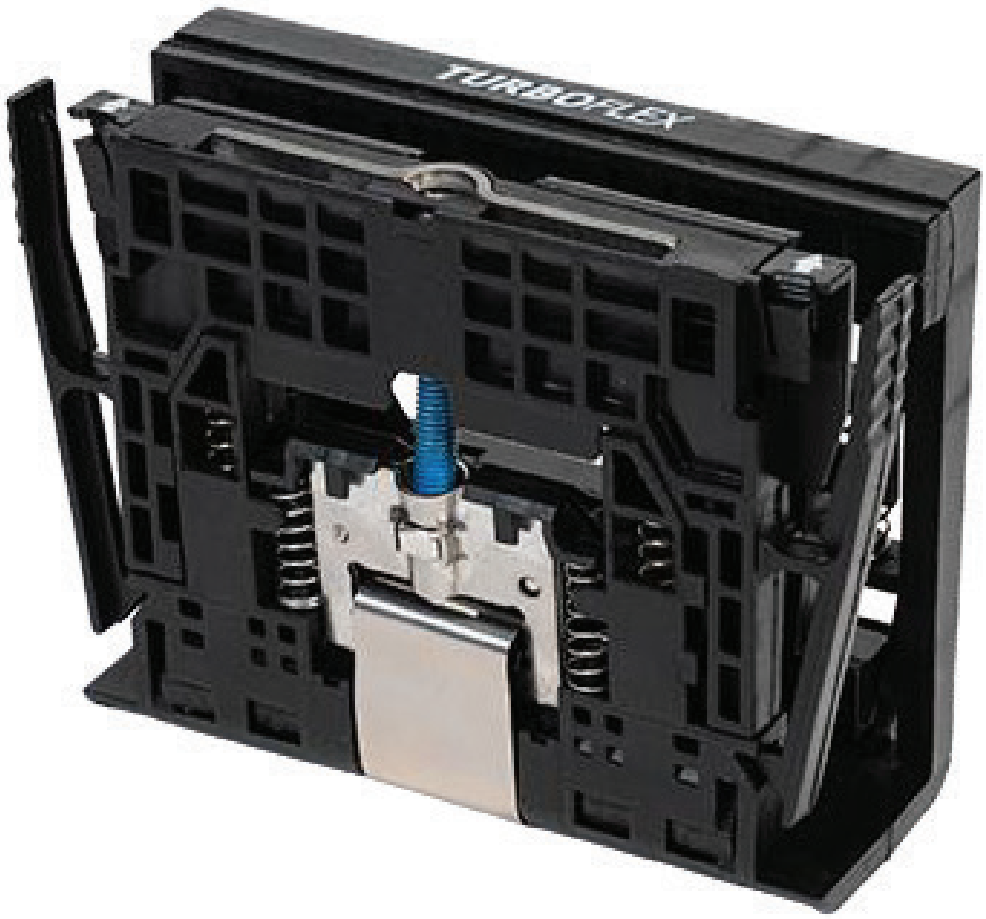
TURBOFLEX



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GENERAL INSTALLATION NOTES

Recommended Guidelines for All Installations

1. REVIEW CONTRACT DOCUMENTS. Check shop drawings, installation instructions, architectural drawings, and shipping lists to become thoroughly familiar with the project. The shop drawings take precedence and include specific details for the project. Note any field verified notes on the shop drawings prior to installing. The installation instructions are of a general nature and cover most conditions.

2. INSTALLATION. All materials are to be installed plumb, level, and true.

3. BENCH MARKS. All work should start from bench marks and/or column lines as established by the architectural drawings and the general contractor with guaranteed accuracy. Working from these datum points and lines determine:
   a) The plane of the wall in reference to offset lines provided on each floor.
   b) The finish floor lines in reference to bench marks on the outer building columns.
   c) Mullion spacing from both ends of masonry opening to prevent dimensional build-up of daylight opening.

4. FIELD WELDING. All field welding, if required, must be adequately shielded to avoid any splatter on glass or glass railing components Unprotected areas may become unsightly and/or structurally unsound. Advise general contractor and other trades accordingly.

5. SURROUNDING CONDITIONS. Make certain that construction which will receive your materials is in accordance with the contract documents. If not, notify the general contractor in writing and resolve differences before proceeding with work.

6. ISOLATION OF ALUMINUM. Aluminum to be placed in direct contact with uncured masonry or incompatible materials should be isolated with a heavy coat of zinc chromate or bituminous paint.

7. SEALANTS. Sealants must be compatible with all materials with which they have contact, including other sealant surfaces. Consult with sealant manufacturer for recommendations relative to joint size, shelf life, compatibility, cleaning/priming, tooling, adhesion, etc. It is the responsibility of the Glazing Contractor to submit a statement from the sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants, and interpreting test results relative to material performance, including recommendations for primers and substrate preparation required to obtain adhesion. The chemical compatibility of all glazing materials and framing sealants with each other and with like materials used in glass fabrication must be established. This is required on every project.

8. FASTENING. Within the body of these instructions, "fastening" means any method of securing one part to another or to adjacent materials. Only those fasteners used within the system are specified in these instructions. Due to the varying perimeter conditions and performance requirements, perimeter and anchor fasteners are not specified in these instructions. For perimeter and anchor fasteners, refer to the shop drawings or consult CRL.

9. BUILDING CODES. Due to the diversity in local, state/provincial, and federal codes that govern the design and application of architectural products, it is the responsibility of the individual architect, owner, and installer to assure that products selected for use on projects comply with all the applicable building regulations. CRL exercises no control over the use or application of its products, glazing materials, and operating hardware, and assumes no responsibility thereof.

10. EXPANSION JOINTS. Expansion joints and perimeter seals shown in these instructions and in the shop drawings are shown at normal size. Actual dimensions may vary due to perimeter conditions and/or difference in metal temperature between the time of fabrication and the time of installation. Gap between expansion members should be based on temperature at time of installation.

11. COORDINATION WITH OTHER TRADES. Coordinate with the general contractor any sequence with other trades which offsets glass rail installations (i.e. fire proofing, back-up walls, partitions, ceilings, mechanical ducts, converters, etc.).

12. CARE AND MAINTENANCE. Final cleaning of exposed aluminum surfaces should be done in accordance with CRL's care and cleaning instructions.

DESCRIPTION

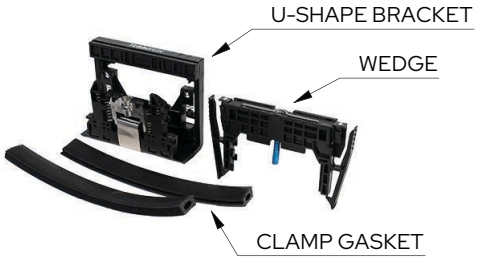
The new TURBOFLEX Accessories provide the installer a way to adjust the vertical angle of glass panels used in glass railing and/or windscreen applications. The unique design allows up to 2 ° glass adjustment independent of the base shoe angle. When the desired position is achieved, lock it into place. If you make a mistake, no problem! Simply loosen the screw with the Cat. No. TBMTGT0RQ TURBOFLEX Torque Limiter max. 53 inch pounds (max. 6 Nm), adjust, and lock it down again.

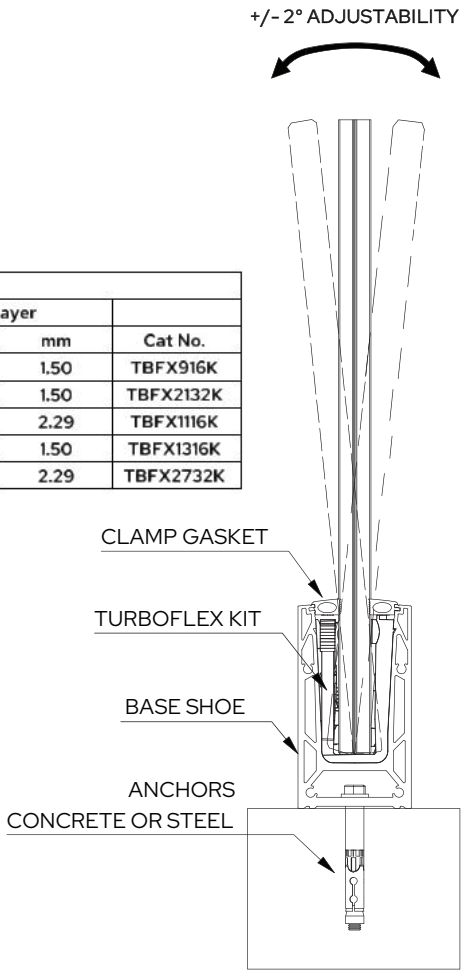
FOR USE WITH

Monolithic Glass						
Nominal		Range thickness				
In.	mm	In.		mm		Cat No.
1/2"	12 mm	0.47	0.51	11.94	12.95	TBFX12K
5/8"	15 mm	0.59	0.64	14.99	16.26	TBFX58K
3/4"	19 mm	0.73	0.76	18.54	19.30	TBFX34K

Laminated Glass								
Nominal		Range thickness				Interlayer		
In.	mm	In.		mm		In.	mm	Cat No.
9/16"	12.76 mm	0.495	0.595	12.57	15.11	0.06	1.50	TBFX916K
21/32"	16.76 mm	0.65	0.71	16.51	18.03	0.06	1.50	TBFX2132K
11/16"	17.52 mm	0.67	0.73	17.02	18.54	0.09	2.29	TBFX1116K
13/16"	20.76 mm	0.77	0.85	19.56	21.59	0.06	1.50	TBFX1316K
27/32"	21.52 mm	0.8	0.88	20.32	22.35	0.09	2.29	TBFX2732K

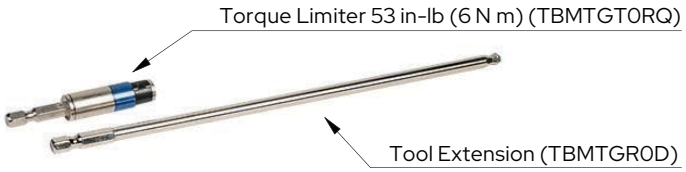
TURBOFLEX Kit





TYPICAL CONFIGURATION

TURBOFLEX Torque Adaptor 53 in-lb (6 Nm)



TURBOFLEX Height Adjuster

Height adjustment of ± 1/8" (3 mm) (TBHTADJ)

SYSTEM ACCESSORIES : Concrete and Steel Substrate Anchors

(EBA334, WBA38X4SS, TLPW12X34SS)

BASE SHOE, CAP RAIL, AND HAND RAIL

TURBOFLEX Base Shoe:
High-strength extruded Aluminum Base Shoe is pre-drilled to facilitate anchoring into various substrates. The standard length is 120" (3.05 m). Custom lengths are also available by special order. Contact our Sales Solutions Department for assistance in selecting the proper Base Shoe for your installation.

TF-6620 - Top mounted installations
TF-6621 - Side mounted installations

Base Shoe Cover Caps and End Caps:
Our large selection of accessories includes everything you need for the installation of a finished railing system: Base Shoe Cover Caps, End Caps, Fasteners, Shims, and Connector Pins, all available in your choice of many beautiful architectural finishes.

Spacers and Elongation Pins:
No drainage options on your balcony? There is no need to install a dam. Simply mount the spacers beneath your profile to achieve proper alignment. Our extension pins make it easy to connect two Base Shoes while maintaining perfect alignment.

Top Cap Rails:
Premium Top Cap Rails are available in diameters from 1-1/2" to 3-1/2" (38 to 88.9 mm). New Square Profile Cap Rails come in sizes from 1-1/2" to 2-1/2" (38 to 63 mm). Precision tooling and finishing techniques ensure a Cap Rail of unsurpassed quality. Accessories include Splicing Sleeves, Elbow Joints, End Caps, Installation Vinyl, and Metal Contact Cement for almost seamless joints.

Hand Rail Tubing and Brackets:
Round Hand Rail Tubing is sold in diameters from 1-1/2" to 2" (38.1 to 50.8 mm). Square Hand Rail Tubing is also available in a 1-1/2" (38.1 mm) profile. Hand Rail Brackets and accessories are also available in five architectural finishes. Hand Rail Tubing is sold in 236" (6 m) lengths.

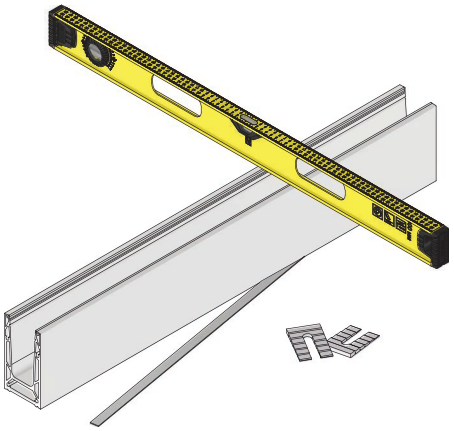
Contact our Architectural Railing Department for help in selecting the proper Base Shoe and other accessories for your installation at:
(800) 421-6144 | railings.archmetals@crlaurence.com

BASE SHOE INSTALLATION

1. GENERAL SUBSTRATE PREPARATION

Layout and Leveling Procedure:
Trace the Guardrail or Windscreen perimeter on the mounting surface with a chalk line. Position the first section of Base Shoe, starting at the beginning of a run or at a corner, and align with the chalk line mark. If the installation requires that the Base Shoe be level, the first section to be installed should be located at the highest elevation. Start by installing all mounting fasteners hand tight, and then loosen the fasteners for insertion of leveling shims.

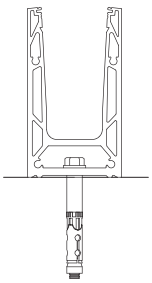
Level Base Shoe Installations:
When the Base Shoe is to be level from end-to-end, as opposed to following the slope of the surface, it is easier to level the shoe along its length before correcting the vertical plumb orientation.



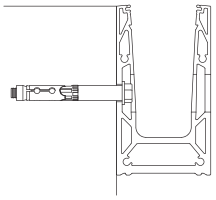
Sloped Base Shoe Installations:
When the Base Shoe is following a sloping grade, a laser level can be useful for preventing any abrupt elevation changes, and it is easier to level the shoe along its length before correcting the vertical plumb orientation.

TURBOFLEX THE BASE SHOE :

TBSH6620MLD	TF-6620 mill (6" (152 mm) CTC)
TBSH6620AD	TF-6620 Clear Anod (6" (152 mm) CTC)
TBSH6621MLD	TF-6621 mill (6" (152 mm) CTC)
TBSH6621AD	TF-6621 Clear Anod (6" (152 mm) CTC)



TF-6620



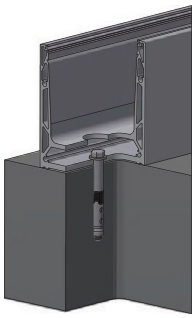
TF-6621

SHIMS FOR LEVELING THE BASE SHOE:

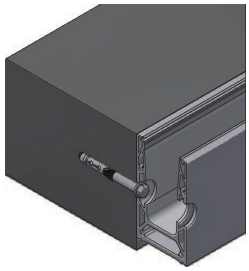
CRL CAT. NO. AHS66	1/16" (1.59 mm) x 3" (76.2 mm) Aluminum Horseshoe Shims
CRL CAT. NO. AHS68	1/8" (3.18 mm) x 3" (76.2 mm) Aluminum Horseshoe Shims
CRL CAT. NO. AHS64	1/4" (6.35 mm) x 3" (76.2 mm) Aluminum Horseshoe Shims
CRL CAT. NO. BSS164	1/64" (.397 mm) x 24" (610 mm) Aluminum Shim Strips
CRL CAT. NO. BSS132	1/32" (.794 mm) x 24" (610 mm) Aluminum Shim Strips
CRL CAT. NO. BSS116	1/16" (1.59 mm) x 24" (610 mm) Aluminum Shim Strips

2. SUGGESTED MOUNTING METHODS

Standard Base Shoe Attachment to Concrete
A common installation is to attach the Base Shoe directly to the concrete.



TF-6620



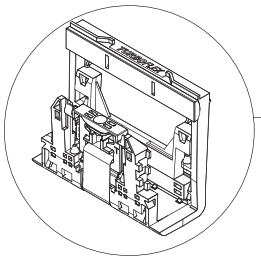
TF-6621

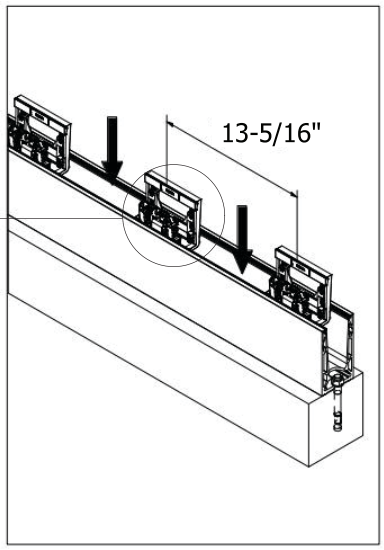
GLASS INSTALLATION

For proper hole positioning into concrete, use the factory drilled holes in the Base Shoe as an alignment fixture. Drill mounting holes using a Rotary Hammer and the recommended masonry drill bit. Remove the excess powder and install Cat. No. EBA334 Expansion Bolt Anchors. Gently snug up each bolt in small increments, paying close attention to level readings front-to-back and side-to-side.

1. INSERT THE U-SHAPED BRACKET DROP SIDE

Insert the TURBOFLEX U-Shaped Bracket Drop Side segments every 13-5/16" (338 mm) distance throughout the base shoe and 6-5/8" from the ends.
(Do not remove any components from brackets)





Monolithic Glass						
Nominal		Range thickness				
In.	mm	In.		mm		Cat No.
1/2"	12 mm	0.47	0.51	11.94	12.95	TBFX12K
5/8"	15 mm	0.59	0.64	14.99	16.26	TBFX58K
3/4"	19 mm	0.73	0.76	18.54	19.30	TBFX34K

Laminated Glass								
Nominal		Range thickness				Interlayer		
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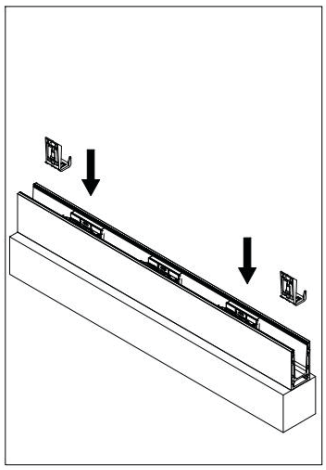
9/16"	12.76 mm	0.495	0.595	12.57	15.11	0.06	1.50	TBFX916K
21/32"	16.76 mm	0.65	0.71	16.51	18.03	0.06	1.50	TBFX2132K
11/16"	17.52 mm	0.67	0.73	17.02	18.54	0.09	2.29	TBFX1116K
13/16"	20.76 mm	0.77	0.85	19.56	21.59	0.06	1.50	TBFX1316K
27/32"	21.52 mm	0.8	0.88	20.32	22.35	0.09	2.29	TBFX2732K

GLASS INSTALLATION

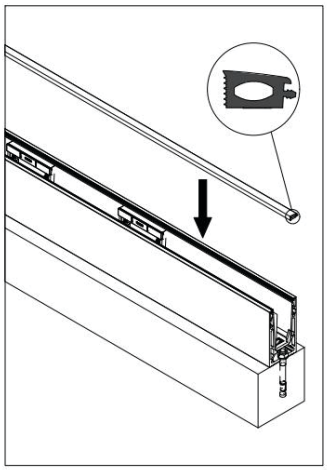
2. TURBOFLEX HEIGHT ADJUSTER (OPTIONAL)

With Turboflex, achieving flawless glass alignment has never been simpler. Our innovative height adjustment system allows you to fine-tune each glass panel after installation without the need to remove or reposition the glass. Insert the TURBOFLEX Height Adjuster (TBHTADJ) each ends once you placed the TURBOFLEX U-Shaped Bracket Drop Side. Whether you're dealing with uneven floors or slight measurement variations, Turboflex gives you the precision you need. The integrated adjustment mechanism ensures quick, tool-friendly corrections, saving valuable time on site while delivering a clean, professional finish.



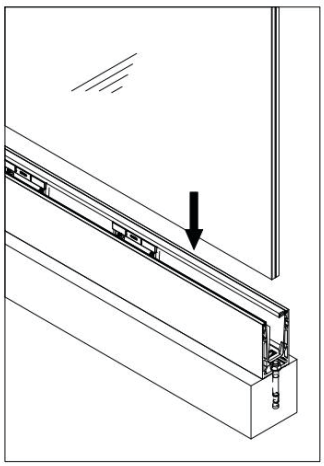
3. INSERT GASKET DROP SIDE

Use Gasket to finish off the top of the Base Shoe pocket from the drop side before installing the glass panel.



4. INSERT THE GLASS INTO THE BASE SHOE

Place the glass into the base shoe's U-shaped bracket and slide it into position.

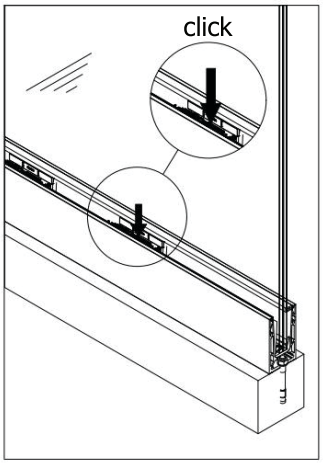


GLASS INSTALLATION

5. INSERT THE WEDGE

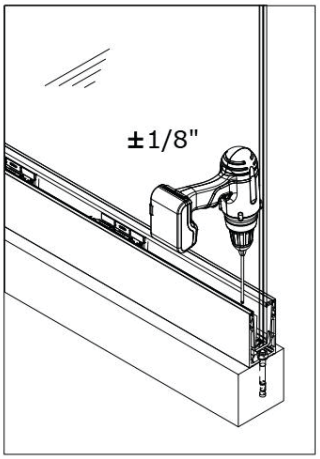
Insert the TURBOFLEX Wedge segments by clamping the wedge into the U-Shaped Brackets. Once securely clamped, an audible *click* will indicate proper engagement. This design feature ensures the installer a confident and secure
feeling during installation.
(Do not remove any components from wedges)

NOTE: The arrows marks printed on the wedge must face the glass.



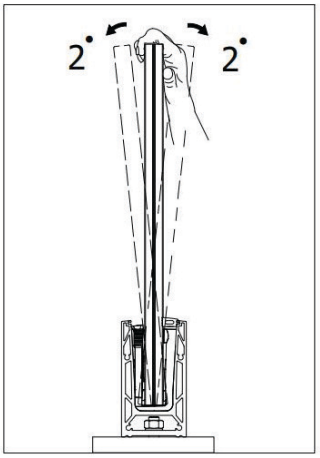
6. HEIGHT ADJUSTMENT (OPTIONAL)

Whether you're dealing with uneven floors or slight measurement variations, TURBOFLEX Height Adjuster gives you the precision you need. It offers ± 1/8" (3mm) vertical adjustment. The integrated adjustment mechanism ensures quick, tool-friendly corrections, saving valuable time on site while delivering a clean, professional finish.



7. GLASS ADJUSTMENT

Thanks to the smart internal mechanism, you can manually adjust the glass 2° in both directions. This allows for perfect alignment of every panel — no tools needed during adjustment.

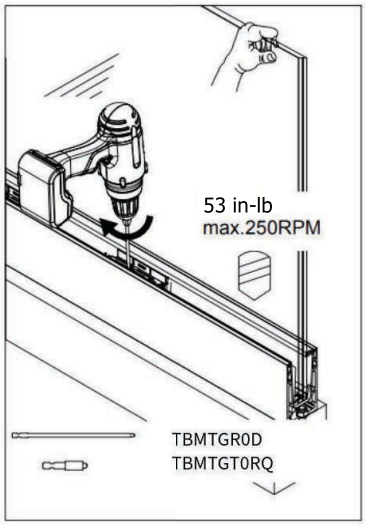


GLASS INSTALLATION

8. SECURING THE GLASS - WITH ONE SCREW

Once aligned, the glass is fixed by tightening just one screw per wedge from inside the balcony. This pulls the wedge into position, automatically tightening against the glass — ensuring a secure hold with no gap risk.

Our Turboflex Torque Tool is specially designed to ensure the correct and safe tightening of the Turboflex glass wedge system. With a precisely calibrated maximum torque of 53 inch pounds (6 Nm) (max 250 RPM), it guarantees consistent clamping force while preventing over-tightening, which could compromise the integrity of the system or the glass.



The tool ensures a secure, stable, and long-lasting installation — every time. It is the ideal companion for professional installers seeking speed, safety, and precision.

Versatile Use:

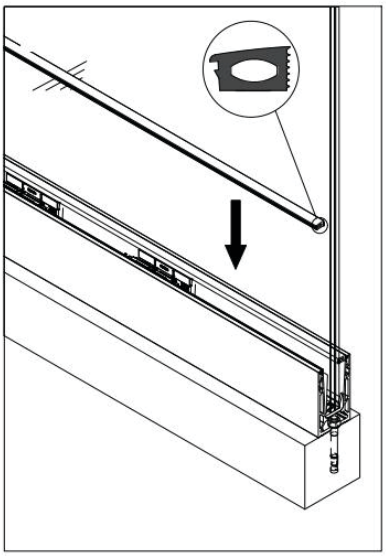
The torque tool can be easily used with any standard drilling machine (corded or cordless). No special equipment is required — simply attach and tighten with confidence.

Whether you're working on-site or in the workshop, the Turboflex Torque Tool helps maintain the highest standards of safety and efficiency throughout your installation.

9. INSERT GASKET USER SIDE

Use Gasket to finish off the top of the Base Shoe pocket from the user side. The gasket easily rolls in with any one of CRL 's vinyl roller tools.

VR17
Vinyl Roller Tool
for Roll-in Gaskets



MOUNTING CLADDING, END CAPS AND FINISHING THE BASE SHOE

The TURBOFLEX Covercap is designed exclusively for the TF-6621 Base Shoe. Its easy clipping function ensures simple installation while covering the mounting holes from the exposed side.

Once the covercaps are applied, the last and final step to finish off the Base Shoe is mounting endcaps when it is necessary.

We invite you to contact our Railing Sales Solutions Department at *railings.archmetals@crlaurence.com* to discuss your individual application.

REMOVING AND ADJUSTING THE GLASS

With the our TURBOFLEX, it is super easy to loosen, remove or adjust the glass panel. If removal or further adjustment is required loosen the screw on the TURBOFLEX Kit and freely adjust as you desire and once it is perfectly adjusted secure the position by tightening the screw.

Fast & Precise: Glass alignment happens directly on the glass – no post-installation adjustments needed. Save up to 100% installation time.

Contact us today to complete your order!

Phone (800) 421-6144

railings.archmetals@crlaurence.com