HULK FASTENERS.

INCLUDING echain Collated decking clip

TECHNICAL DATA SHEET

VERSION A1.0 | 2025-03-24

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Contents

Hulk fasteners – Deck fastener collection

HULK Fasteners, including the CHAIN collated clip system, are purposefully designed to make composite or timber decking installations more efficient, straightforward, and beautiful with their long-term durability, reliable grip, and range of colours to complement the look of your decking of choice.

Hulk fasteners name:	Hulk Fasteners – Deck fasteners
Hulk fasteners application:	Composite decking
Material:	See Material composition section
Material description:	Hulk fasteners offers different grades of fasteners, coatings and materials to match the decking application.

Document layout

Eva-Last strives to evaluate their Hulk fasteners in depth and present the technical and safety information available in a manner that assists with the application thereof. If additional data or information is required, please do not hesitate to contact us at rad@eva-last.com.

In an attempt to simplify the information, similar data is loosely grouped into the categories summarised below. This document is ordered according to these categories and the applicable page number for the start of each section is captured in the Table of contents.

- Material composition
- Physical properties
- Mechanical properties
- System performance
- Corrion properties
- Ancillary components

The Material compositions section captures a summary of the Hulk fasteners make-up from the Material Safety Data Sheet (MSDS). A link to the MSDS is provided for additional detail. Summaries of chemical compliance data available are also collected in this section.

The Physical properties section provides a summary of available profiles and general material properties such as density, water absorption, etc. Additional profile information can be obtained from drawings in the appropriate appendix. Where possible, material properties that can be assigned to more specific categories are moved to the relevant sections.

The Mechanical properties section captures data related to the Hulk fasteners' reaction to various load conditions. The section is broadly assembled into the below categories. Additional profile and sectional information are captured by the drawings in the appropriate appendix.

- Material specific mechanical properties
- Fastener performance
- Fastener Geometry

Where the Hulk fasteners form part of a system and, as a result, utilise other components, an additional section to capture useful data regarding these components is added to the document.

Where information is not yet available, the section is simply omitted. In the cases where information can be substituted or supplemented with alternative data (based on similar compositions, etc.), an attempt to do so is made. Where this is the case, it is highlighted. Please make use of the data accordingly. For any additional information regarding this, please feel free to contact rad@eva-last.com.

Always ensure the Hulk fasteners, and application thereof is suitable, rational, and compliant with any applicable regulations or standards. Wherever necessary, consult a suitably qualified professional. For information about the installation and use of the Hulk fasteners, please see the applicable Installation Guide (IG). For additional material safety and handling information, please refer to the applicable MSDS. For any further information, please contact rad@eva-last.com.

Material composition

The following table is a simplified material composition for the Hulk fasteners material technology. For more information regarding the composition, safety, and handling of the material, please see the Hulk fasteners MSDS. Please also refer to the safety section and the Safe Working Procedure (SWP) in the IG for additional information related to the safe use of these Hulk fasteners.

Application	Property	Specification	Coating	Compliance
Metal	Metal clip screw	C1022 Steel (GB/T 701-np2208)	Magni 599	ASTM B117 - Salt Spray (1500h)
	Metal deck screw			
	Metal trim screw			
Timber	Timber frame screw			
	Timber clip screw	SS316L Stainless Steel (Q/TTP001-2024)	Magni 599	ASTM B117 - Salt Spray (1500h)
	Timber deck screw			
	Timber trim screw			
Deck clips	S9 and S6 deck clip	SS430	Epoxy	
	Chain Collated Clips	SS304	Polypropylene (UV stabilised)	

Notes:

- Magni 599 coating offers corrosion resistance up to **1 500 hours** of salt spray (ASTM B117).
- Chain Collated Clips are coated with **PP plastic**, enriched with UV stabilizers

Physical properties

Typical properties of the Hulk fasteners material technology are captured below as an indication of the expected behaviour of the Hulk fasteners material.

Fastener type	Size (mm) (“or #)	Length (mm) (“)	Material	Note
Hidden deck fasteners				
Clip screw for timber substructure	M 4.2 (# 8)	40 (1.575)	SS316	Used in both Chain Collated clips and S-Series clips.
Clip screw for metal substructure	M 4.2 (# 8)	31 (1.221)	C 1022	Used in both Chain Collated clips and S-Series clips and lifespan concealed brackets.
Chain Collated decking clip	6.0 (0.237)	19 (0.749)	SS 304 + PP coating	Compatible with boards that have a groove height of between 6 mm and 12 mm. To be used with hand tool.
S6 decking clip	6.0 (0.237)	38 (1.497)	SS 430	Compatible with boards that have a 6 mm groove height.
S9 decking clip	9.0 (0.335)	38 (1.497)	SS 430	Compatible with boards that have a 9 mm groove height.
Top fixing screws				
Top fixing deck screw for timber	M 5.0 (# 10)	63 (2.481)	SS 316	For 20 to 25 mm thick boards into timber structures greater than 40 mm thick. Two corrosion resistance options.
Top fixing deck screw for metal	M 5.0 (# 10)	45 (1.772)	C 1022	For 20 to 25 mm thick boards into metal structures 0.8 to 2.0 mm thick.
Trim screws				
Top fixing trim screw for timber	M 5.5 (# 10)	48 (1.890)	SS 316	For 11 to 16 mm thick boards into timber structures greater than 40 mm thick.
Top fixing trim screw for metal	M 5.5 (# 10)	35 (1.378)	C1022	For 11 to 18 mm thick boards into metal structures 0.8 to 2.0 mm thick.

Appropriate fasteners must be employed relative to applicable legislation, the intended application, and the conditions present. Particular attention should be paid to the corrosion conditions of the site and the state of the substrate available. Applications should adhere to any applicable standards. All timber profiles should be treated appropriately, and all metal profiles should be coated appropriately. Movement of materials within the system can degrade connections over time, and it is prudent that this is avoided or reduced to an acceptable limit where possible. Coatings can degrade over time and regular, proactive maintenance should be employed.

Mechanical properties

This section provides an overview of the key mechanical properties of fasteners made. These values help in assessing the performance and suitability of each material for various applications. Data has been sourced from material certificates and online resources, marked with a star (*) where applicable.

Material Properties of Fastener Materials

Property	Stainless Steel 316L	Stainless Steel 304	Stainless Steel 430	Carbon Steel C1022	Source
Tensile Strength (MPa)	614	515 – 725*	450 – 600*	560	Material Certificate / AZoM*
Yield Strength (MPa)	613	205 – 310*	275*	350	Material Certificate / AZoM*
Elongation (%)	54	40 – 60*	22*	20	Material Certificate / AZoM*
Magnetism	Non-magnetic	Non- magnetic*	Magnetic	Magnetic	Material Certificate / General*

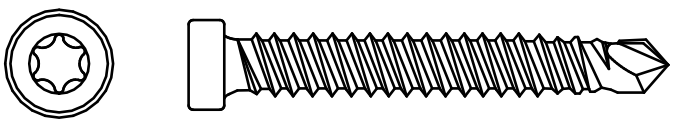
Timber Clip Screw (M4.2 x 42 mm)

This section presents the performance data for the Timber Clip Screw (M4.2 x 42 mm). These screws are designed specifically for timber applications, featuring Type 17 tips for improved penetration. The values are derived from mechanical tests conducted per industry standards, with both metric and imperial units are provided for clarity.

Property	Sub-Property	Value (Metric)	Value (Imperial)	Notes
Breaking Torque	-	-	-	No torque settings due to unhardened material
Withdrawal	ACQ Timber (SG 0.67)	3.89 kN	874 lbf	Type 17 tip. Drilling Depth: 32 mm. Report: 2021262270
	Red Oak Timber (SG 0.72)	4.50 kN	1012 lbf	Type 17 tip. Drilling Depth: 32 mm. Report: 2021262270
Shear Strength	-	-	-	No shear data available

Metal Clip Screw (M4.2 x 31 mm)

This section covers the Metal Clip Screw (M4.2 x 31 mm), highlighting its breaking torque, withdrawal strength, and shear strength when used in metal applications. These screws are equipped with self-drilling tips, making them ideal for metal substrates. The data is sourced from controlled tests to assess the screw's reliability under load, presented in both metric and imperial units.

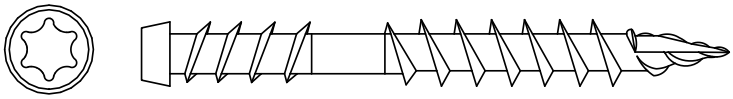


Property	Sub-Property	Value (Metric)	Value (Imperial)	Notes
Breaking Torque	Recommended torque	5.30 N·m	46.9 in·lbf	2.0 mm (18 Guage steel)
	Actual torque	6.08 - 6.28 N·m	53.8 - 55.6 in·lbf	Requirement: 4.81 N.m (42.6 in.lbf)

Withdrawal	2.0 mm Steel Plate (HV146)	3.85 kN	866 lbf	Self-drilling tip. Drilling Depth: 17 mm
	1.6 mm Galvanised Steel	4.3 kN	967 lbf	Based on internal test results
	1.6 mm Aluminium	1.8 kN	405 lbf	Based on internal test results
	Southern Yellow Pine	1.7 kN	382 lbf	Density: 670 kg/m^3. Tests by CCT
	Apex™ Composite Joist	1.4 kN	315 lbf	Density: 750 kg/m^3. Profile STPVB104. Tests by external lab CCT
	Eva-tech™ Composite Joist	0.8 kN	180 lbf	Density: 1300 kg/m^3. Profile ST08X. Tests by external lab CCT
	Lifespan Beam	0.7 kN	157 lbf	Profile STLS09. Tests by external lab CCT. See Lifespan TDS
Shear Strength	Steel Plate (2.0 mm)	6.35 kN	674 lbf	Self-drilling tip. Internal test results

Timber Deck Screw (M5.0 x 63 mm)

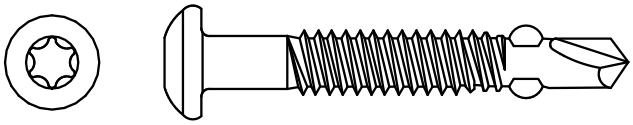
For fastening 20-25 mm thick deck boards onto timber frames without having to pre-drill. Unless specified by decking manufacturer. Suitable for softwood and most hardwoods frames. Pre-drilling may be required for dense hardwood frames. Not suitable for stair tread board without pre-drilling. Fasten 30 mm from any board edge unless otherwise specified by manufacturer.



Property	Sub-Property	Value (Metric)	Value (Imperial)	Notes
Breaking Torque	-	-	-	No torque settings due to unhardened material
Withdrawal	ACQ Timber (SG 0.67)	5.65 kN	1270 lbf	Type 17 tip. Drilling Depth: 40 mm. Report: Internal testing results
	Red Oak Timber (SG 0.72)	6.89 kN	1549 lbf	Type 17 tip. Drilling Depth: 40 mm. Report: Internal testing results
Shear Strength	-	-	-	No shear data available

Metal Deck Screw (M4.8 x 45 mm)

For fastening 20 to 25 mm thick deck boards onto metal frames without having to pre-drill, unless otherwise specified by decking manufacturer. Suitable for metal structures of thicknesses between 1.2 and 2.0 mm, thereafter it is advisable to pre-drill. Detachable reamer wing is only operational in steel greater than of 1.2 mm thick. To ensure an adequate bond between the board and frame, check that the wings have detached. Fasten 30 mm from any board edge unless otherwise specified by manufacturer.

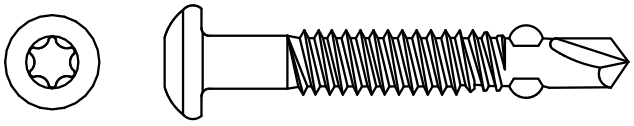


Property	Sub-Property	Value (Metric)	Value (Imperial)	Notes
Breaking Torque	Drawing Standard	6.97 N·m	61.7 in·lbf	Self-drilling tip. Drill point for metal
	Actual Value	10.69 - 11.37 N·m	94.6 - 100.6 in·lbf	Recommended: 9.84 N·m (87.1 in·lbf)
Withdrawal	2.0 mm Steel Plate (HV146)	3.38 kN	760 lbf	Self-drilling tip. Drilling Depth: 23 mm. Report: Internal testing results
Shear Strength	Steel Plate (2.0 mm)	4.2 kN	944 lbf	Self-drilling tip. Internal test results

Metal Trim Screw (M5.5 x 35 mm)

Designed to fasten 10 to 18 mm thick fascia board to metal frames without having to pre-drill, unless otherwise specified by decking manufacturer. Suitable for metal structures of thicknesses from 1.2 to 2.0 mm, thereafter it is advisable to pre-drill. Detachable reamer wing is only operational in steel greater than 1.2 mm thick.

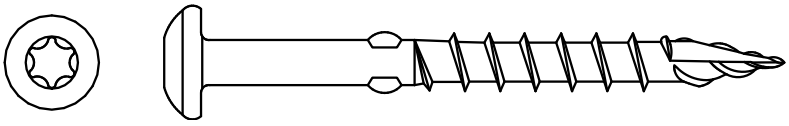
To ensure an adequate connection between the board and frame, check that the wings have detached, and the thread is properly seated within the structure. Use two or more screws per fastening line. Fasten 30 mm from any board edge unless otherwise specified by manufacturer.



Property	Sub-Property	Value (Metric)	Value (Imperial)	Notes
Breaking Torque	Drawing Standard	9.81 N·m	86.8 in·lbf	Self-drilling tip. Drill point for metal
	Actual Value	11.37 - 12.85 N·m	100.6 - 113.8 in·lbf	Recommended: 10.91 N·m (96.6 in·lbf)
Withdrawal	2.0 mm Steel Plate (HV146)	5.72 kN	1286 lbf	Self-drilling tip. Drilling Depth: 17 mm. Report: Internal testing results
Shear Strength	Steel Plate (2.0 mm)	5.5 kN	1236 lbf	Self-drilling tip. Internal test results

Timber Trim Screw (M5.5 x 48 mm)

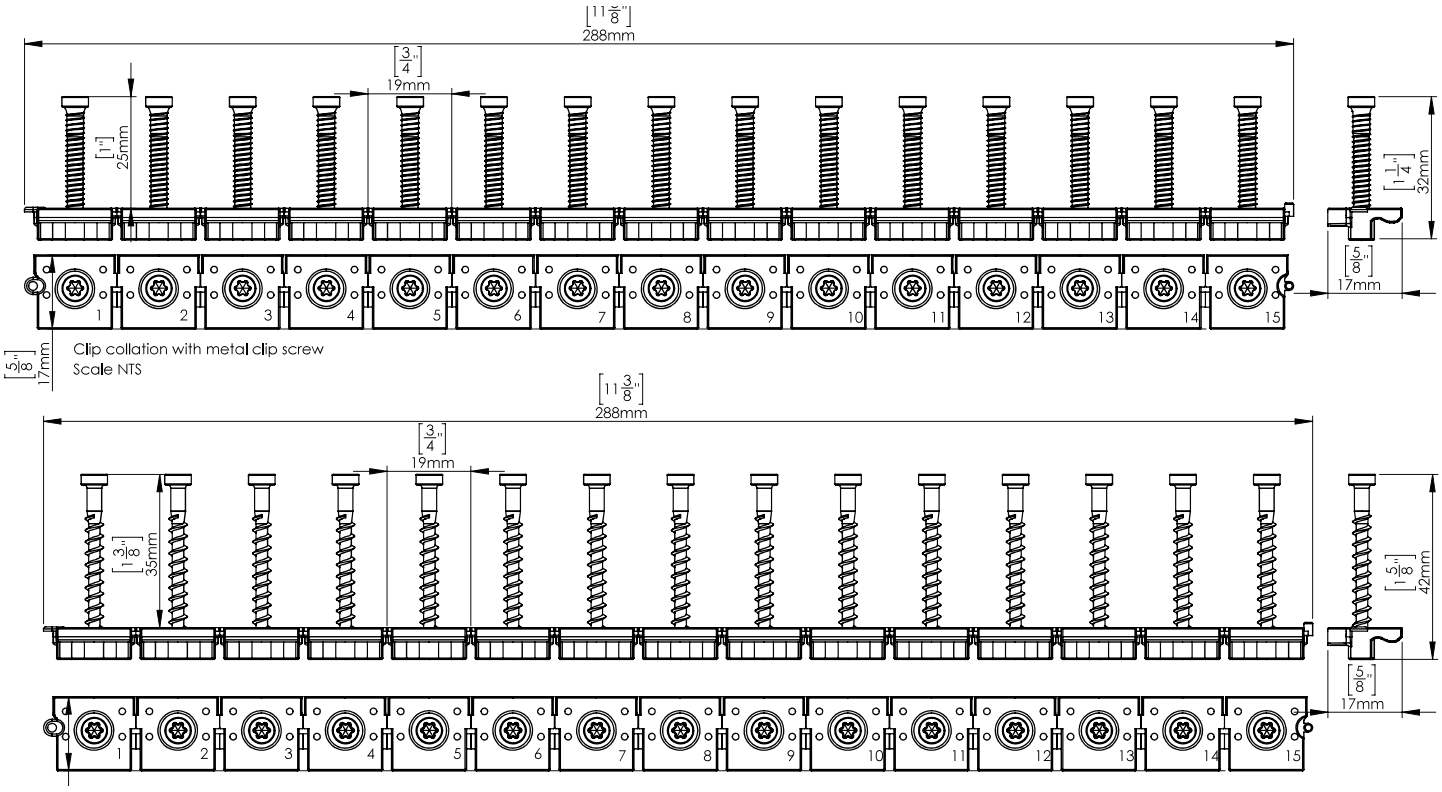
Designed to fasten a 10 to 16 mm thick fascia boards onto timber frames without having to pre-drill, unless otherwise specified by decking manufacturer. Thereafter it is advisable to pre-drill the composite only. Suitable for softwoods and most hardwoods.
Use two or more screws per fastening line. Fasten 30 mm from any board edge unless otherwise specified by manufacturer.



Property	Sub-Property	Value (Metric)	Value (Imperial)	Notes
Breaking Torque	-	-	-	No torque settings due to unhardened material
Withdrawal	ACQ Timber (SG 0.67)	5.07 kN	1140 lbf	Type 17 tip. Drilling Depth: 32 mm. Report: internal testing
	Red Oak Timber (SG 0.72)	6.51 kN	1464 lbf	Type 17 tip. Drilling Depth: 32 mm. Report: internal testing
Shear Strength	-	-	-	No shear data available

Performance Data of Chain Clips

The CHAIN Collated decking clip was assessed by Mining and surface certification (Pty) Ltd (MASC) to determine the failure point of the clips under a tensile load. The environment with which the clips was tested are ideal conditions and may not accurately reflect typical applications.



Property	Opening Size (mm)	Average Breakpoint (Metric)	Average Breakpoint (Imperial)	Notes
Tensile Breakpoint	6.5	>5 kN	>1124 lbf	No breakage, clips bent. Represents a standard installation. Report: 21-8522
	8.35	3.4 kN	770 lbf	No breakage, clips bent. Report: 22-8322
	9.85	2.2 kN	496 lbf	

System Performance (E330, Uplift, Holding Capacity, Pull-Through)

The following table summarises the results of mechanical fastener holding tests and wind uplift resistance tests conducted on various Eva-Last deck board types. The data was obtained from certified CCRR reports, following the ASTM E330 standard and ICC-ES AC174 guidelines. These tests evaluate the structural performance of fasteners and deck boards when subjected to wind uplift forces and mechanical loads.
Data obtained from CCRR reports:

- **Pioneer Board Testing:** 240229004SHF-001
- **Infinity Board Testing:** 200831009SHF-001
- **Apex Board Testing:** 200831006SHF-005

Preliminary results are marked as indicated in the reports.

Test Conditions and Standards:

The tests simulate typical decking conditions where wind loading is a primary concern. Fasteners are installed according to manufacturer specifications and subjected to static pressure to determine their ultimate uplift load—the maximum pressure before failure. The allowable uplift capacity is calculated by dividing the ultimate load by a safety factor of 3.0, ensuring safe performance under real-world conditions.

Hidden deck fasteners

This section presents the performance results of hidden deck fasteners used with Eva-Last boards. The fasteners include chain collated clips with both timber and metal clip screws, as well as S9 clips configured with either timber or metal screws. Results are presented as ultimate uplift load and allowable uplift capacity, following controlled testing per the E330 standard.

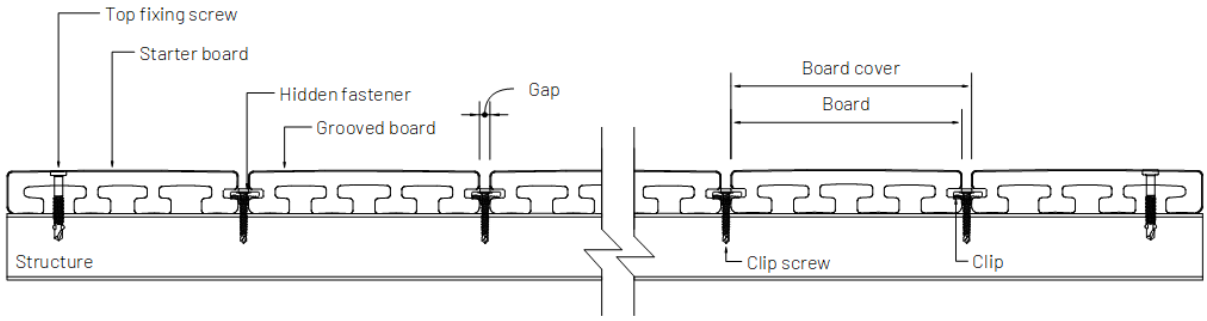


FIGURE 1 - TYPICAL HIDDEN DECK FASTENER ASSEMBLY

Fastener Type	Board Type	Board width (mm) (in)	Span (mm) (in)	Fasteners per square meter (10ft²)	Ultimate Uplift Load (kPa) (psf)	Allowable Uplift Capacity at 3.0 SF (kPa) (psf)	Note
Chain collated clip and timber clip screw	Pioneer	144.9 (5.7)	610 (24)	7	21.7 (> 450)	7.5 (150)	
		190 (7.5)	610 (24)	5	359 (17.2)	120 (5.8)	*Preliminary results
Chain collated clip and metal clip screw	Pioneer	144.9 (5.7)	610 (24)	7	21.7 (> 450)	7.5 (150)	
		190 (5.5)	610 (24)	5	14.2 (297)	4.7 (99)	*Preliminary results
S9 clip with timber clip screw	Infinity I-Series 25.4 mm Family	136 (5.4)	406 (16)	14	14.8 (309)	4.9 (103)	Clips deformed
	Apex	136 (5.4)	304 (14)	21	21.7 (> 450)	7.5 (150)	
S9 clip with metal clip screw	Infinity I-Series 25.4 mm Family	136 (5.4)	406 (1)	14	12.4 (259)	4.1 (86)	Clips deformed
	Apex	140 (5.5)	304 (12)	21	21.7 (> 450)	7.5 (150)	

Deck top fixing

This section provides the performance characteristics of top-fixed deck screws used to secure Eva-Last boards to both timber and metal joists. The results include uplift load, allowable uplift capacity, fastener withdrawal strength, and pull-through resistance. Deck top fixing configurations typically use two fasteners per board.

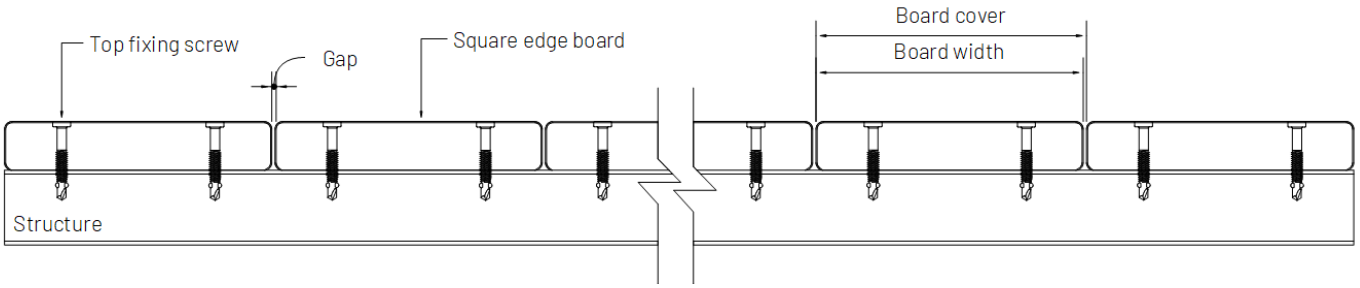
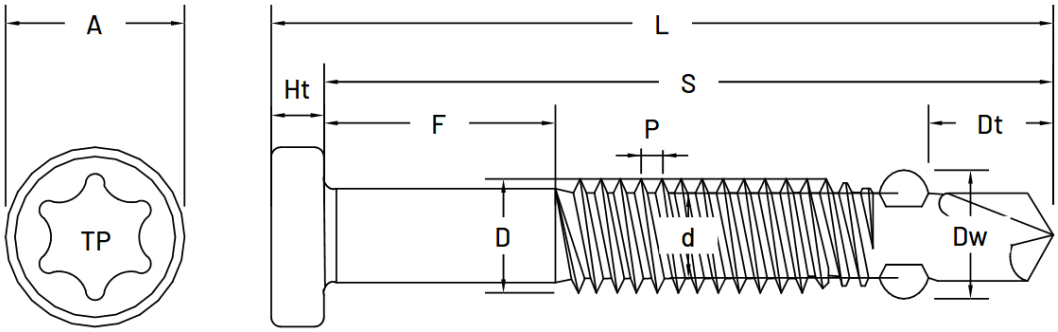


FIGURE 2 - TYPICAL TOP FIXING ASSEMBLY

Fastener Type	Board Type	Board width (mm) (in)	Span (mm) (in)	Fasteners per square meter ($10ft^2$)	Ultimate Uplift Load (kPa) (psf)	Allowable Uplift Capacity at 3.0 SF (kPa) (psf)	Fastener Withdrawal kN (lbf)	Pull through kN (lbf)
Timber Deck Screws	Pioneer	144.9	610 (24)	14	21.7 (>450)	7.5 (150)	2.9 (647)	2.9 (651)
	Infinity	136	406 (16)	28	21.7 (>450)	7.5 (150)	877 (197)	-
	Apex	140	304 (12)	42	21.7 (>450)	7.5 (150)	-	-
Metal Deck Screw	Pioneer	144.9	406 (16)	14	21.7 (>450)	7.5 (150)	-	597 lbf
	Infinity	136	406 (16)	28	21.7 (>450)	7.5 (150)	-	-
	Apex	140	304 (12)14	42	21.7 (>450)	7.5 (150)	-	-

Screw properties

The following table provides a physical property summary of the currently available Hulk fasteners physical properties. Please see Appendix A for profile drawings and further information.



Comprehensive Screw Properties Table:

Type	Material	D	L	S	P	TP	A		HT	F	D	D	DT	DW	Application
		Size (mm) [in]	Total length (mm) [in]	Length (mm) [in]	Pitch (mm) [in]	Bit	Head type	Head size (mm) [in]	Head depth (mm) [in]	Shank length (mm) [in]	Major Ø (mm) [in]	Minor Ø (mm) [in]	Tip length (mm) [in]	Wing Ø (mm) [in]	
Timber clip screw	SS316	M4.2 #8	42 [1.65]	40 [1.57]	2.3 [0.091]	T15	Pan	6.0 [0.24]	2.4 [0.09]	7.0 [0.28]	4.2 [0.17]	2.6 [0.10]	N/A	N/A	SG 0.42 min
Metal clip screw	C1022	M4.2 #8	35 [1.38]	32.3 [1.27]	1.2 [0.047]	T15	Pan	6.0 [0.24]	2.4 [0.09]	0 [0.00]	4.2 [0.17]	6.3 [0.25]	N/A	N/A	1.2 to 2.0 mm steel
Timber deck screw	SS316	M5.0 #10	64.8 [2.55]	64.8 [2.55]	3.0 [0.12]	T20	Cup	6.8 [0.27]	3.0 [0.12]	23.8 [0.94]	5.5 [0.22]	3.3 [0.13]	N/A	N/A	SG 0.42 min
Metal deck screw	C1022	M4.8 #10	49.6 [1.95]	46.9 [1.85]	1.2 [0.047]	T20	Pan	7.2 [0.28]	2.6 [0.10]	12.4 [0.49]	4.8 [0.19]	3.6 [0.14]	6.3 [0.25]	5.3	1.2 to 2.0 mm steel
Timber trim screw	SS316	M5.5 #12	52 [2.05]	48 [1.89]	3.0 [0.12]	T25	Button	10.0 [0.39]	3.6 [0.14]	17.0 [0.67]	5.7 [0.22]	3.7 [0.15]	N/A	5.5	SG 0.42 min
Metal trim screw	C1022	M5.5 #12	40 [1.57]	36.3 [1.43]	1.3 [0.051]	T25	Button	10.0 [0.39]	3.6 [0.14]	8.0 [0.31]	5.7 [0.22]	3.8 [0.15]	5.95 [0.23]	6.2	1.2 to 2.0 mm steel
Timber frame screws	C1022	M6.0 #14	83 103	80 [3] 100 [4]	4.5 [0.18]	T30	Pan washer	14.5 [0.57]	3.0 [0.12]	30 [1.18] 50 [2.0]	6.2 [0.25]	4.0 [0.157]	N/A	N/A	SG 0.42 min timber frame

Corrosion

The values provided in the table below are indicative estimates based on typical performance of the individual materials and coatings used in Hulk fasteners, not on full-scale testing. These estimates are intended only as a general guide for comparative purposes and should not be interpreted as guaranteed product lifespans.

All durability figures are derived from standard material references and industry expectations under normal use conditions. Environmental exposure—particularly UV, humidity, salinity, and atmospheric pollutants—will significantly influence actual service life.
No warranty is implied. For project-specific recommendations, consult a qualified professional.

Component	Material	Expected life in normal use	Notes
Collated clip	SS304 + polypropylene in a concealed nature	C3: 75 years C4: 50 years C5: 25 years Cx: Not recommended	The corrosion resistance of each material was considered individually. These life expectancies were combined with a duplex factor of 1.5. It was found that the lifetime is limited by UV exposure. Exposure of the deck clip to UV depends on the direction of the deck boards, spacing and depth of boards and the geographical location of the deck. Hence, the deck clips lifetime will vary on application as the UV exposure changes.
C1022 with Magni 599 coating	Carbon steel, with Zinc epoxy coating, and Magni 599 coating	C3: 25 years C4: 10 years C5: TBD Cx: No recommended	The provided information is indicative only; supplemental testing is underway.
SS316 with Magni 599 coating	Stainless steel 316, with Zinc epoxy coating and Magni 599 coating	C3: 30 years C4: 25 years C5: 10 years Cx: 5 years	The provided information is indicative only; supplemental testing is underway.
SS316 without coating	Stainless steel 316, with Zinc epoxy coating and Magni 599 coating	C3: 25 years C4: 20 years C5: 5 years Cx: 3 years	The provided information is indicative only; supplemental testing is underway.

Ancillary items

Depth controlling bit Wear resistance;

The table shows wear resistance data for the T15 depth-controlling bit used with chain-collated clips, to determine replacement intervals based on tip wear and failure.

Application	Material	Torque (N·m) [lb-f·ft]	Load (kg) [lb]	Speed (RPM)	Number of Fasteners per bit	Condition	Result
Metal	M4.2 x 31 mm Carbon Steel Clip Screw T15 Bit	7.69 [5.67]	7.9 [17.4]	300	267	Self-drilling tip. 2.4 mm steel plate	Tip wore out
Timber	M4.2 x 42 mm SS316 Clip Screw T15 Bit				1000	Type 17 tip. Testing 1200 screws	Tip broke

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While most data have been compiled from research, case histories, experience and testing, small changes in the environment can produce marked differences in performance. The decision to use a material, and in what manner, is made at your own risk. The use of a material and method may therefore need to be modified to its intended end use and environment.

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Eva-Last
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Website: www.eva-last.com

Appendix A
Fastener Drawings

Profile properties

Material:	SS304 PP coated clip SS316 screw
Size:	M4.2 x 31 mm screw
Bit type:	Depth controlling bit T15
Predrill hole size:	3.0 to 3.2 (N/A to softwoods)

Note: Screw drawings are for visual representation only and are not to scale or dimensionally accurate.

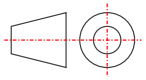
Drawing title

Chain Collated Clip screw - Timber

File name

2025-04-07 - Fastener TDS - Appendix A

File details



Drawing number	01
Date	May 7, 2025
Page	1 of 8
Scale	NTS

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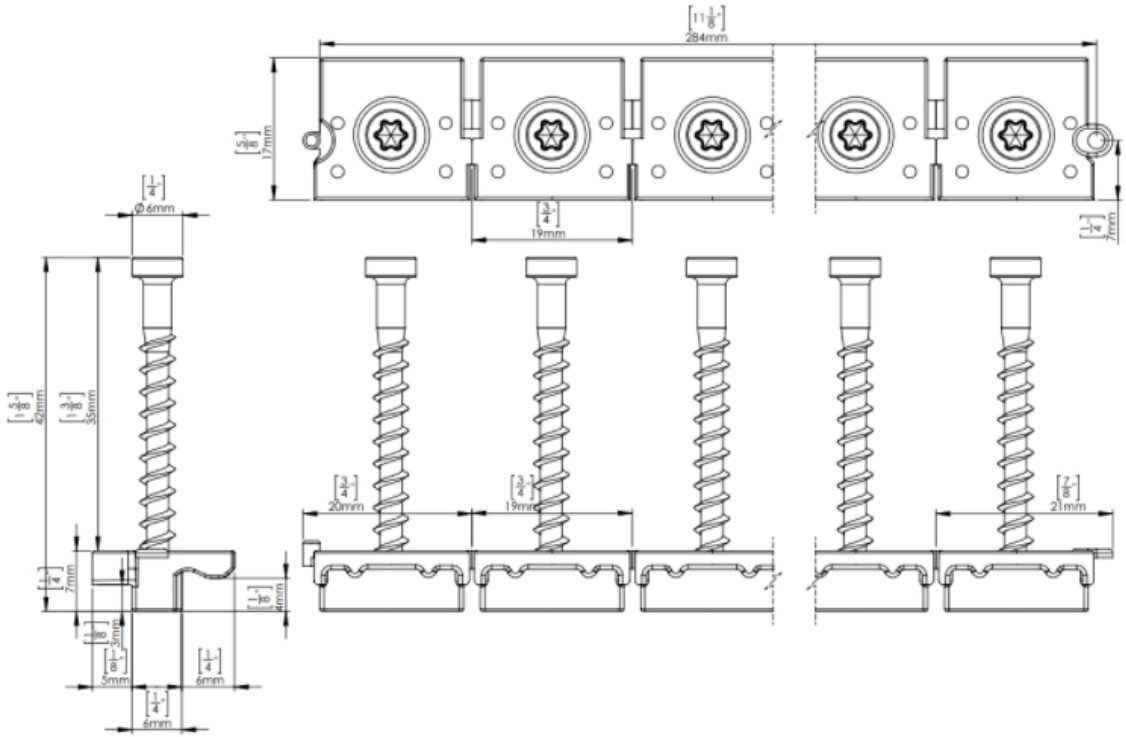
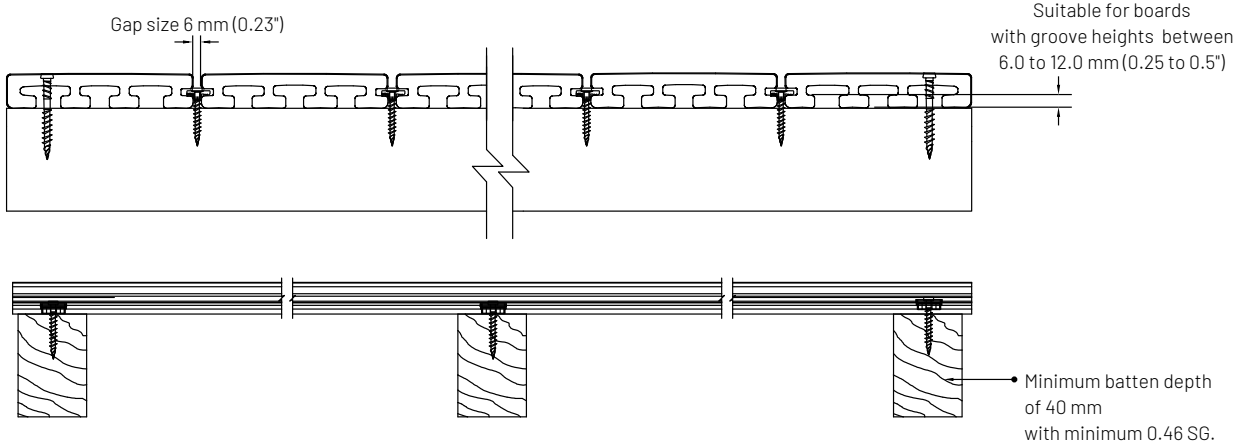
HULK FASTENERS

chain
Collated decking clip



Screw diagram
NTS



Screw application
NTS

Profile properties

Material:	SS304 PP coated clip C1022 screw
Size:	M4.2 x 31 mm screw
Bit type:	Depth controlling bit T15
Predrill hole size:	3.0 to 3.2.

Note: Screw drawings are for visual representation only and are not to scale or dimensionally accurate.

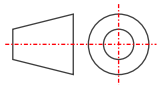
Drawing title

Chain Collated clip screw - Metal

File name

2025-04-07 - Fastener TDS - Appendix A

File details



Drawing number	01
Date	May 7, 2025
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Scale	NTS

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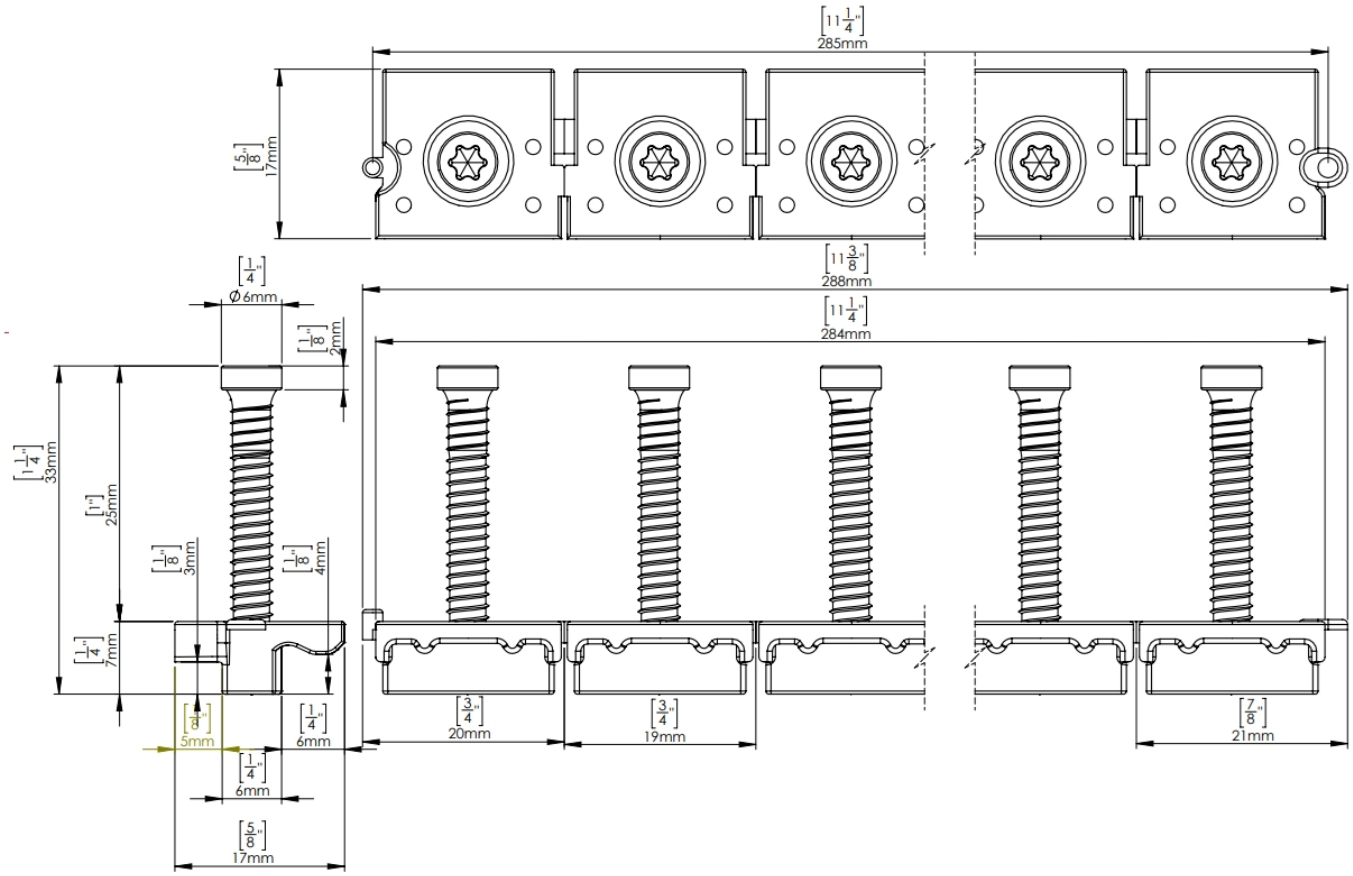
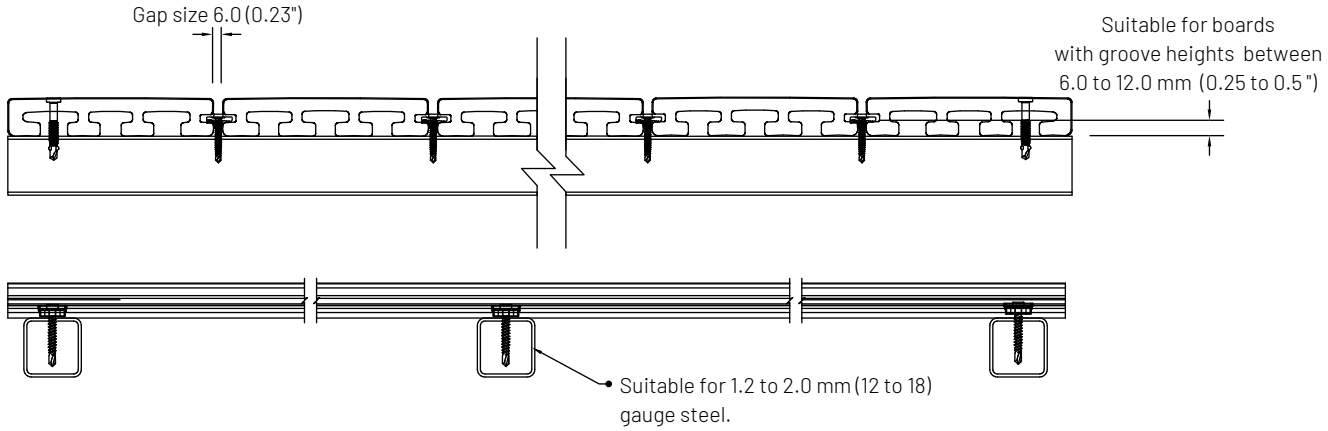
HULK FASTENERS

chain
Collated decking clip



Screw diagram
NTS



Screw application
NTS

Profile properties	
Material:	Steel , Aluminium and Nylon
Size:	N/A
Bit type:	T15 Depth controlling bit
Predrill hole size:	N/A

Note: Screw drawings are for visual representation only and are not to scale or dimensionally accurate.

Drawing title

Chain collated clip hand tool

File name

2025-04-07 - Fastener TDS - Appendix A

File details

Drawing number	01
Date	April 9, 2025
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Scale	NTS

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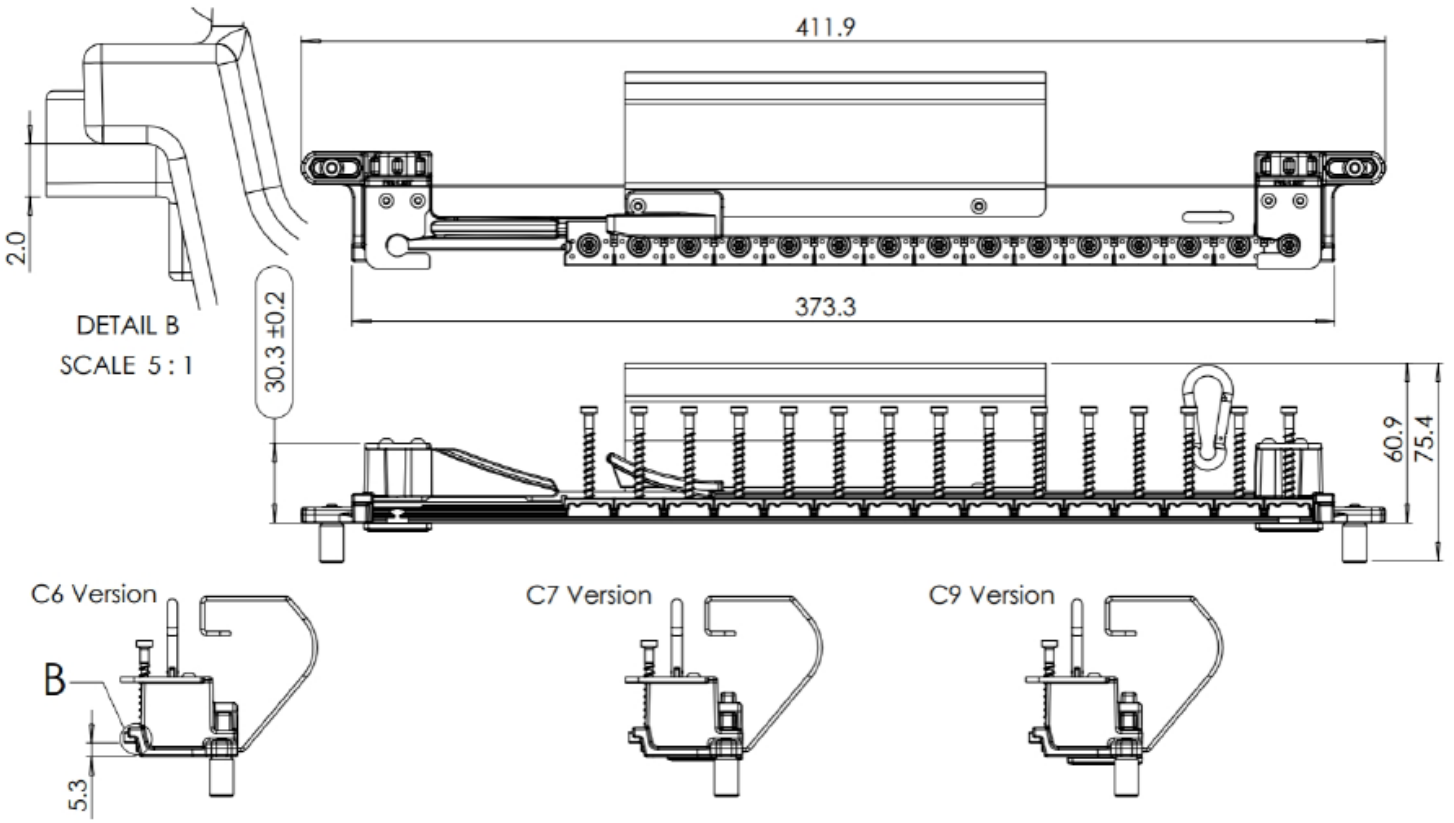


HULK FASTENERS

achain
Collated decking clip

Profile properties

Material:	Clip - SS430 Timber clip screw - SS 316 Metal clip screw - C1022
Size:	S6 - 6mm groove S9 - 9mm groove
Bit type:	T15 (for clip screws)
Predrill hole size:	3.0 to 3.2 for clip screw

Note: Screw drawings are for visual representation only and are not to scale or dimensionally accurate.

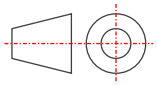
Drawing title

S6 or S9 clip

File name

2025-04-07 - Fastener TDS - Appendix A

File details



Drawing number	01
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Scale	NTS

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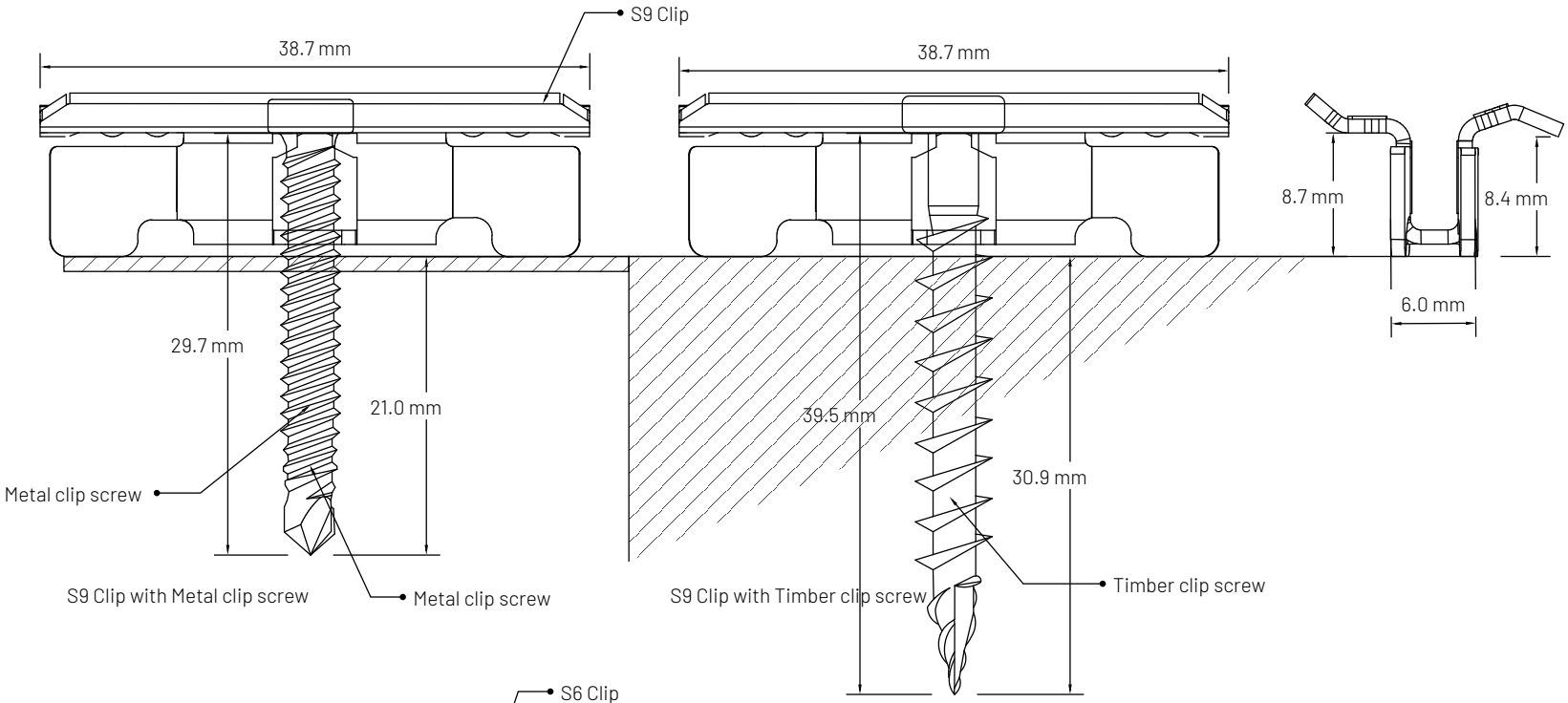
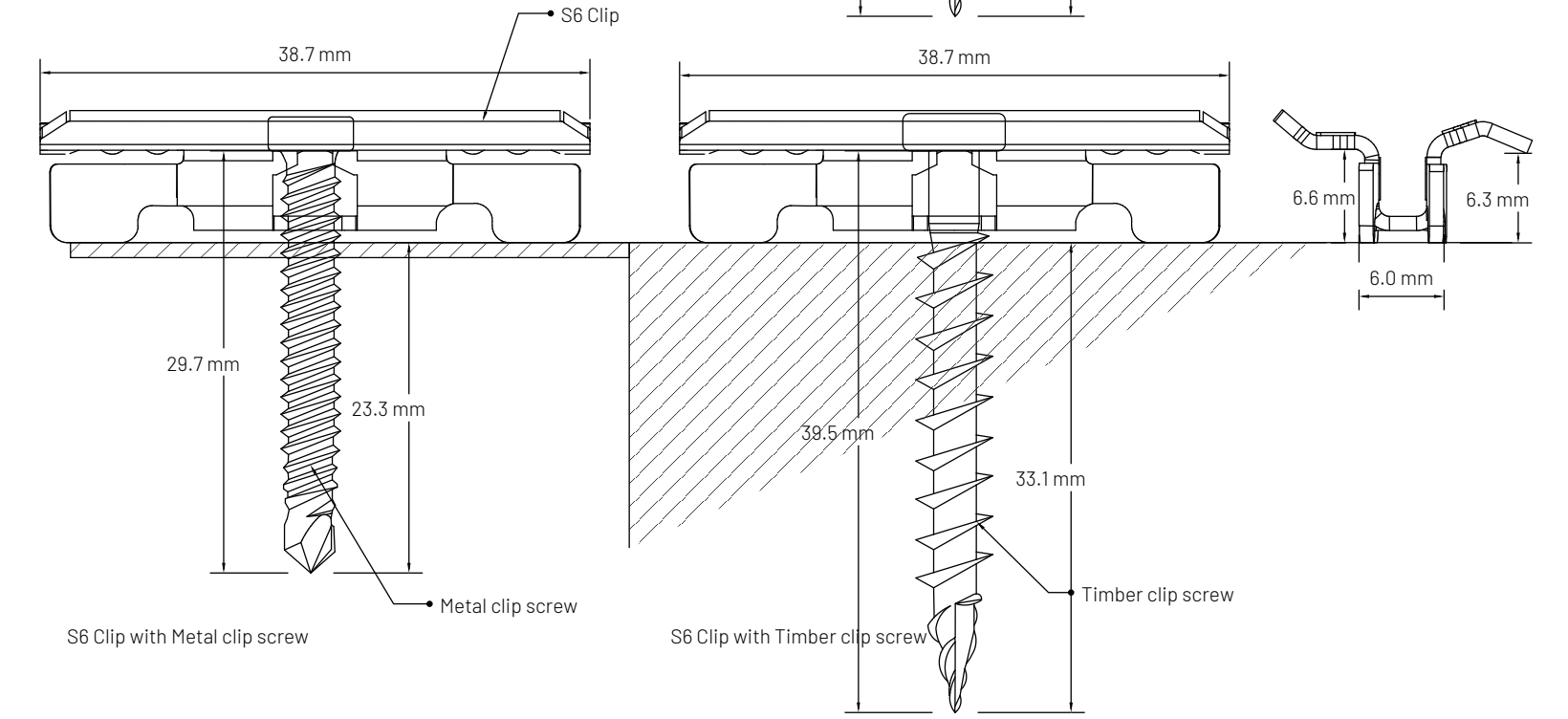
HULK FASTENERS





Profile properties

Material:	C1022 and SS316

Size:	M5.0 x 63 mm M5.0 x 58 mm
Bit type:	T20
Predrill hole size:	N/A

Note: Screw drawings are for visual representation only and are not to scale or dimensionally accurate.

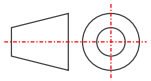
Drawing title

Timber Deck screw

File name

2025-04-07 - Fastener TDS - Appendix A

File details



Drawing number	01
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Scale	NTS

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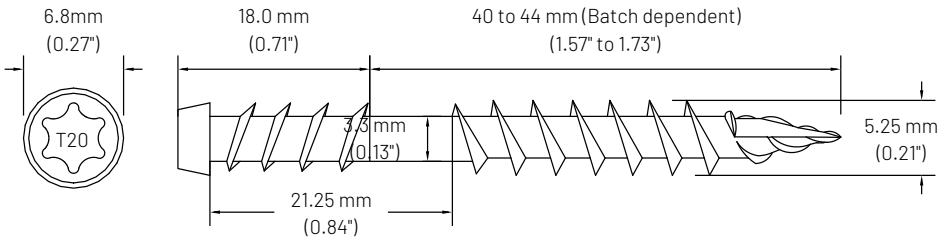
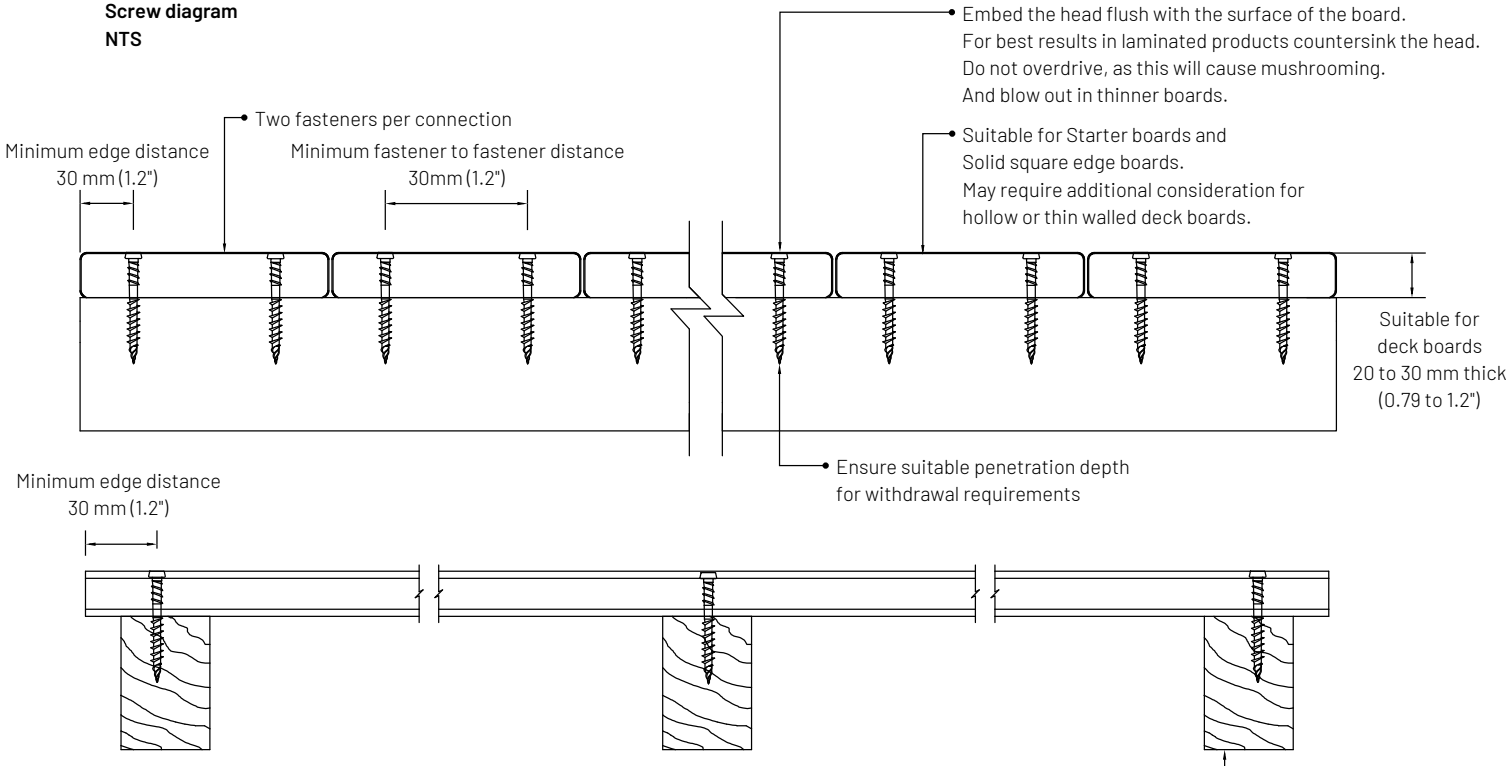
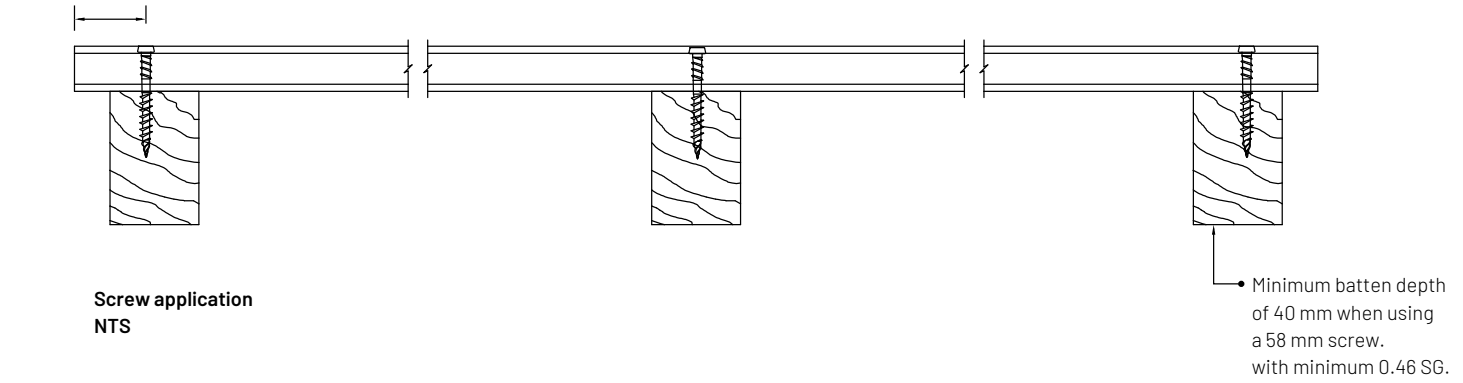
HULK FASTENERS



Screw diagram
NTS





Screw application
NTS

Profile properties

Material:	C1022
Size:	M4.8 x 45 mm
Bit type:	T20
Predrill hole size:	Avoid Pre-drilling

Note: Screw drawings are for visual representation only and are not to scale or dimensionally accurate.

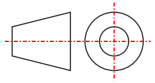
Drawing title

Metal Deck screw

File name

2025-04-07 - Fastener TDS - Appendix A

File details



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Scale	NTS

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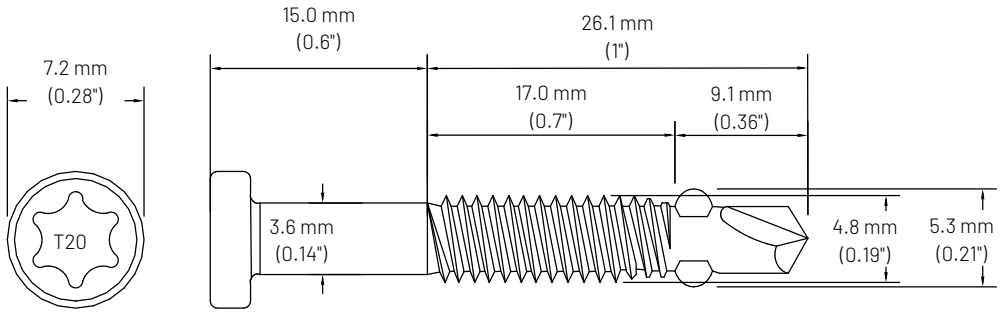
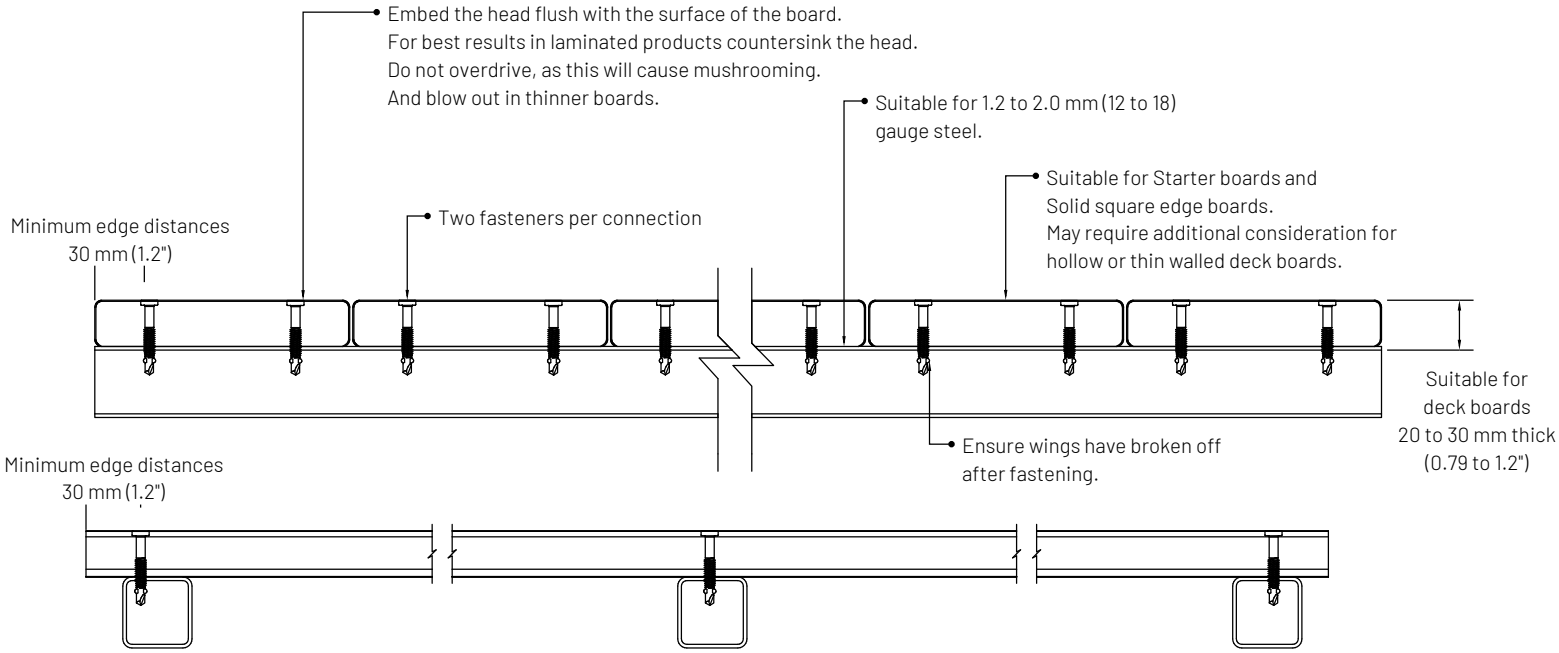
HULK FASTENERS



Screw diagram
NTS



Screw application
NTS

Profile properties

Material:	SS316
Size:	M5.5 x 45 mm
Bit type:	T25
Predrill hole size:	Avoid predrilling

Note: Screw drawings are for visual representation only and are not to scale or dimensionally accurate.

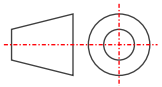
Drawing title

Timber Trim screw

File name

2025-04-07 - Fastener TDS - Appendix A

File details



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Scale	NTS

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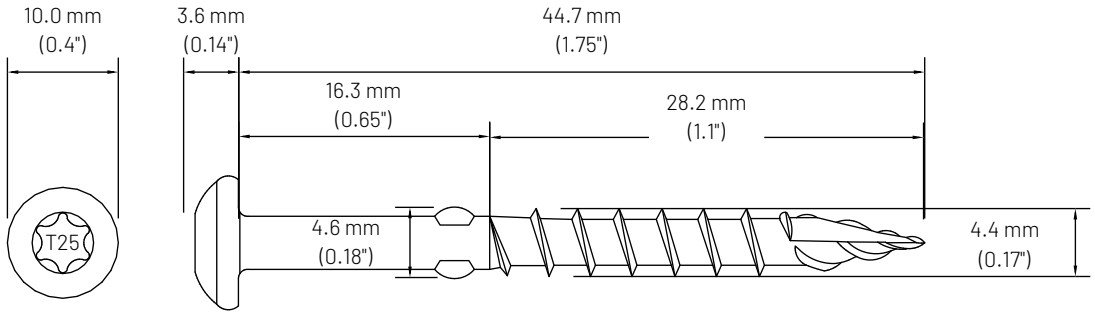
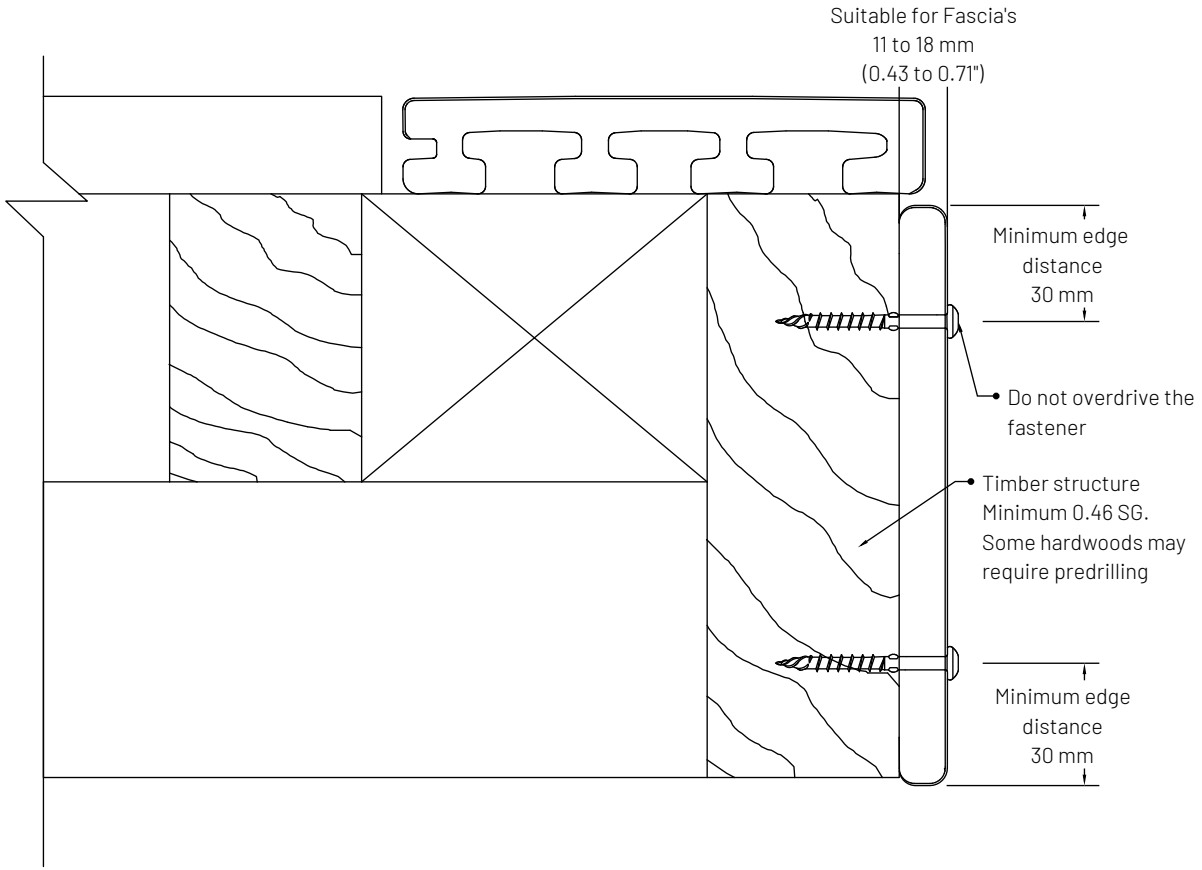
HULK FASTENERS



Screw diagram
NTS



Screw application
NTS

Profile properties

Material:	C1022
Size:	M5.5 x 35 mm
Bit type:	T25
Predrill hole size:	Avoid pre-drilling

Note: Screw drawings are for visual representation only and are not to scale or dimensionally accurate.

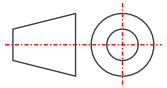
Drawing title

Metal Trim screw

File name

2025-04-07 - Fastener TDS - Appendix A

File details



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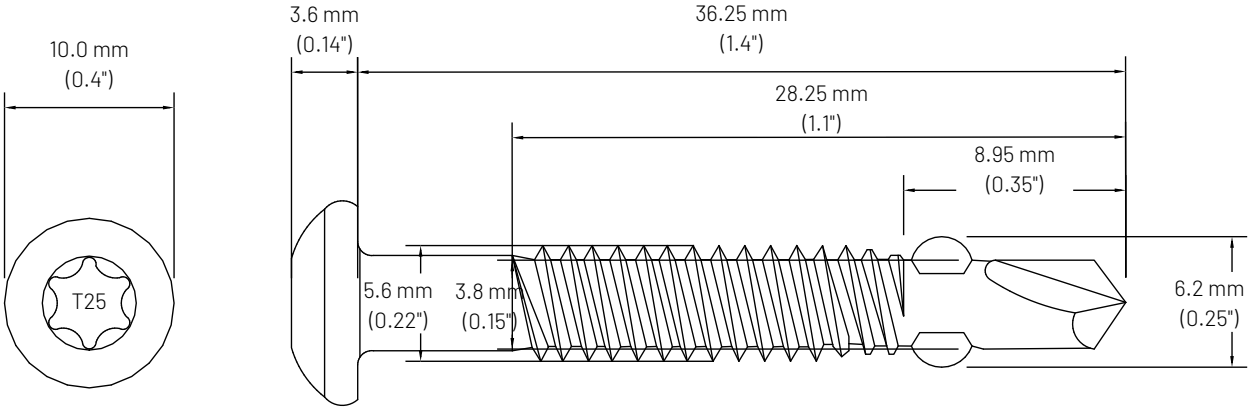
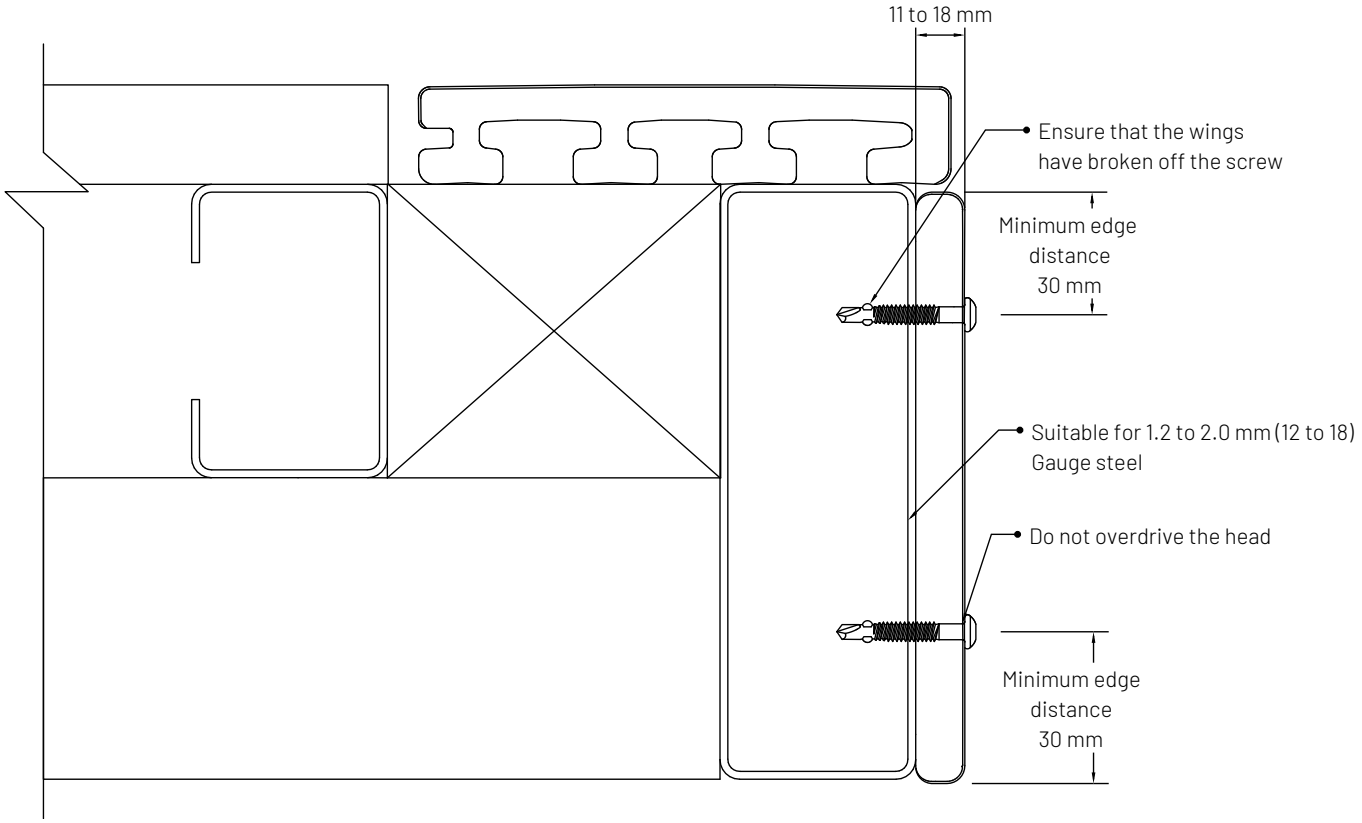
HULK FASTENERS



Screw diagram
NTS



Screw application
NTS

Profile properties

Material:	C1022

Size:	M6.0 x 80 mm M6.0 x 100 mm
Bit type:	T30
Predrill hole size:	N/A

Note: Screw drawings are for visual representation only and are not to scale or dimensionally accurate.

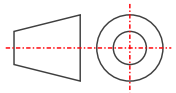
Drawing title

Timber frame screws

File name

2025-04-07 - Fastener TDS - Appendix A

File details



Drawing number	01
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Scale	NTS

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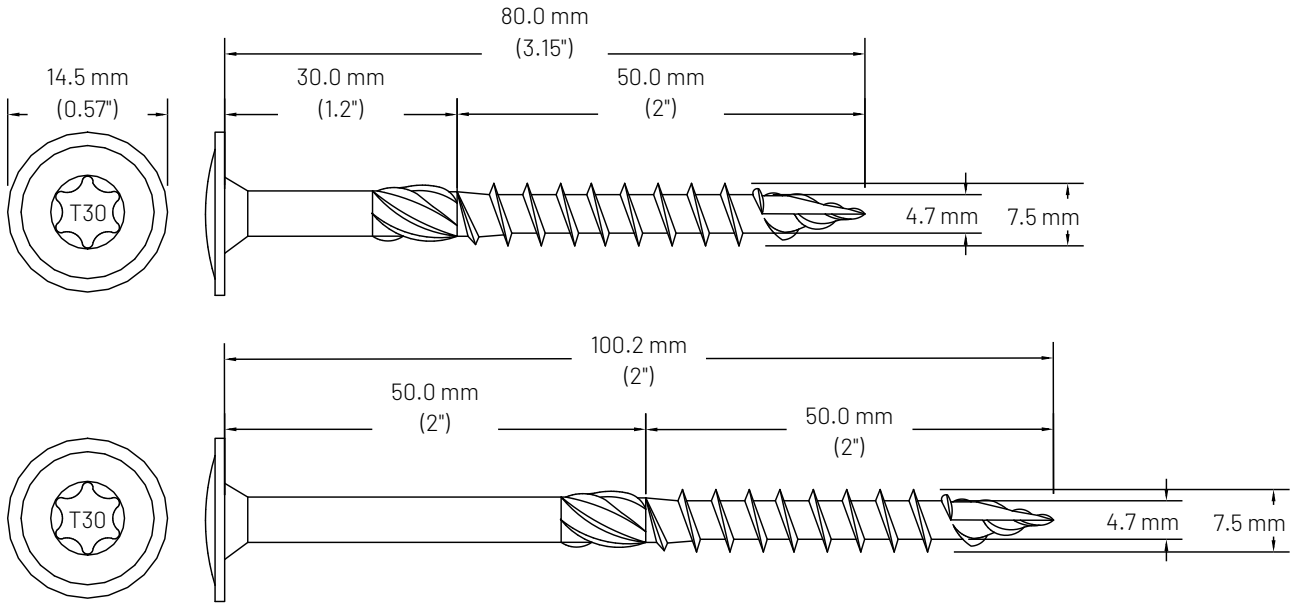

HULK FASTENERS

Appendix B

Coverage & Fastening Frequency

Coverage

Coverage is defined as the average number of clips required to install a square metre of decking based on the width of the board and the joist span used. The total number of clips required for a project is calculated by multiplying the applicable coverage rate with the total expected area of the deck. A wastage factor is typically allowed for and depends on the complexity of the project. A common industry assumption for a standard install is a wastage of approximately 10%.

Clips per square meter (m^2) or per 10.7 ft^2

Board width (mm)	Deck Span (mm)						
	300 (12)	350 (13.8)	400 (15.8)	450 (17.7)	500 (19.7)	550 (21.6)	600 (22.6)
135 (5.3)	27	24	21	19	17	16	15
140 (5.5)	26	23	20	18	17	15	14
145 (5.7)	25	22	20	18	16	15	14
150 (5.9)	25	22	20	17	16	15	14
180 (7.1)	21	18	16	15	14	13	12
Note: Board width includes an average gap of 6 mm between subsequent boards. Wastage is not considered in the above table.							

Screws per square meter (m^2) or per 10.7 ft^2

Board width (mm)	Deck Span (mm)						
	300 (12)	350 (13.8)	400 (15.8)	450 (17.7)	500 (19.7)	550 (21.6)	600 (22.6)
135 (5.3)	54	48	42	38	34	32	30
140 (5.5)	54	48	40	36	34	30	28
145 (5.7)	52	44	40	36	32	30	28
150 (5.9)	52	44	38	38	32	30	28
180 (7.1)	44	36	30	30	28	26	24
Note: Board width includes an average gap of 6 mm between subsequent boards. Wastage is not considered in the above table.							

Fastening frequency

While some boards can span more than 500 mm (19.7 in.), it is crucial to use enough fasteners to meet load requirements. Should this not meet the withdrawal requirements, consider reducing the span or switching to top-fixing screws instead of hidden fasteners. The relevant appendix in the profile TDS.

The following table provides withdrawal results for reference

Screw	Material	Withdrawal resistance (kN)	Minimum number of clips per m^2 (10.7 ft^2) to match US Approach	Structure and notes
Metal deck screw	C1022	3.3	7	2.0 mm (14 ga) Guage steel
Composite deck screw	SS316	5.7	4	Pine with Specific gravity of 0.46
Metal clip screw and Chain collated deck clip	C1022	3.8	6	2.0 mm (14 ga) Guage steel
Timber clip screw and Chain collated deck clip	SS316	3.8	6	Pine with Specific gravity of 0.46
Chain collated deck clip	SS304	3.4 to 5.0	6	Normal performance at 6.0 mm groove Worst case at 8.9mm groove

Appendix C

Board Compatibility of Chain Clips

Plate size	Profile details				Metric (mm)			Imperial (inches)		
	Technology	Brand specific	Category	Grooved profiles	Width	Thickness	Groove height	Width	Thickness	Groove height
C6	Apex plus	Decking	STTHMZQ128	Grooved profile	144.9	21	6.5	5.8	0.9	0.26
	Eva-tech	Decking - IS	ST01AEF	I-Series - Grooved profile	137	23.4	6.5	5.4	1	0.26
	Eva-tech	Decking - IS	ST01AEN	I-Series - Grooved profile	137	23.4	6.5	5.4	1	0.26
	Infinity	Decking	STGJ01	Solid Grooved board	140	20	6.5	5.6	0.8	0.26
	Infinity	Decking - IS	STGJ113	I-Series grooved profile	134.1	25.4	6.5	5.3	1	0.26
	Pioneer	Decking	STFM101A	Grooved deck board	144.9	21	6.5	5.8	0.9	0.26
	Pioneer	Decking	STFM103A	Grooved deck board	141.1	24.5	6.5	5.6	1	0.26
	Pioneer	Decking	STFM104A	Single sided starter standard	145	21.3	6.5	5.8	0.9	0.26
	Pioneer	Decking	STFM105A	Grooved wide	190	21	6.5	7.5	0.9	0.26
C7	Altitude	Decking - IS	STGJTHM06AE	I-series standard	136	23	7.9	5.4	1	0.32
	Altitude	Decking - IS	STGJTHM07AE	I-series wide	173.4	23	7.9	6.9	1	0.32
	Altitude	Decking	STGJTHM131	Solid grooved semi cap	136	23	7.9	5.4	1	0.32
	Altitude	Decking	STGJTHM132	Solid single sided starter	136	23.3	7.9	5.4	1	0.32
	Apex plus	Decking	STTHMZQ134	Grooved standard	140	22.5	7.9	5.6	0.9	0.32
	Apex plus	Decking	STTHMZQ135	Grooved wide	190	22.5	7.9	7.5	0.9	0.32
	Apex plus	Decking	STTHMZQ136	Single sided starter standard	140	22.8	7.9	5.6	0.9	0.32
	Apex plus	Decking	STTHMZQ137	Single sided starter wide	190	22.8	7.9	7.5	0.9	0.32
	Infinity	Decking	STGJ06AE	I-series standard	136	23	7.9	5.4	1	0.32
	Infinity	Decking	STGJ07AE	I-series wide	173.4	23	7.9	6.9	1	0.32
	Infinity	Decking	STGJ131	Solid grooved semi cap	136	23	7.9	5.4	1	0.32
	Infinity	Decking	STGJ132	Solid single sided starter	136	23.3	7.9	5.4	1	0.32

C9	Apex	Decking	STPVB101	Grooved profile	140	24	9	5.6	1	0.36
	Apex	Decking	STPVB103	Grooved profile	140	24	9	5.6	1	0.36
	Apex	Decking	STTHM103	Grooved profile	136	24	9	5.4	1	0.36
	Apex	Decking	STTHM116	Grooved profile	190	24	9	7.5	1	0.36
	Apex plus	Decking	STTHMZQ103	Groove profile	140	24	9	5.6	1	0.36
	Apex plus	Decking	STTHMZQ116	Groove profile	190	24	9	7.5	1	0.36
	Infinity	Decking - IS	STGJ02AE	I-Series - Grooved profile	136	25.4	9	5.4	1	0.36
	Infinity	Decking	STGJ02AEN	Solid grooved profile	140	25.5	9	5.6	1.1	0.36
	Infinity	Decking - IS	STGJ04AE	I-Series - Starter profile	136	25.4	9	5.4	1	0.36
	Infinity	Decking	STGJ04XX	Grooved deck board	140	23	9	5.6	1	0.36
	Origins	Decking	STGJ120X	Round hollow grooved board	138	22.5	8.25	5.5	0.9	0.33
	Origins	Decking	STGJ121X	Square edge solid board	138	22.5	8.25	5.5	0.9	0.33
	Origins	Decking	STGJ135	Round hollow grooved board	210	22.5	8.25	8.3	0.9	0.33