



Recommended Fixings Manual for

deceuninck

Traditional 2500

Suite of Profiles

SPECIAL NOTES WITH REFERENCE TO DOOR HINGE FASTENERS

Due to the extensive range and specification of door hinge hardware, the recommendations within this manual are intended as a guide only. It is therefore essential that you contact Rapiertstar Technical Department for advice on correct fastener selection for your individual requirements.

The Correct Fastener

rapierstar® the market-leading supplier of screws to the PVC-U window industry, with its unrivalled technical expertise, has worked together with your systems company to produce this recommended fixings manual. The following pages contain advice on the correct fastener for each application.



Your orders are despatched direct from our purpose-built premises near Congleton in Cheshire.

Star Performance

rapierstar® StarPVCU window screws have conformed with all relevant industry standards, guidelines and recommendations for some time and are intended to be used where mechanical resistance, stability and safety of use in the sense of the 'essential requirements' of Annex I of the Construction Products Regulation 305/2011 are to be fulfilled.

Surpassing Standards

rapierstar® branded product ranges have been certified by European approved 'Notified Bodies', confirming initial type testing and assessment & verification of constancy of performance.

BS EN 14351-1:2006+A1:2010, Windows and doors product standard, performance characteristics.

CE **rapierstar®** branded screws conform with the requirements of harmonised European standard BS EN 14351-1 and have been type tested to meet the standard of BS EN 14566:2008+A1:2009. By conforming with this standard, we are describing, with independent verification, that the head/thread/point maintain consistency of design. This also guarantees that the production of steel screws is to EU standards and that factory controls are in place during manufacture.

PAS 24:2012 Windows and doors fabricated with correct StarPVCU screws exceed PAS 24:2012 - enhanced security performance requirements for doorsets and windows in the UK. PAS 24:2012 supersedes PAS 24:2007 and BS 7950:1997, which are withdrawn.

BS EN 1670:2007 Electroplating coatings of **rapierstar®** products comply with the provisions of ISO 2081:2008 and exceed corrosion resistance testing to BS EN 1670 grade 4 for Carbon Steel screws and BS EN 1670 grade 5 for Stainless Steel screws.

ISO 9000, is a family of standards relating to quality management and are designed to help organisations ensure they meet the needs of customers. **rapierstar®** is an ISO 9001:2008 registered company and all our window screws are manufactured by ISO 9000 certificated companies. Full traceability is maintained so long as the screws remain in the box in which they were supplied.

Screw Tips - Best Practice

Perpendicular Insertion: Ensure that any fastener is applied at 90° to the material at all times.

Mechanical Damage: It is important to replace the screwdriver bit regularly. A worn screwdriver bit may not engage fully into the recess, causing damage to the plating of the screw with the resulting likelihood of corrosion.

Torque Setting: The use of excessive torque may lead to stripping and failure of the fastener. The torque setting on the screwdriver should be the minimum required to effect a complete fastening.

Screwdriver Speed: It is recommended by the Glass & Glazing Federation and the British Plastics Federation that driver speeds between 1500 rpm and 2000 rpm are used.

Avoid Corrosive Elements

Several factors can cause screws to rust, each of which can be accelerated depending on the situation of the application.

Silicone sealants - avoid acetic acid cured high and low modulus sealants. The vapour alone is sufficient to cause corrosion. Therefore a neutral curing sealant is recommended.

Acrylic fillers - contact with any carbon steel component will cause corrosion.

Cleaners - aggressive cleaning substances, especially those containing ammonia, chlorine etc. can reduce the effectiveness of the protective plating and should be avoided.

New-build - screws should not come into contact with wet plaster or cement, as the lime content will cause corrosion. Also, the acid wash that is often used to clean brickwork is highly corrosive and should be avoided completely. **Where any of the above conditions are likely to exist, the use of stainless steel is recommended.**

100% Stainless 100% Solution

For coastal or heavily polluted regions of the country, when attaching stainless steel hardware, or where prolonged guarantees are being offered, we recommend that stainless steel screws should be used.

Identification of Stainless Window screws

Unique head design eliminates confusion between the grades of stainless steel used. Clear product marking on the head of **rapierstar®** window screws allows immediate identification of the grade of stainless steel from which the screws are manufactured. This ensures that specifications are adhered to.



Austenitic Stainless Steel - 302

Because 302 grade Austenitic stainless steel is intrinsically soft, it is unsuitable for self-drilling applications. However, it is ideal for use in PVC-U only applications, giving excellent corrosion resistance.



Enhanced Martensitic Stainless Steel - 410

410 grade Martensitic stainless steel is a harder grade which is capable of self-drilling and tapping into steel reinforcement. Screws are independently tested by UKAS accredited test bodies to beyond 3000 hours salt spray test in accordance with BS EN ISO 9227.



Bi-Metallic

Austenitic stainless steel fastener with a carbon steel drill tip. Suitable for reinforced applications. Combination recess with square drive giving effective 'stick-fit' onto the driver bit for ease of insertion during fabrication and common Phillips no2 recess for on-site adjustment. Often accepted by Councils and Housing Associations for use in the manufacture of windows and doors.

In any application where fasteners are required to be guaranteed free from hydrogen embrittlement or any other form of hydrogen induced cracking (HIC), Rapierstar always recommend that fasteners manufactured from a grade of stainless steel considered suitable for the end application be specified and used.

Rapier® StarFix

In choosing **rapierstar**, you have used the industry's leading supplier of window screws to manufacture your windows and doors. To maintain your high standards, have your products installed using the best quality fixings. **StarFix is the most widely used plugless frame fixing available today. Recommend StarFix to your installer.**



Masonry Fixing

- ▶ **No Plug Required**
- ▶ **High Strength Fixing**
- ▶ **50% Quicker Assembly**
- ▶ **30% Less Drive-in Torque Required**

High Tech Fixing

The award winning **StarFix** is probably the most efficient direct masonry fixing available. The patented StarForm thread provides 30% lower drive-in torque and up to 50% quicker assembly. A cost effective and time saving installation with exceptional holding power.



LENGTH (mm)									
62	82	102	112	122	152	152	182	202	

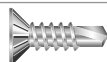


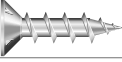
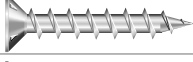

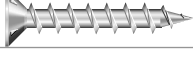





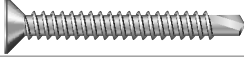


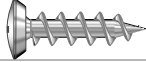


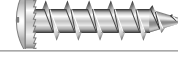




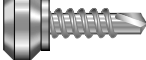
Yellow finish. 7.5mm Diameter.
6.0mm / 6.5mm pilot hole required
8.0mm clearance hole

In tests, **StarFix** has consistently outperformed other lower cost plugless fixings that are often claimed to be it's equal.




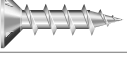













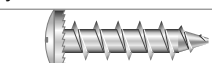
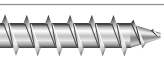




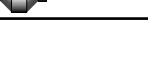
Faster, low torque insertion means battery life of power tools is extended during installation, a valuable cost and time-saving element.

StarFix provides high shear strength and in tests, pull-out values into London Brick, Concrete Block and Engineering Brick have proved exceptional. For details of these test results visit www.rapierstar.com

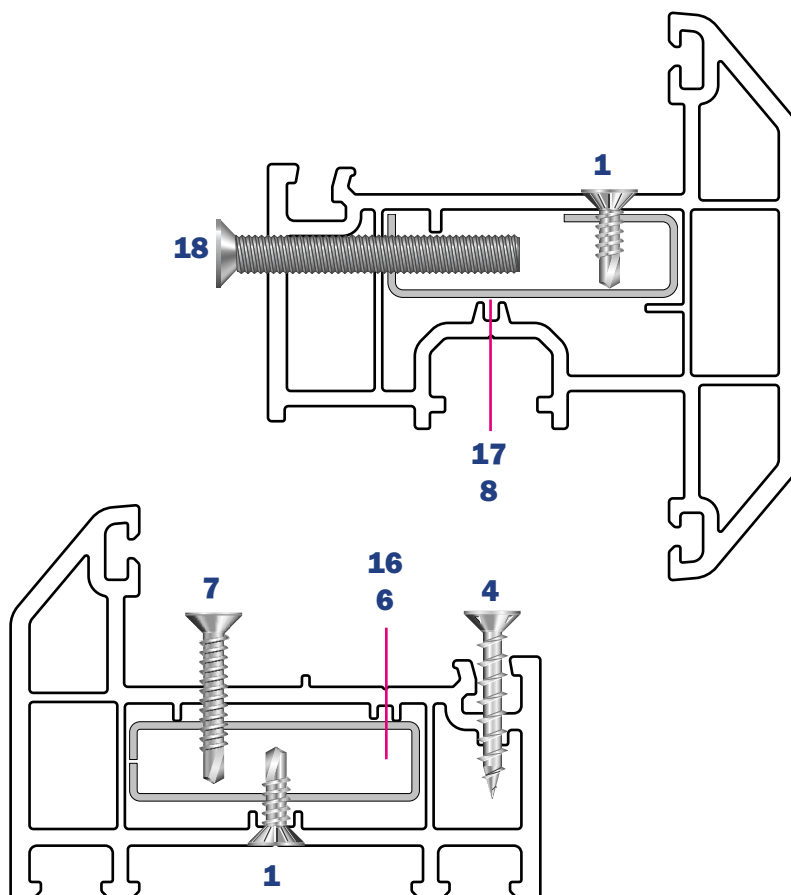
Carbon Steel

	Code	Item	Application
	RSR 3.9 x 13 Z	1	Reinforcement retention
	RSR 3.9 x 16 Z	2	Reinforcement retention
	CFG 4.3 x 16 Z	3	Thermal chamber insulator (TCI) Retention
	CFG 4.3 x 16 Z	3	Hinge to unreinforced section of door sash
	CFG 4.3 x 25 Z	4	Gearing to unreinforced sash
	CFG 4.3 x 25 Z	4	Keep to unreinforced frame
	CFG 4.3 x 25 Z	4	Run-up block to unreinforced frame
	CFG 4.3 x 40 Z	5	Hinge to door sash
	CSR 3.9 x 19 Z	6	Keep to reinforced frame
	CSR 3.9 x 22 Z	7	Run-up block to reinforced frame
	CSR 3.9 x 25 Z	8	Gearing to reinforced sash
	CSR 3.9 x 25 Z	8	Keep to reinforced frame
	CSR 3.9 x 32 Z	9	Hinge to door sash
	CSR 3.9 x 38 Z	10	Hinge to tilt & turn frame
	CSR 3.9 x 38 Z	10	Hinge to door frame
	SFG 4.3 x 16 Z	11	Friction stay to unreinforced frame
	SFG 4.3 x 20 Z	12	Friction stay to frame with TCI
	SFG 4.3 x 25 Z	13	Friction stay to unreinforced sash
	SFG 4.8 x 20 Z	14	Claw lock to frame
	SFG 4.8 x 25 Z	15	Claw lock to sash
	SSR 3.9 x 16 Z	16	Friction stay to reinforced frame
	SSR 3.9 x 25 Z	17	Friction stay to reinforced sash
	MS M5 x 40 Z	17	Handle retention
	NSR 4.0 x 13 Z	19	Weatherbar

Stainless Steel

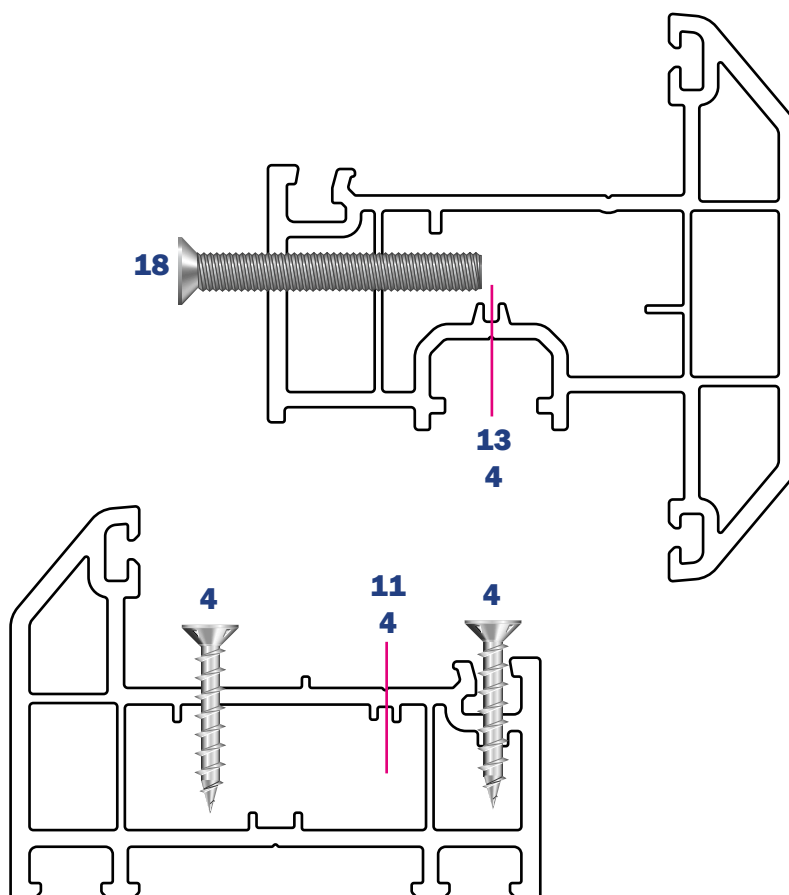
	Code	Item	Application
	RSR 3.9 x 13 S	1	Reinforcement retention
	RSR 3.9 x 16 S	2	Reinforcement retention
	CFG 4.3 x 16 S	3	Thermal chamber insulator (TCI) Retention
	CFG 4.3 x 16 S	3	Hinge to unreinforced section of door sash
	CFG 4.3 x 25 S	4	Gearing to unreinforced sash
	CFG 4.3 x 25 S	4	Keep to unreinforced frame
	CFG 4.3 x 25 S	4	Run-up block to unreinforced frame
	CFG 4.3 x 40 S	5	Hinge to door sash
	CSR 3.9 x 19 S	6	Keep to reinforced frame
	CSR 3.9 x 22 S	7	Run-up block to reinforced frame
	CSR 3.9 x 25 S	8	Gearing to reinforced sash
	CSR 3.9 x 25 S	8	Keep to reinforced frame
	CSR 3.9 x 32 S	9	Hinge to door sash
	CSR 3.9 x 38 S	10	Hinge to tilt & turn frame
	CSR 3.9 x 38 S	10	Hinge to door frame
	SFG 4.3 x 16 S	11	Friction stay to unreinforced frame
	SFG 4.3 x 20 S	12	Friction stay to frame with TCI
	SFG 4.3 x 25 S	13	Friction stay to unreinforced sash
	SFG 4.8 x 20 S	14	Claw lock to frame
	SFG 4.8 x 25 S	15	Claw lock to sash
	SSR 3.9 x 16 S	16	Friction stay to reinforced frame
	SSR 3.9 x 25 S	17	Friction stay to reinforced sash
	MS M5 x 40 Z	17	Handle retention
	NSR 4.0 x 13 Z	19	Weatherbar







Casement Window - Reinforced
Frame 2532 with 2845 Reinforcement
Sash 2534 with 2544 Reinforcement



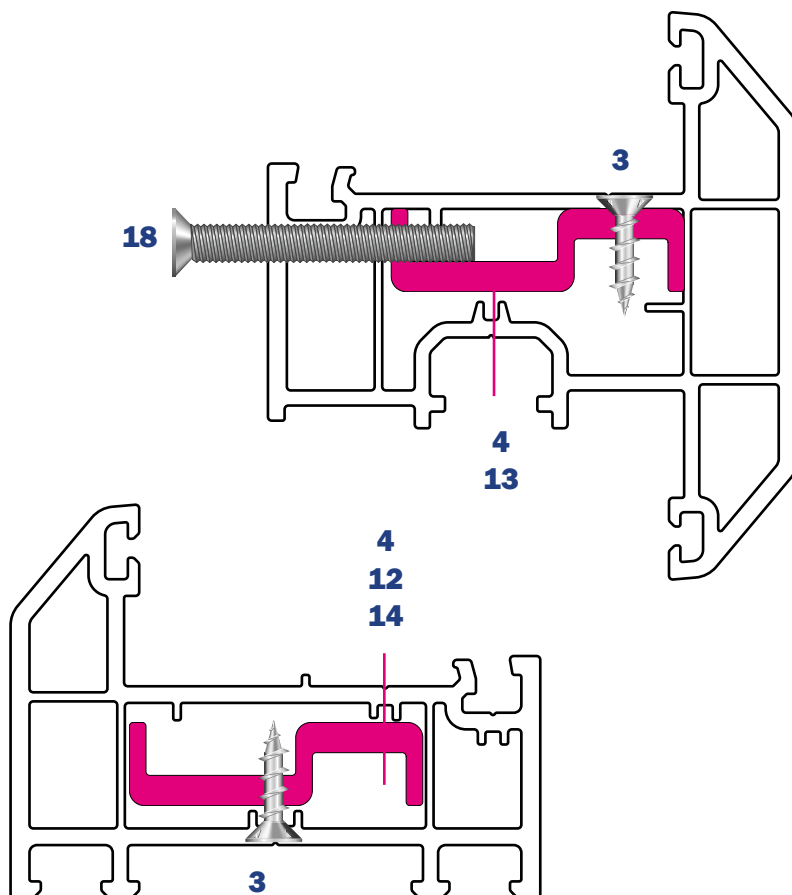
1		RSR 3.9 x 13 Z	Reinforcement retention
16		SSR 3.9 x 16 Z	Friction Stay (Frame)
17		SSR 3.9 x 25 Z	Friction Stay (Sash)
8		CSR 3.9 x 25 Z	Gearing
6		CSR 3.9 x 19 Z	Keep
4		CFG 4.3 x 25 Z	Keep
7		CSR 3.9 x 22 Z	Ride-Up Block
18		MS M5 x 40 Z	Handle






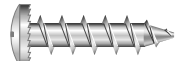

**Casement Window - Unreinforced
Frame 2532. Sash 2534**



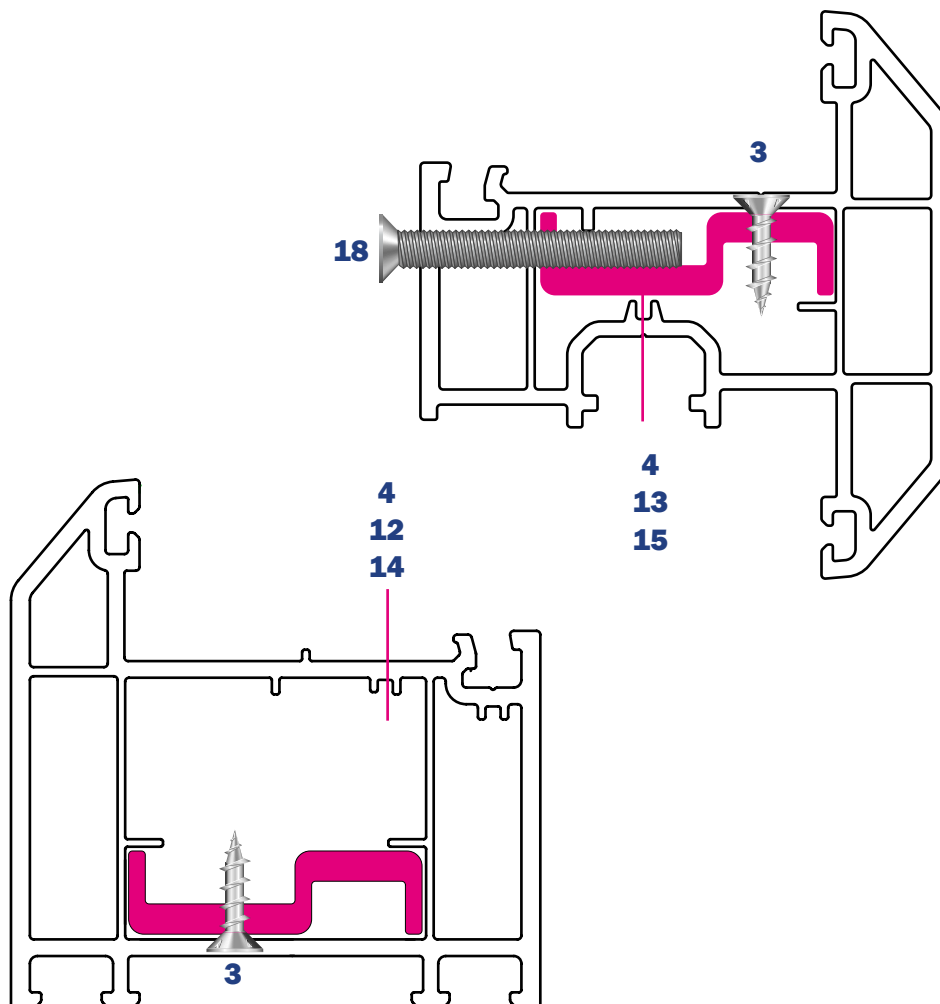
13		SFG 4.3 x 25 Z	Friction Stay (Sash)
11		SFG 4.3 x 16 Z	Friction Stay (Frame)
4		CFG 4.3 x 25 Z	Gearing
4		CFG 4.3 x 25 Z	Keep
4		CFG 4.3 x 25 Z	Run-Up Block)
18		MS M5 x40 Z	Handle









Casement Window with Thermal Chamber Insulator
Frame 2532. Sash 2534



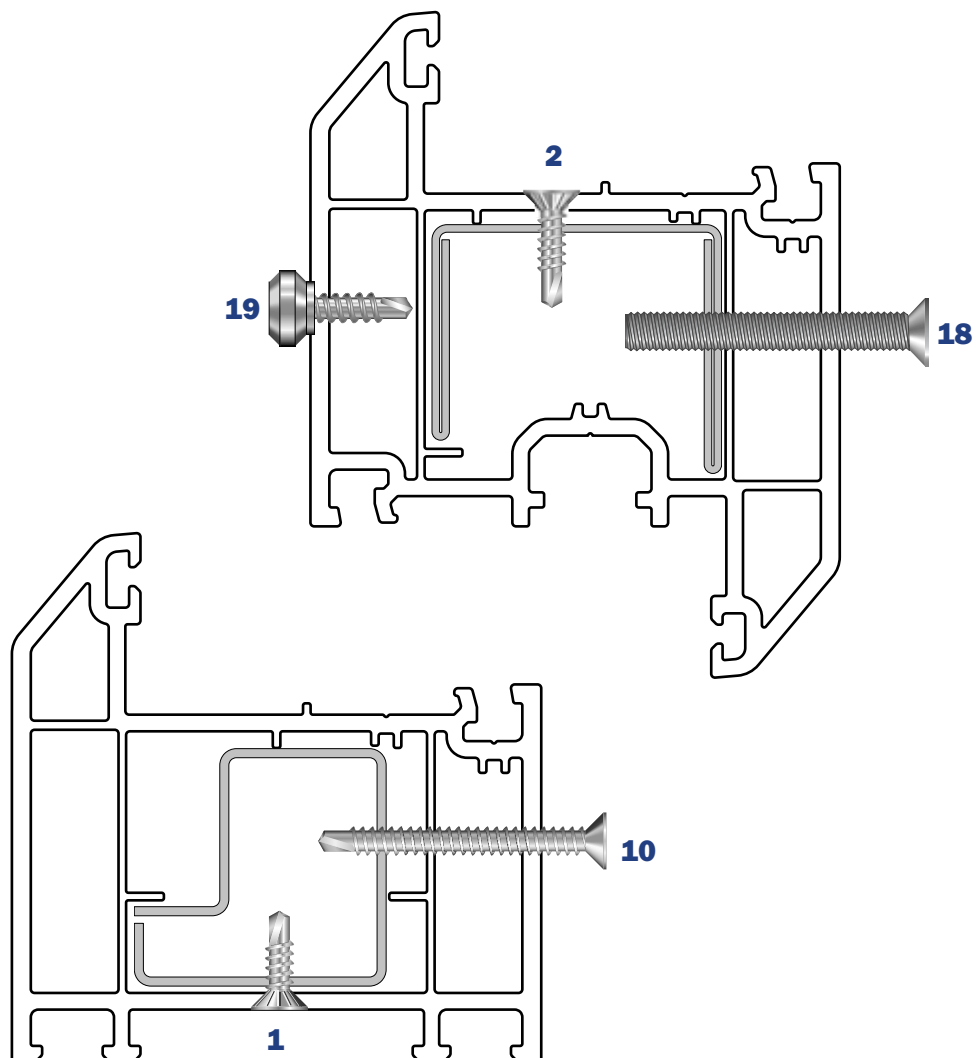
3		CFG 4.3 x 16 Z	T.C.I. retention
4		CFG 4.3 x 25 Z	Gearing
4		CFG 4.3 x 25 Z	Keep
12		SFG 4.3 x 20 Z	Friction Stay (Frame)
13		SFG 4.3 x 25 Z	Friction Stay (Sash)
14		SFG 4.8 x 20 Z	Claw Lock
18		MS M5 x 40 Z	Handle




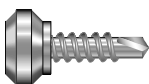

**Casement Window
2533 Frame with Thermal Chamber Insulator
Not approved to BS7950**



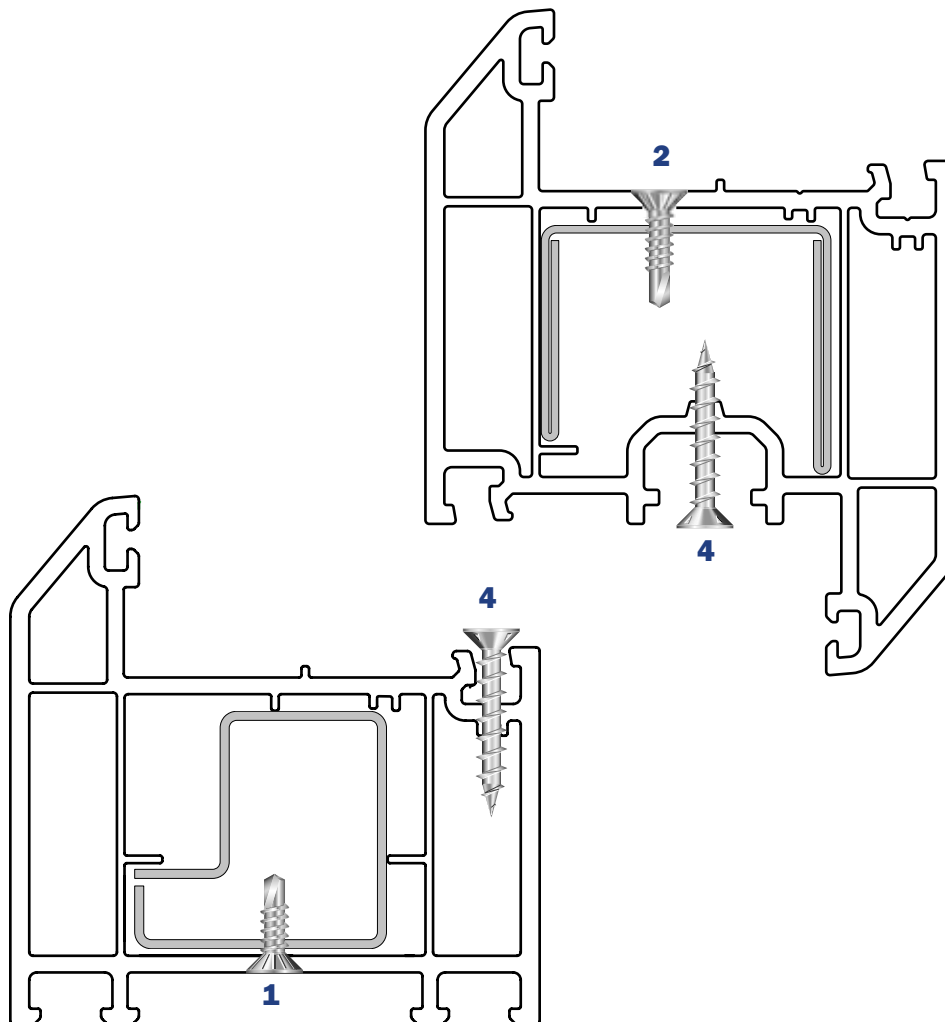
3		CFG 4.3 x 16 Z	T.C.I Retention
4		CFG 4.3 x 25 Z	Gearing
4		CFG 4.3 x 25 Z	Keep
12		SFG 4.3 x 20 Z	Friction Stay (Frame)
13		SFG 4.3 x 25 Z	Friction Stay (Sash)
14		SFG 4.8 x 20 Z	Claw Lock (Frame)
15		SFG 4.8 x 25 Z	Claw Lock (Sash)
18		MS M5 x 40 Z	Handle




Tilt & Turn Window - Reinforced - Hinge Side
Sash P2537 with 2846 Reinforcement
Frame P2533 with 2887 Reinforcement



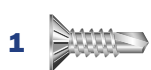
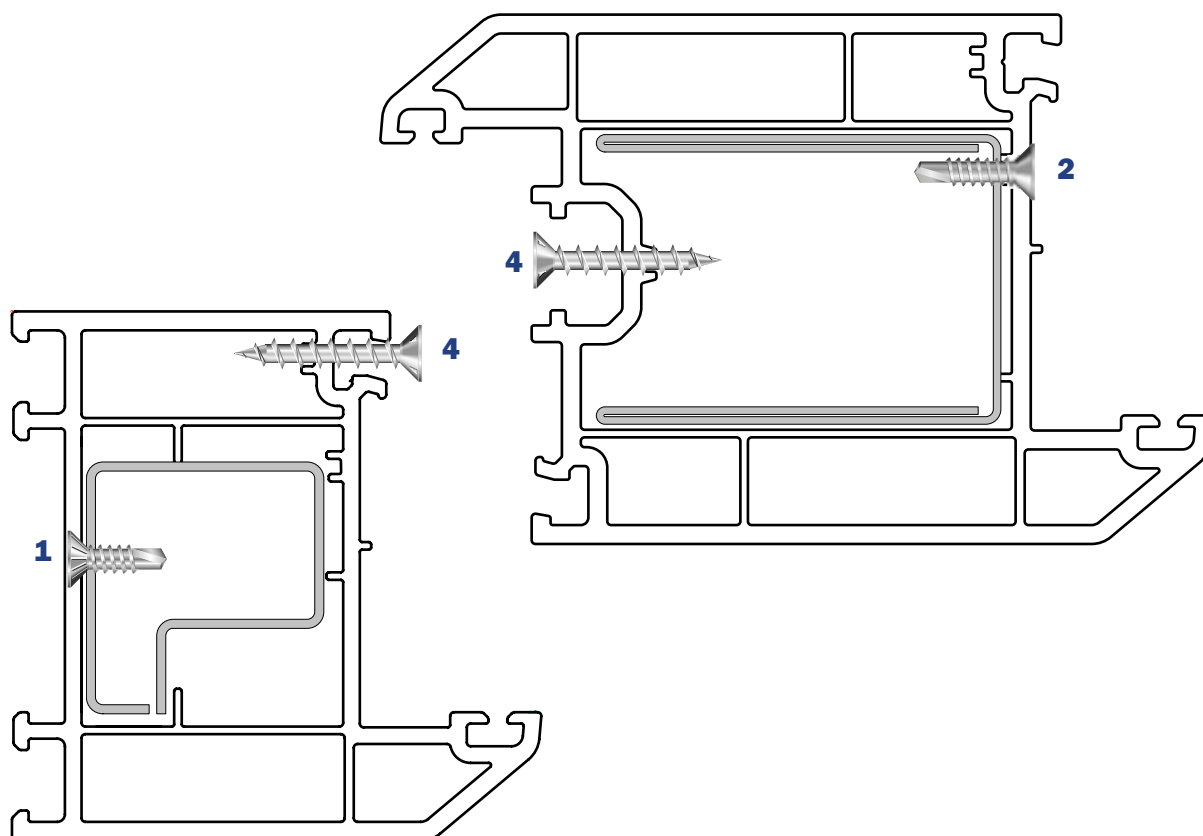
1		RSR 3.9 x 13 Z	Reinforcement Retention (Frame)
2		RSR 3.9 x 16 Z	Reinforcement Retention (Sash)
10		CSR 3.9 x 38 Z	Hinge
19		NSR 4.0 x 13 Z	Weatherbar
18		MS M5 x 40 Z	Handle

Tilt & Turn Window - Reinforced - Non Hinge Side
Sash P2537 with 2846 Reinforcement
Frame P2533 with 2887 Reinforcement



1		RSR 3.9 x 13 Z	Reinforcement Retention (Frame)
2		RSR 3.9 x 16 Z	Reinforcement Retention (Sash)
4		CFG 4.3 x 25 Z	Gearing

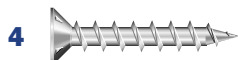
Tilt & Slide Patio - Reinforced - Vertical Section
Sash P2530 with 2843 Reinforcement
Frame P2533 with 2887 Reinforcement



RSR 3.9 x 13 Z Reinforcement Retention (Frame)

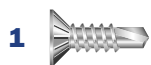
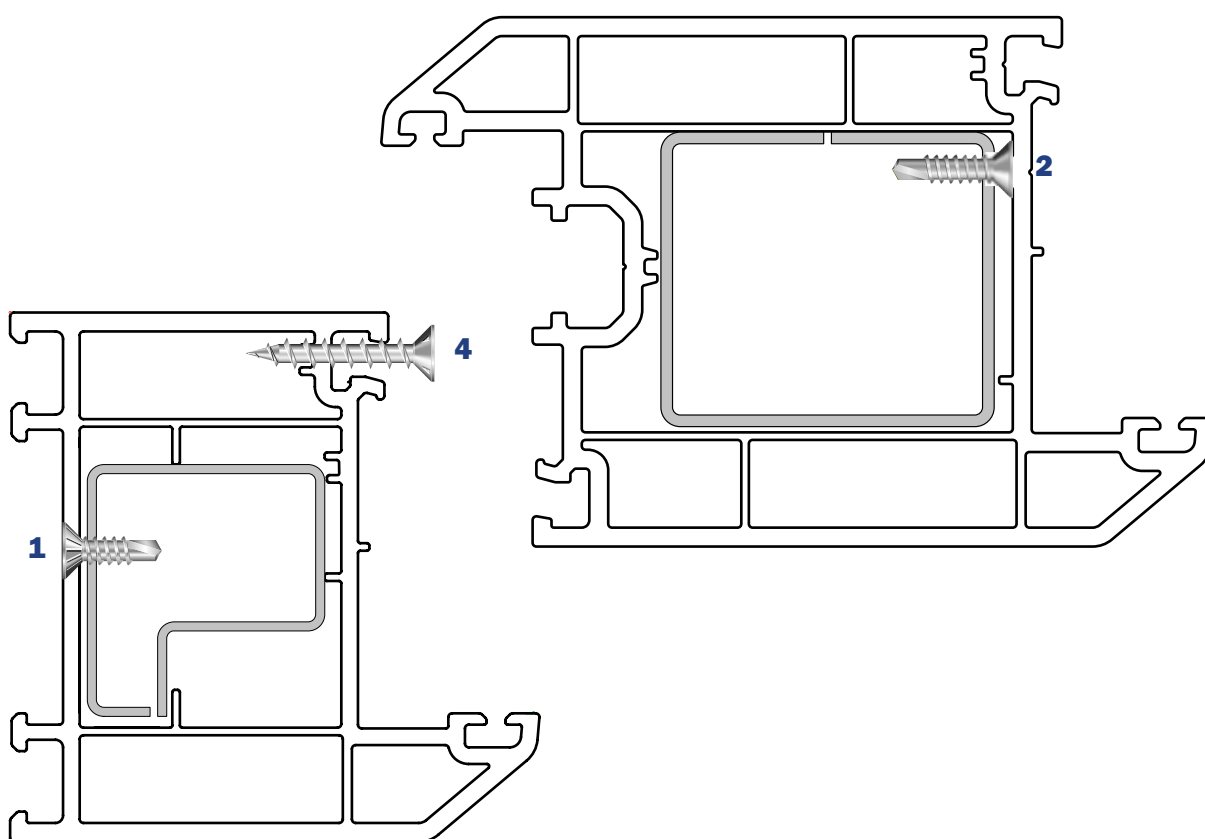


RSR 3.9 x 16 Z Reinforcement Retention (Sash)



CFG 4.3 x 25 Z Gearing to Sash, Keep to Frame

Tilt & Slide Patio - Reinforced - Horizontal Section
Sash P2530 with 2959 Reinforcement
Frame P2533 with 2887 Reinforcement



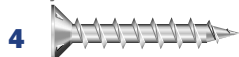
RSR 3.9 x 13 Z

Reinforcement Retention (Frame)



RSR 3.9 x 16 Z

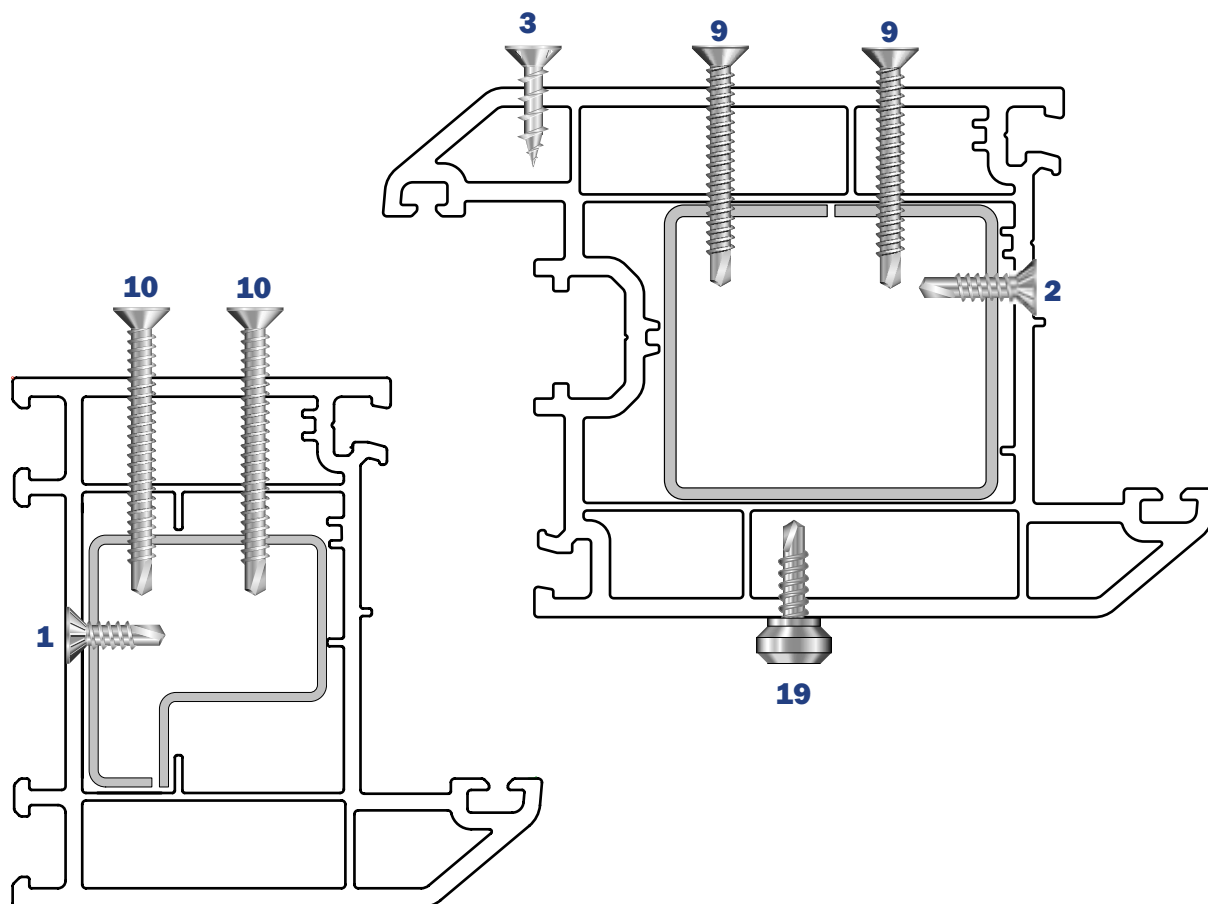
Reinforcement Retention (Sash)



CFG 4.3 x 25 Z

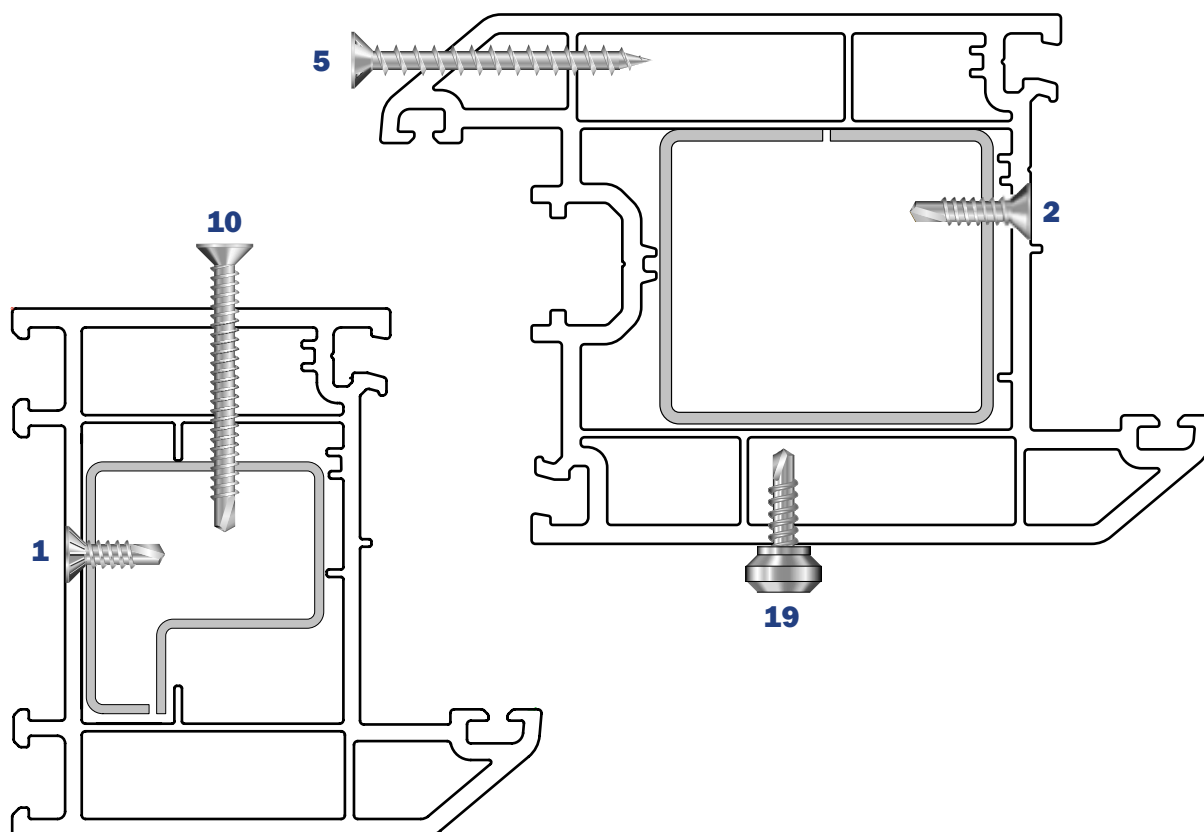
Keep



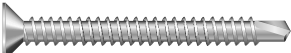
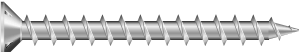
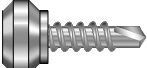
Open-In Door, Hinge Side, Flag Hinges
Sash P2530 with 2859 Reinforcement
Frame P2533 with 2887 Reinforcement



1		RSR 3.9 x 13 Z	Reinforcement Retention (Frame)
2		RSR 3.9 x 16 Z	Reinforcement Retention (Sash
10		CSR 3.9 x 38 Z	Hinge (Frame)
9		CSR 3.9 x 32 Z	Hinge to reinforced section of Sash
3		CFG 4.3 x 16 Z	Hinge to unreinforced section of Sash
19		NSR 4.0 x 13 Z	Weatherbar

Open-In Door, Hinge Side, Butt Hinges
Sash P2530 with 2959 Reinforcement
Frame P2533 with 2887 Reinforcement

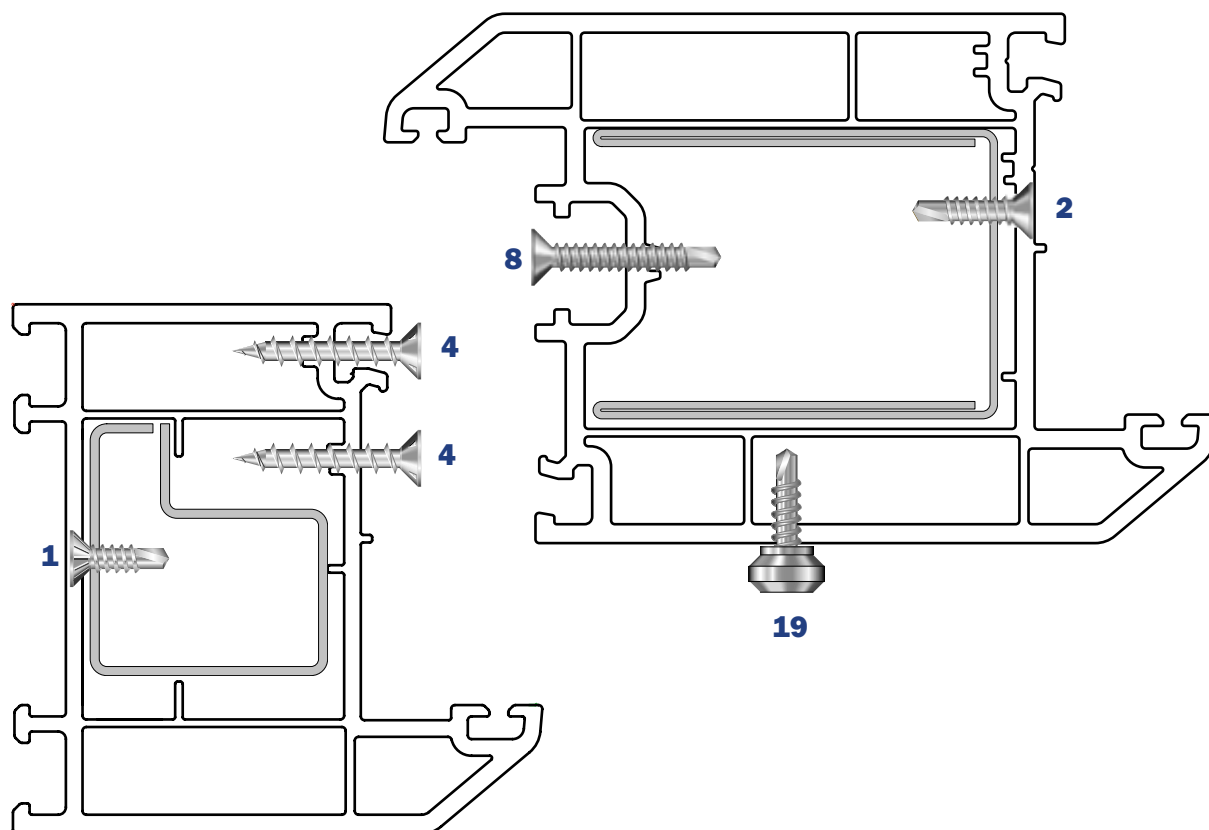





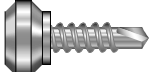
1		RSR 3.9 x 13 Z	Reinforcement Retention (Frame)
2		RSR 3.9 x 16 Z	Reinforcement Retention (Sash)
10		CSR 3.9 x 38 Z	Hinge (Frame)
5		CFG 4.3 x 40 Z	Hinge (Sash)
19		NSR 4.0 x 13 Z	Weatherbar

Open-In Door, Lock Side

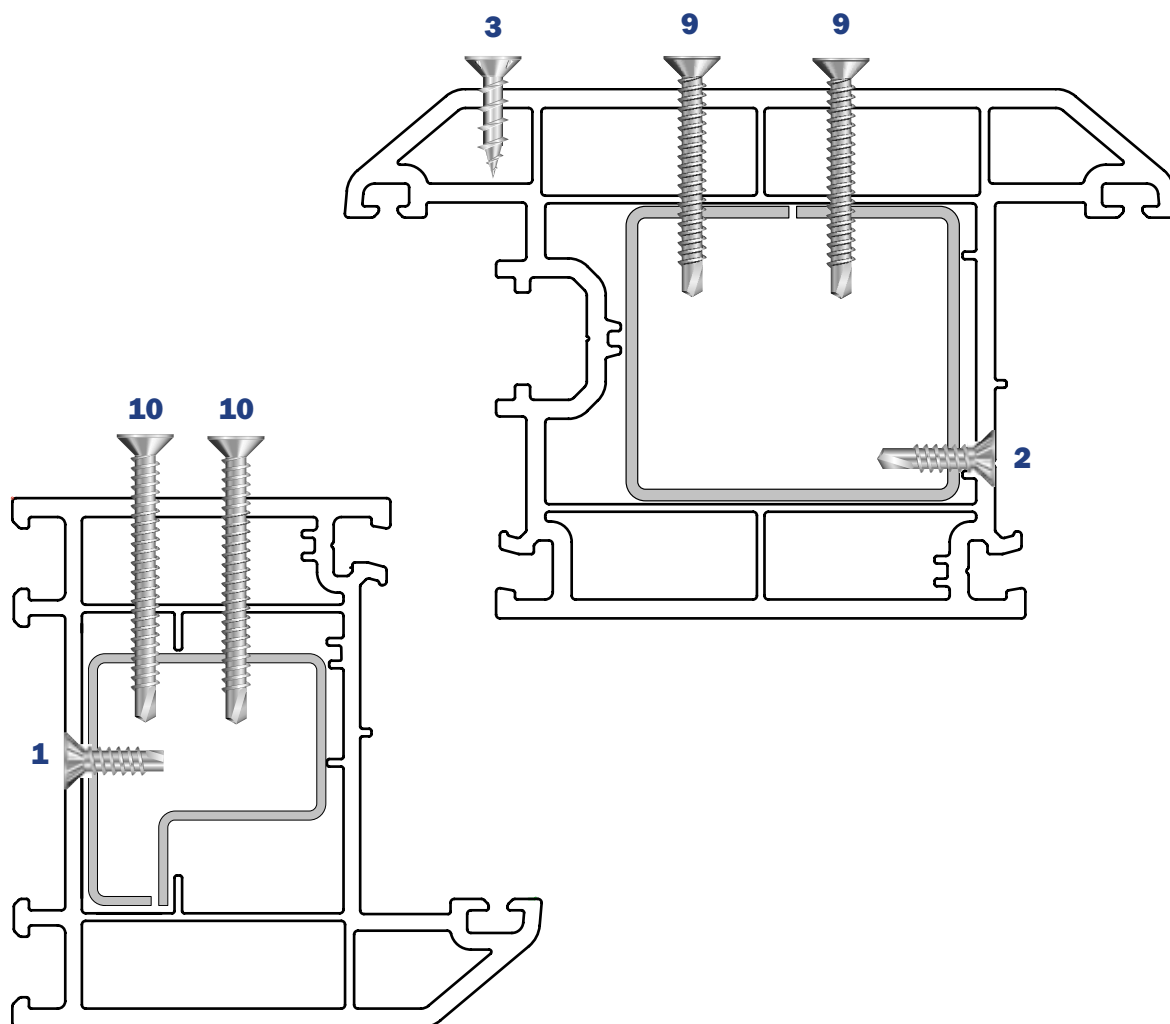
Sash P2530 with 2843 Reinforcement


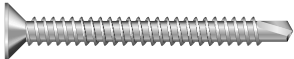


Frame P2533 with 2887 Reinforcement



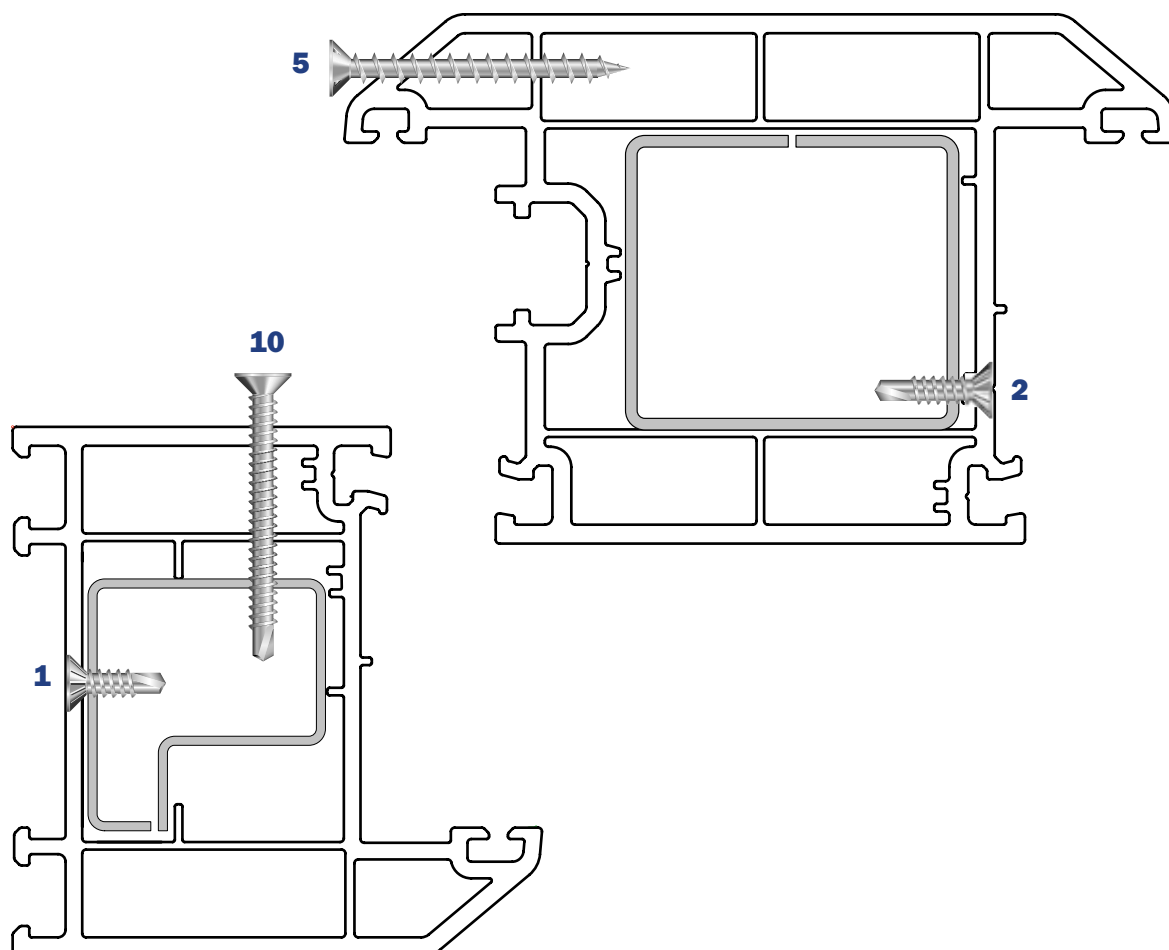
1		RSR 3.9 x 13 Z	Reinforcement Retention (Frame)
2		RSR 3.9 x 16 Z	Reinforcement Retention (Sash)
8		CSR 3.9 x 25 Z	Gearing, Keep
19		NSR 4.0 x 13 Z	Weatherbar

**Open-Out Door, Hinge Side, Flag Hinges
Sash P2531 with 2859 Reinforcement
Frame P2533 with 2887 Reinforcement**



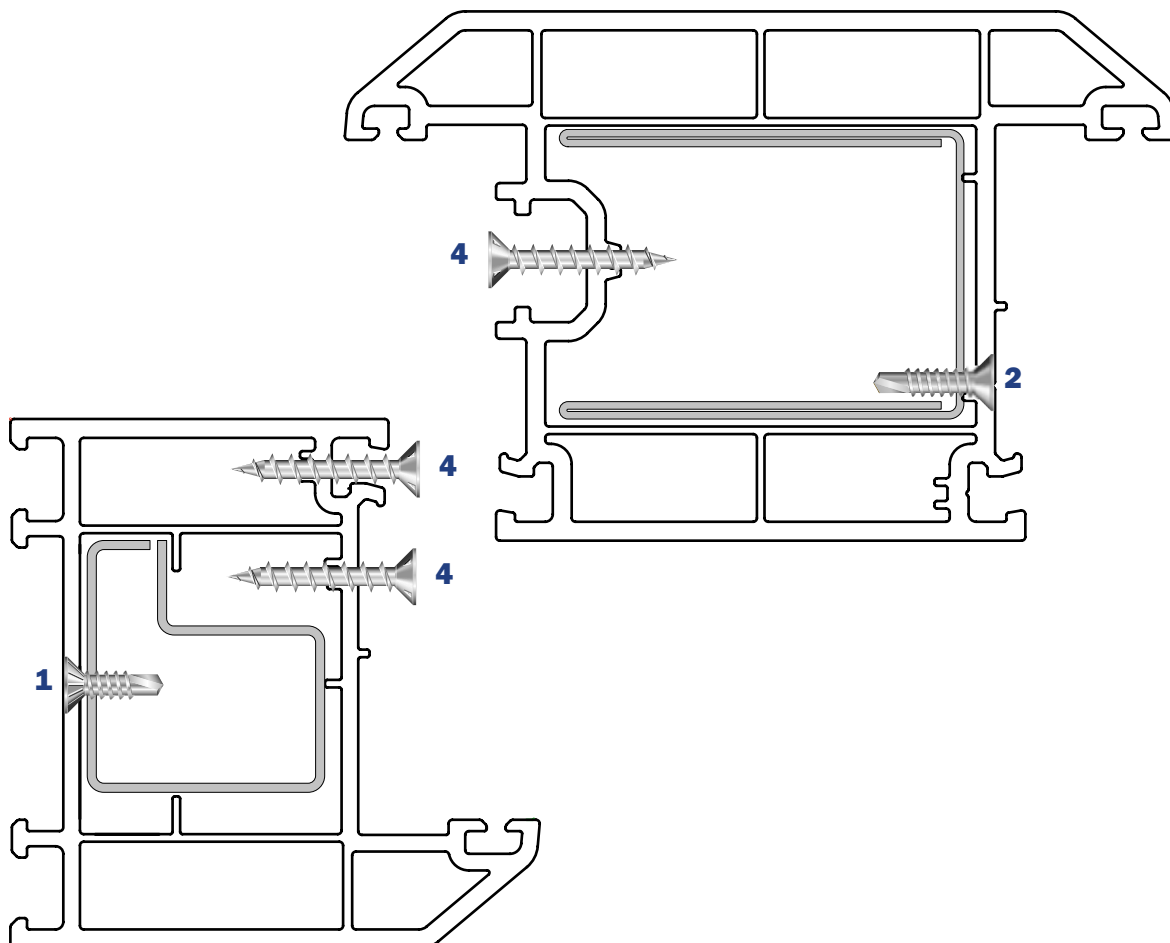
1		RSR 3.9 x 13 Z	Reinforcement Retention (Frame)
2		RSR 3.9 x 16 Z	Reinforcement Retention (Sash
10		CSR 3.9 x 38 Z	Hinge (Frame)
9		CSR 3.9 x 32 Z	Hinge to reinforced section of Sash
3		CFG 4.3 x 16 Z	Hinge to unreinforced section of Sash

Open-Out Door, Hinge Side, Butt Hinges
Sash P2530 with 2859 Reinforcement
Frame P2533 with 2887 Reinforcement



1		RSR 3.9 x 13 Z	Reinforcement Retention (Frame)
2		RSR 3.9 x 16 Z	Reinforcement Retention (Sash)
10		CSR 3.9 x 38 Z	Hinge (Frame)
5		CFG 4.3 x 40 Z	Hinge (Sash)

**Open-Out Door, Lock Side
Sash P2531 with 2843 Reinforcement
Frame P2533 with 2887 Reinforcement**



RSR 3.9 x 13 Z

Reinforcement Retention (Frame)



RSR 3.9 x 16 Z

Reinforcement Retention (Sash)



CFG 4.3 x 25 Z

Gearing, Keep



For direct access to the Rapiersstar website, scan the QR code with your smartphone.



Tel: 01260 223311

Fax: 01260 223399

email: info@rapiersstar.com

www.rapiersstar.com

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