6 inch (152.40 mm).
				4. 8 inch (203.20 mm).
				5. 10 inch (254 mm).
			8. Drive Size and Type: 5/16 inch (7.94 mm), Hex drive.
			9. Head Diameter: 11.2 mm to 12mm.
			10. Body Diameter: 4.77 mm to 4.87 mm.
			11. Major Diameter: 6.4 mm to 6.8 mm.
			12. Thread Pitch: 7 tpi.

\*\* NOTE TO SPECIFIER \*\* H23 for Decks only.

* + 1. Structural Wood Screw s - Structural H23 - Model XH23C:
			1. Use:
				1. ACQ and pressure treated lumber.
				2. Deck ledger attachment.
			2. Material: 10B21 Steel.
			3. Coating: Black exterior coating.
			4. Head: Hex.
			5. Thread: Coarse.
			6. Point: Tri-Forge Point.
			7. Size:
				1. 4 inch (101.60 mm).
				2. 5 inch (127 mm).
			8. Drive Size and Type: 3/8 inch (9.52 mm), Hex drive.
			9. Head Diameter: 15.0 mm to 16.0 mm.
			10. Body Diameter: 5.77 mm to 5.87 mm.
			11. Major Diameter: 7.60 mm to 8.00 mm.
			12. Thread Pitch: 7 tpi.
		2. Stainless Steel Screws Decking and Cladding Screws - HEADCOTE :
			1. Use: Hardwood, Cedar, Redwood, Pressure Treated Decking, and Cladding.
			2. Material:
				1. Grade 305 Stainless Steel:

Trim Head: Model STX.

Flat Head: Model SFX.

* + - * 1. Marine Grade 316 Stainless Steel:

Trim Head: Model UTX.

Flat Head: Model UFX.

* + - * 1. ACQ approved.
			1. Color: As selected by Architect from manufacturer's standard range.
			2. Head: Trim Head or Reinforced Flat Head with Nibs.
			3. Thread: Coarse.
			4. Point: Type 17 Auger.
			5. Trim Head:
				1. Size: 7 x 1-5/8 inch (41.28 mm) or 7 x 2-1/4 inch (57.15 mm).

Recess Size and Type: T-15 Star drive.

Head Diameter: 6.0 mm.

Head Angle: 60 Degrees.

Body Diameter: 3.12 mm to 3.18 mm.

Major Diameter: 4.05 mm to 4.35 mm.

Thread Pitch: 9 tpi.

* + - * 1. Size: 8 x 2-1/2 inch (63.50 mm) or 8 x 3 inch (76.20 mm).

Recess Size and Type: T-20 Star drive.

Head Diameter: 6.5 mm.

Head Angle: 60 Degrees.

Body Diameter: 3.28 mm to 3.38 mm.

Major Diameter: 4.40 mm to 4.75 mm.

Thread Pitch: 9 tpi.

* + - 1. Flat Head:
				1. Size: 8 x 2 inch (50.80 mm).

Recess Size and Type: T-20Star drive.

Head Diameter: 8.75 mm.

Head Angle: 90Degrees.

Body Diameter: 3.28 mm to 3.32 mm.

Major Diameter: 4.35 mm to 4.6 5 mm.

Thread Pitch: 8 tpi.

* + - * 1. Size: 10 x 2-1/2 inch (63.50 mm) or 10 x 3 inch (76.20 mm).

Recess Size and Type: T-25Star drive.

Head Diameter: 9 mm.

Head Angle: 90 Degrees.

Body Diameter: 3.72 mm to 3.82 mm.

Major Diameter: 4.91 mm to5.3 mm.

Thread Pitch: 8 tpi.

* + 1. Stainless Steel Screws Decking and Cladding Screws - DECKFAST STAINLESS:
			1. Use: Hardwood, Cedar, Redwood, Pressure Treated Decking, and Cladding.
			2. Material:
				1. Grade 305 Stainless Steel:

Trim Head: Model STX.

Flat Head: Model SFX.

* + - * 1. Marine Grade 316 Stainless Steel:

Trim Head: Model UTX.

Flat Head: Model UFX.

* + - * 1. ACQ approved.
			1. Head: Trim Head or Reinforced Flat Head with Nibs.
			2. Thread: Coarse.
			3. Point: Type 17 Auger.
			4. Trim Head:
				1. Size: 7 x 1-5/8 inch (41.28 mm) or 7 x 2-1/4 inch (57.15 mm).

Recess Size and Type: T-15 Star drive.

Head Diameter: 6.0 mm.

Head Angle: 60 Degrees.

Body Diameter: 3.12 mm to 3.18 mm.

Major Diameter: 4.05 mm to 4.35 mm.

Thread Pitch: 9 tpi.

* + - * 1. Size: 8 x 2-1/2 inch (63.50 mm) or 8 x 3 inch (76.20 mm).

Recess Size and Type: T-20 Star drive.

Head Diameter: 6.5 mm.

Head Angle: 60 Degrees.

Body Diameter: 3.28 mm to 3.38 mm.

Major Diameter: 4.40 mm to 4.75 mm.

Thread Pitch: 9 tpi.

* + - 1. Flat Head:
				1. Size: 6 x 1-1/4 inch (31.75 mm), 8 x 1-5/8 inch (41.28 mm), 8 x 2 inch (50.80 mm).

Recess Size and Type: T-20 Star drive.

Head Diameter:

6 x 1-1/4 inch (31.75 mm): 7.75.

8 x 1-5/8 inch (41.28 mm), 8 x 2 inch (50.80 mm): 8.75.

Head Angle: 90 Degrees.

Body Diameter:

6 x 1-1/4 inch (31.75 mm): 2.80 mm to 2.90 mm.

8 x 1-5/8 inch (41.28 mm), 8 x 2 inch (50.80 mm): 3.28 mm to 3.32 mm.

Major Diameter:

6 x 1-1/4 inch (31.75 mm): 3.75 mm to 4.00 mm.

8 x 1-5/8 inch (41.28 mm), 8 x 2 inch (50.80 mm): 4.35 mm to 4.65 mm.

Thread Pitch:

6 x 1-1/4 inch (31.75 mm): 9 tpi.

8 x 1-5/8 inch (41.28 mm), 8 x 2 inch (50.80 mm): 8 tpi.

* + - * 1. Size: 10 x 2-1/2 inch (63.50 mm) or 10 x 3 inch (76.20 mm).

Recess Size and Type: T-25 Star drive.

Head Diameter: 9.0 mm.

Head Angle: 90 Degrees.

Body Diameter: 3.72 mm to 3.82 mm.

Major Diameter: 4.91 mm to 5.30 mm.

Thread Pitch: 8 tpi.

* + 1. Fascia Screws:
			1. Use:
				1. PVC and Composite Fascia Boards (use with pre-drilling and countersinking fascia tool).
			2. Material:
				1. Grade 305 Stainless Steel: Model FST.
				2. 1022 Carbon Steel, Epoxy Coated: Model FSC.
				3. ACQ approved.
			3. Coating (Epoxy Coated Version): Corrosion resistant epoxy-based polymer resin over zinc plate.
			4. Colors: As selected by Architect from manufacturer's standard range.
			5. Head: Pan Head.
			6. Thread: Coarse.
			7. Point: Type 17 Auger.
			8. 305 Stainless:
				1. Size: 9 x 1-7/8 inch (47.63 mm).
				2. Recess Size and Type: T-20, Star drive.
				3. Head Diameter: 10.10.
				4. Body Diameter: 3.58 mm to 3.63 mm.
				5. Major Diameter: 4.32 mm to 4.60 mm.
				6. Thread Pitch: 14 tpi.
			9. Epoxy Coated:
				1. Size: 10 x 1-7/8 inch (254 x 47.63 mm).
				2. Recess Size and Type: T-20, Star drive.
				3. Head Diameter: 10.10.
				4. Body Diameter: 3.98 mm to 4.03 mm.
				5. Major Diameter: 4.60 to 4.92.
				6. Thread Pitch: 14 tpi.
		2. Hidden Fastener - PRO PLUG SYSTEM Fascia:
			1. Use: Composite fascia.
			2. System Components:
				1. Fascia Screws.
				2. Fascia Plugs.
				3. Fascia Plug Tool Set.
		3. Composite/PVC Deck Screws - CAP-TOR xd :
			1. Material:
				1. Grade 305 Stainless Steel: TXD.
				2. Marine Grade 316 Stainless Steel: T2XD.
				3. 1022 Carbon Steel, Epoxy Coated: CXD.
			2. Head: Undercut head.
			3. Color: As selected by Architect from manufacturer's standard range.
			4. Thread: Course.
			5. Point: Type 17 Auger.
			6. Size:
				1. 10 x 2 inch (50.80 mm).
				2. 10 x 2-1/2 inch (63.50 mm).
				3. 10 x 2-3/4 inch (70 mm).
				4. 10 x 3 inch (76.20 mm).
			7. Recess: T-20, Star drive.
			8. Head Diameter: 6.65 mm.
			9. Minor Diameter: 3.20 mm.
			10. Major Diameter: 4.75 mm.
			11. Thread Pitch: 12 tpi.
		4. Composite/PVC Decking and Cladding to Metal Framing Systems: CAP-TOR xd Metal:
			1. Material:
				1. Grade 410 Stainless Steel: MTR.
			2. Coating: Corrosion resistant epoxy polymer resin.
			3. Head: Composite undercut head.
			4. Thread: Fine.
			5. Point: Drill point.
			6. Size:
				1. 10 x 1-1/2 inch (38 mm).

Drill Point: #2.

Recess: T-20 Star drive.

Head Diameter: 6.65 mm.

Minor Diameter: 3.20 mm.

Major Diameter: 5.05 mm.

Thread Pitch: 14 tpi.

* + - * 1. 10 x 1-5/8 inch (41 mm).

Drill Point: #3.

Recess: T-20 Star drive.

Head Diameter: 6.65 mm.

Minor Diameter: 3.20 mm.

Major Diameter: 4.75 mm.

Thread Pitch: 19 tpi.

* + - * 1. 12 x 2-3/8 inch (60 mm).

Drill Point: #4.

Recess: T-20 Star drive.

Head Diameter: 7.50 mm.

Minor Diameter: 4.00 mm.

Major Diameter: 5.40 mm.

Thread Pitch: 14 tpi.

* + - 1. Decking/Cladding and Steel Joist or Furring Dimensions:
				1. 10 x 1-1/2 Inch (38 mm):

Decking Cladding Thickness (actual): 3/4-inch (19 mm) to 1-inch (25 mm)

Steel Thickness: 20 gauge to 16 gauge.

Aluminum Thickness: 1/8-inch (3.175 mm).

* + - * 1. 10 x 1-5/8 Inch (41 mm):

Decking Cladding Thickness (actual): 3/4-inch (19 mm) to 1-inch (25 mm)

Steel Thickness: 18 gauge to 2 x 14 gauge (= 0.15 inch).

Aluminum Thickness: 1/8-inch (3.175 mm) to 1/4-inch (6 mm).

* + - * 1. 12 x 2-3/8-inch (60 mm):

Decking Cladding Thickness (actual): 1-inch (25 mm) to 1-1/2 inch 38 mm).

Steel Thickness: 18 gauge to 1/4-inch (6 mm).

\*\* NOTE TO SPECIFIER \*\* Clip&Rip for Decks only.

* + 1. Universal Hidden Deck Clip System - Clip&Rip:
			1. Screw Material:
				1. Grade 305 Stainless Steel: Model KAS.
				2. Grade 316 Stainless Steel : Model KAU.
				3. ACQ approved.
			2. Starter Clip Material:
				1. Glass-filled Nylon, Grade 305 Stainless Steel: Model KBS.
			3. Head: Pan - Trim (Starter Clip).
			4. Thread: Course.
			5. Point: Type 17.
			6. Board Spacing: 3/16 inch (4.76 mm).
			7. Screws Size: 8 x 1-3/4 inch (44.45 mm).
				1. Finish.

305 Stainless Steel.

316 Stainless Steel.

* + - * 1. Recess Size and Type: T-15, Star drive.
				2. Head Diameter: 5.85 mm.
				3. Head Angle: 90 Degrees.
				4. Shank Diameter: 3.35 mm.
				5. Major Diameter: 4.20 mm.
				6. Thread Pitch: 15 tpi.
			1. Starter Clip Size: 7 x 1-5/8 inch (41.28 mm).
				1. Finish: 305 Stainless Steel.
				2. Recess Size and Type: T-15, Star drive.
				3. Head Diameter: 6.00 mm.
				4. Head Angle: 60 Degrees.
				5. Shank Diameter: 3.15 mm.
				6. Major Diameter: 4.20 mm.
				7. Thread Pitch: 9 tpi.

\*\* NOTE TO SPECIFIER \*\* Pro Plug for Decks only.

* + 1. Hidden Fastener - Pro Plug System, DECK :
			1. Use:
				1. PVC Decking.
				2. Composite Decking.
				3. Cladding.
			2. Material:
				1. Grade 305 Stainless Steel: Model PXDT.
				2. Marine Grade 316 Stainless Steel: Model PXDU.
				3. 1022 Carbon Steel, Epoxy Coated: Model PXDC.
				4. ACQ approved.
			3. Head: Undercut head.
			4. Thread: Coarse.
			5. Point: Type 17 Auger.
			6. 1022 Carbon Steel, Epoxy Finish:
				1. Size:

10 x 2 inch (50.80 mm).

10 x 2-3/4 inch (69.85 mm).

10 x 3 inch (76.20 mm).

* + - * 1. Recess: T-20, Star drive.
				2. Head Diameter: 6.65 mm.
				3. Minor Diameter: 3.20 mm.
				4. Major Diameter: 4.75 mm.
				5. Thread Pitch: 12 tpi.
			1. 305 Stainless Steel :
				1. Size:

10 x 2 inch (50.80 mm).

10 x 2-1/2 inch (63.50 mm).

10 x 3 inch (76.20 mm).

* + - * 1. Recess: T-20, Star drive.
				2. Head Diameter: 6.65 mm.
				3. Minor Diameter: 3.20 mm.
				4. Major Diameter: 4.75 mm.
				5. Thread Pitch: 12 tpi.
			1. 316 Stainless Steel :
				1. Size:

10 x 2-1/2 inch (63.50 mm).

10 x 3 inch (76.20 mm).

* + - * 1. Recess: T-20, Star drive.
				2. Head Diameter: 6.65 mm.
				3. Minor Diameter: 3.20 mm.
				4. Major Diameter: 4.75 mm.
				5. Thread Pitch: 12 tpi.
			1. System Components:
				1. PVC composite tool.
				2. Screws.
				3. Plugs.
				4. Deck bits.

\*\* NOTE TO SPECIFIER \*\* Pro Plug for Decks only.

* + - * 1. Hidden Fastener - Pro Plug System, WOOD:
			1. Use: Wood Decking, Flooring, and Cladding.
			2. Material:
				1. Grade 305 Stainless Steel: Model PWDT.
				2. Marine Grade 316 Stainless Steel: Model PWDU.
				3. ACQ approved.
			3. Head: Trim head.
			4. Thread: Coarse.
			5. Point: Type 17 Auger.
			6. 305 Stainless Steel :
				1. Size:

8 x 1-5/8 inch (41.28 mm).

8 x 2-1/2 inch (63.50 mm).

* + - * 1. Recess: T-20, Star drive.
				2. Head Diameter: 7.15 mm.
				3. Head Angle: 80 Degrees.
				4. Shank Diameter: 3.30 mm.
				5. Major Diameter: 4.50 mm.
				6. Thread Pitch: 12 tpi.
			1. 316 Stainless Finish:
				1. Size:

8 x 1-5/8 inch (41.28 mm).

8 x 2-1/2 inch (63.50 mm).

* + - * 1. Recess: T-20, Star drive.
				2. Head Diameter: 7.15 mm.
				3. Head Angle: 80 Degrees.
				4. Shank Diameter: 3.30 mm.
				5. Major Diameter: 4.50 mm.
				6. Thread Pitch: 12 tpi.
			1. System Components:
				1. Countersinking Wood Tool.
				2. Screws.
				3. Glue Nozzle.
				4. Plugs.

\*\* NOTE TO SPECIFIER \*\* Pro Plug for Decks only.

* + 1. Hidden Fastener - Pro Plug System, TRIM:
			1. Use: PVC Trim Board.
			2. Material:
				1. Grade 305 Stainless Steel: Model PXTT.
				2. Marine Grade 316 Stainless Steel: Model PXTU.
				3. 1022 Carbon Steel, Epoxy Coated: Model PXTC.
				4. ACQ approved.
			3. Head: Undercut head.
			4. Thread: Coarse.
			5. Point: Type 17 Auger.
			6. 1022 Carbon Steel, Epoxy Finish:
				1. Size:

10 x 2 inch (50.80 mm).

10 x 2-3/4 inch (69.85 mm).

10 x 3 inch (76.20 mm).

* + - * 1. Recess: T-20, Star drive.
				2. Head Diameter: 6.65 mm.
				3. Minor Diameter: 3.20 mm.
				4. Major Diameter: 4.75 mm.
				5. Thread Pitch: 12 tpi.
			1. 305 Stainless Steel:
				1. Size:

10 x 2 inch (50.80 mm).

10 x 2-1/2 inch (63.50 mm).

10 x 3 inch (76.20 mm).

* + - * 1. Recess: T-20, Star drive.
				2. Head Diameter: 6.65 mm.
				3. Minor Diameter: 3.20 mm.
				4. Major Diameter: 4.75 mm.
				5. Thread Pitch: 12 tpi.
			1. 316 Stainless Steel:
				1. Size:

10 x 2-1/2 inch (63.50 mm).

10 x 3 inch (76.20 mm).

* + - * 1. Recess: T-20, Star drive.
				2. Head Diameter: 6.65 mm.
				3. Minor Diameter: 3.20 mm.
				4. Major Diameter: 4.75 mm.
				5. Thread Pitch: 12 tpi.
			1. System Components:
				1. PVC composite tool.
				2. Screws.
				3. Plugs.
				4. Trim bits.

\*\* NOTE TO SPECIFIER \*\* Deckfast epoxy cannot be used with cladding systems.

* + 1. Epoxy Coated Screws - Model DECKFAST Epoxy:
			1. Use:
				1. Flat Head: Pressure Treated Decking.
				2. Trim Head: Pressure Treated, PVC Trim, and Finish Applications.
			2. Material:
				1. 1022 Carbon Steel, Epoxy Coated:

Flat Head: Model DT.

Trim Head: Model DTR.

* + - * 1. ACQ approved.
			1. Colors:
				1. Gray.
				2. Green.
				3. Red.
				4. Tan.
			2. Coating: Corrosion resistant epoxy-based polymer resin over zinc plate, ACQ approved.
			3. Head: Reinforced flat head or trim head with nibs.
			4. Thread: Coarse.
			5. Point: Type 17 Auger.
			6. Flat Head :
				1. Size s:

8 x 1-1/4 inch (31.75 mm).

8 x 1-5/8 inch (41.28 mm).

8 x 2 inch (50.80 mm).

* + - * 1. Recess Size and Type: T-20, Star drive.
				2. Head Diameter: 8.00 mm to 8.40 mm.
				3. Head Angle: 82 Degrees.
				4. Body Diameter: 3.18 mm to 3.25 mm.
				5. Major Diameter: 4.39 mm to 4.60 mm.
				6. Thread Pitch: 9 tpi.
			1. Flat Head:
				1. Sizes:

9 x 2-1/2 inch (63.50 mm).

9 x 3 inch (76.20 mm).

* + - * 1. Recess Size and Type: T-25, Star drive.
				2. Head Diameter: 8.30 mm to 8.80 mm.
				3. Head Angle: 82 Degrees.
				4. Body Diameter: 3.58 mm to 3.65 mm.
				5. Major Diameter: 4.80 mm to 5.10 mm.
				6. Thread Pitch: 8 tpi.
			1. Flat Head:
				1. Sizes:

10 x 3-1/2 inch (88.90 mm).

10 x 4-inch (101.60 mm).

10 x 5 inch (127 mm).

10 x 6 inch (152.40 mm).

* + - * 1. Recess Size and Type: T-25, Star drive.
				2. Head Diameter: 8.80 mm to 9.20 mm.
				3. Head Angle: 82 Degrees.
				4. Body Diameter: 3.78 mm to 3.85 mm.
				5. Major Diameter: 4.90 mm to 5.28 mm.
				6. Thread Pitch: 8 tpi.
			1. Trim Head:
				1. Size:

9 x 1-5/8 inch (41.28 mm).

9 x 2 inch (50.80 mm).

9 x 2-1/2 inch (63.50 mm).

9 x 3 inch (76.20 mm).

9 x 3-1/2 inch (88.90 mm).

9 x 4 inch (101.60 mm).

* + - * 1. Recess Size and Type: T-20 Star drive.
				2. Head Diameter: 6.30 to 6.60 mm.
				3. Head Angle: 60 Degrees.
				4. Body Diameter: 3.45 to 3.55 mm.
				5. Major Diameter: 4.80 to 5.10 mm.
				6. Thread Pitch: 9 tpi.
1. EXECUTION
	1. EXAMINATION
		1. Ensure joists are level and structurally sound.
		2. Do not begin installation until substrates or framing is properly constructed and prepared for joist installation.
		3. If substrate or framing preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
	2. INSTALLATION - GENERAL
		1. Install in accordance with manufacturer's written instructions , approved submittals , and in proper relationship with adjacent construction.
		2. Install decking, beams, or lumber in accordance with requirements in Division 06 for system.
		3. For salt water and other corrosive environments, 316 stainless steel is recommended.
	3. INSTALLATION - PRO PLUG SYSTEM DECK AND TRIM
		1. Drive screw with PVC/Composite Tool using a standard drill on high speed.
		2. Do Not Use Impact Driver with Tool. Fit Tool with application-specific driver bit.
		3. Insert plug into hole and tap with smooth-faced hammer until plug is flush with board.
		4. Pre-drilling is recommended for composite deck boards. Pre-drill a 3/16 inch (4.76 mm) pilot hole through decking material only.
		5. Replace driver bits as needed.
		6. Install plugs shortly after installation of screws. Holes must be dry and free of debris.
		7. Epoxy coated, Grade 410 stainless steel screws are 1-5/8 inch (41.28 mm) and for use with metal framing up to 0.15 inch (3.81 mm) depth. Screw must penetrate three full threads beyond bottom of framing.
	4. FASCIA SYSTEM INSTALLATION
		1. Pre-drill with fascia tool until collar stops spinning.
		2. Drive fascia screw until snug and do not over tighten.
		3. Material to hang from the screw to allow for expansion and contraction.
	5. COMPOSITE/PVC DECK AND TRIM SCREWS FOR METAL FRAMING INSTALLATION - CAP-TOR xd METAL.
		1. Install flush with decking surface. Do not overdrive.
		2. Install two screws per joist with a minimum of three threads beyond metal framing.
		3. Once drill point is embedded into board, continue driving in slow and steady fashion with consistent pressure.
		4. Do not use an impact driver.

\*\* NOTE TO SPECIFIER \*\* Clip&Rip for Decks only.

* 1. CLIP&RIP INSTALLATION
		1. Do not reuse clips after first fastening.
		2. Required Clips for Deck Size:
			1. 100 sq ft Deck:
				1. Joist Spacing 12 inch (304.80 mm) on-center: 210 clips.
				2. Joist Spacing 16 inch (406.40 mm) on-center: 175 clips.
			2. 200 sq ft Deck:
				1. Joist Spacing 12 inch (304.80 mm) on-center: 441 clips.
				2. Joist Spacing 16 inch (406.40 mm) on-center: 336 clips.
			3. 300 sq ft Deck:
				1. Joist Spacing 12 inch (304.80 mm) on-center: 672 clips.
				2. Joist Spacing 16 inch (406.40 mm) on-center: 512 clips.
			4. 400 sq ft Deck:
				1. Joist Spacing 12 inch (304.80 mm) on-center: 882 clips.
				2. Joist Spacing 16 inch (406.40 mm) on-center: 672 clips.
			5. 500 sq ft Deck:
				1. Joist Spacing 12 inch (304.80 mm) on-center: 1113 clips.
				2. Joist Spacing 16 inch (406.40 mm) on-center: 848 clips.
		3. First Board Installation with Starter Clip:
			1. Install starter clip at every joist, aligning so deck board is level.
			2. Drive screw perpendicular to joist in straight and steady fashion.
			3. Once starter clips are installed, push first deck board into starter clips.
			4. If using optional Cap-Tor xd or Pro-Plug system, consultant manufacturer's written instructions.
		4. Deck Clip Installation:
			1. Insert strip of clips with arrow pointing forward into leading board groove. Center over joist.
			2. Drive screw down in a straight and steady fashion until head of screw is flush with clip.
			3. Lift up on strip to break off installed clip. Do not twist.
			4. Install clips at every joist along length of board.
			5. Place next board into position. Holding deck board at slight angle, push deck board into previously installed clips.
			6. Adjust the torque setting on the power-drill to help reduce the risk of over-driving the fastener and maintain consistent results
		5. Butt Joint Fastening:
			1. Reference manufacturer's written instructions for spacing between board ends.
			2. Using a double-joist, place fastener at end of each board.
			3. Do not use one fastener for both boards.
		6. Installation at an Angle:
			1. Reference manufacturer's written instructions for joist spacing.
			2. For diagonal board pattern, start with small triangular piece of decking in a corner nearest the building and work your way out.
			3. Fasten clips on-center to joist.
		7. Last Board Installation:
			1. Reference manufacturer's written instructions for proper spacing between board or attached wall structures.
			2. Fasten final boards using either picture-frame or standard layout.
			3. If using optional Cap-Tor xd or Pro-Plug system, consultant manufacturer's written instructions.
	2. PRO PLUG SYSTEM FASCIA INSTALLATION
		1. Reference manufacturer's written instructions for screw spacing, edge/end distances, and gapping.
		2. Predrill with the Fascia Plug Tool until collar stops spinning.
		3. Drive fascia screw with PVC/Composite tool using standard drill on high speed. Fit tool with appropriate driver bit for fascia applications.
		4. Do not use impact driver with setting tool.
		5. Insert plug into hole and tap with smooth-face hammer until plug is flush with board. Keep hammer head flat with the surface of the board to prevent damage.
	3. FIELD QUALITY CONTROL
		1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection, or construction. Delete if not required.

* + 1. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.
		2. Comply with manufacturer's corrosion suggestions and requirements.
	1. CLEANING AND PROTECTION
		1. Clean products in accordance with the manufacturer ' s recommendations.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION