Ultrafab® inc.

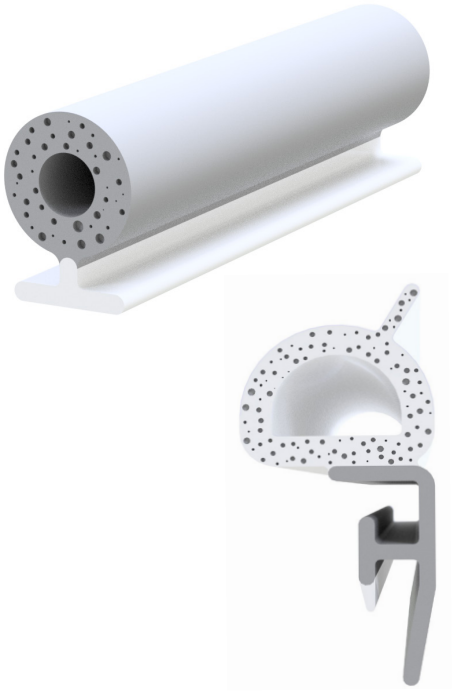
Member of Roto Group

ULTRAFAB EXTRUDED SEALS

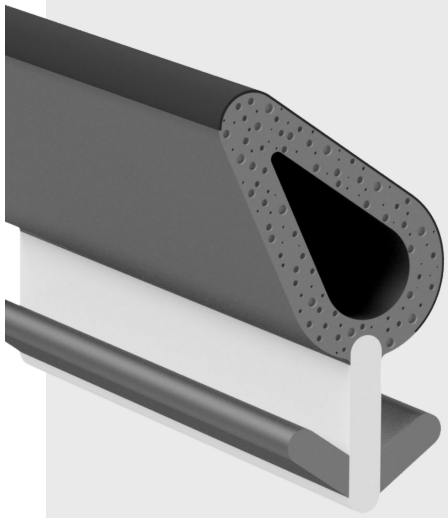
Comprehensive Sealing Solutions for Every Window and Door Application

ULTRA CELL® Seals

Patent # 12,188,297



DESCRIPTION: ULTRA CELL® seals are made from a proprietary Microcellular Closed-Cell TPV Foam, providing excellent compression set resistance and minimizing both short-term and long-term loss of functional height. These seals offer superior durability & tear resistance, especially in harsh environments. The closed cell foam design also improves the acoustical performance, making them ideal for applications requiring both a strong seal and reduced noise levels. ULTRA CELL® seals incorporate Ultra Glide S®, a low friction material applied to specific areas on the surface, allowing for smoother operation on sliding surfaces. Another key feature is the industry leading low end to end shrinkage, minimizing any gaps at end points over the life of the window or door.

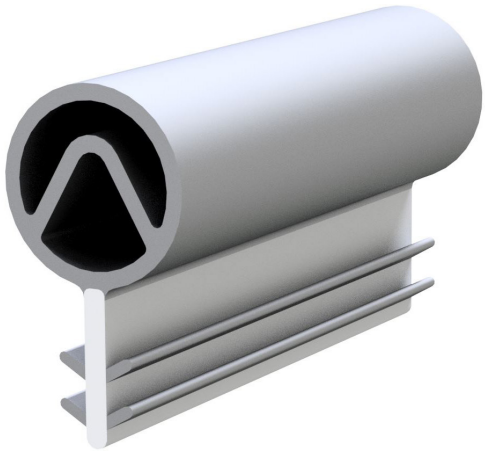


Key Features:

- Microcellular closed-cell foam enhances compression set resistance and UV durability
- Closed-cell foam eliminates water absorption
- Consistent and predictable closing forces
- Superior acoustical seal due to the lower durometer closed-cell foam
- Ultra Glide S® applied to specific areas for reduced friction
- Excellent end to end shrinkage
- Highly resistant to UV degradation
- Available in T-slot and Kerf mount profiles
- Excellent heat-weldability

Multi Hollow Bulb Seals

DESCRIPTION: Multi Hollow Bulb seals feature a dual-bulb design with an inner bulb that is designed to engage when the part is at 25% compression. This unique design significantly reduces initial closing forces and with excellent long term compression set resistance due to the outer bulb being supported by the inner bulb. The multiple hollow chambers also enhance the acoustical properties of the seal.





Multi Hollow Bulb seals incorporate Ultra Glide S®, a low friction material applied to specific areas on the surface, reducing friction and improving the smooth operation of the seals. These seals are ideal for applications that require both high sealing pressure and reduced operational force.

Key Features:

- Dual bulb design for improved sealing performance
- Multiple hollow chambers provide better acoustical seal
- Ultra Glide S® applied to specific areas for reduced friction
- Low operational force, preventing premature wear
- High resistance to compression set
- Minimal loss of functional height
- Shrink resistant
- Heat-weldable
- Available in various profiles, including T-slot and Kerf mount



UCx™ Seals

DESCRIPTION: UCx seals are designed with a TPV bulb and a coextruded polypropylene base. These seals are available in a wide variety of profiles, including T-slot and Kerf mount, with both single durometer TPV and PP options. UCx seals incorporate Ultra Glide®, a silicone additive blended into the TPE that reduces surface friction. This technology also facilitates easier cleaning, especially for lighter colors such as tan or white. These seals offer a versatile, general-purpose solution for many industries and are ideal when a wide range of options is needed.





Key Features:

- Large variety of profiles and mounting options
- Single TPV bulb for general-purpose use
- Ultra Glide® technology for reduced friction and easy cleaning in lighter colors
- Shrink resistant
- Available in multiple colors
- Heat-weldable

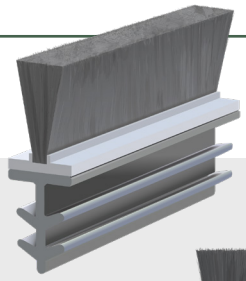
SUMMARY:

- **Custom seals designed for your specific applications are an option in all seal types.**
- All seals manufactured by Ultrafab Inc. meet or exceed AAMA 701/702-23 Class A (Extra High Performance) Test Protocol, and are listed on the AAMA Verified Components List
- **UCx Seals** are an excellent choice for general-purpose sealing with a variety of options and profiles and feature Ultra Glide® technology for reduced friction and easy cleaning in lighter colors.
- **Multi Hollow Bulb Seals** provide advanced sealing performance, reduced compression set, better acoustical properties, and low operational force thanks to their dual-bulb design with multiple hollow chambers, plus Ultra Glide S® for enhanced friction reduction.
- **ULTRA CELL® Seals** excel in demanding environments requiring high durability, superior acoustical performance, and resistance to shrinkage and UV damage, enhanced by Ultra Glide S® for smoother operation.

EXTRUDED SEALS DESIGN COMPARISON

FEATURE	UCxSEALS	MULTI HOLLOW BULB SEALS	ULTRA CELL® SEALS
Materials	TPV bulb, rigid polypropylene base	TPV bulb, rigid polypropylene base	Microcellular Closed Cell TPV Foam, rigid polypropylene base
Bulb Design	Single TPV bulb	Dual bulbs (Inner bulb activated under 25% compression)	Single foam bulb
AAMA 702 VCL Rating	Class A (Extra High Performance)	Class A (Extra High Performance)	Class A (Extra High Performance)
Compression Set Resistance	Very Good	High due to dual bulb design	High due to Microcellular Closed Cell Foam
Loss of Functional Height over Time	Very Good	Excellent due to assistance of inner bulb location at typical 25% compression point	Superior due high rubber phase TPV and cell structure
Low Operational Force	Moderate (varies by profile)	Excellent due to dual bulb design (varies by profile)	Excellent due to lower durometer foam (varies by profile)
Coefficient of Friction	Ultra Glide®-silicone additive blended into TPV to reduce friction	Ultra Glide S®-low friction material applied to specific areas (slip coat)	Ultra Glide S®-low friction material applied to specific areas (slip coat)
Acoustical Seal	Standard acoustical properties	Improved acoustical seal due to multiple hollow chambers	Superior acoustical seal due to lower durometer closed-cell foam
Shrink Resistant	Good	Good	Superior
Mounting Options	T-slot, Kerf mount, variety of profiles available	T-slot, Kerf mount, variety of profiles available	T-slot, Kerf mount, variety of profiles available
Durability	General purpose (good for a wide range of applications)	High durability	High durability
Heat Weldable	Yes	Yes	Yes
Color Options	Variety of colors available	Variety of colors available	Variety of colors available
Typical Applications	General purpose sealing across industries	Applications requiring low operational force and high sealing pressure	Demanding applications requiring durability, UV resistance, and compression set resistance
Key Benefits	Versatility, wide selection of profiles, cost-effective	Minimal closing force at initial compression, Excellent sealing pressure, Improved thermal and sound abatement	Excellent compression set resistance, Consistent and predictable low closing forces

ALSO FROM ULTRAFAB:



Kerf Mounted Pile - Advanced Pile Weatherstripping for Every Design Challenge



Description: Ultrafab's advanced extrusion capabilities allow our pile weatherstrip seals to be mounted on a wide range of base profiles using ultrasonic welding. This flexibility enables installation in areas beyond standard T-Slots, including push-in, clip-on, and offset applications. Additionally, we can design and manufacture custom mounting options to suit your specific window and door designs.

ULTRA CELL®

How it Compares to Traditional Urethane Foam Seals with Polyolefin Cladding

PERFORMANCE CRITERIA	ULTRA CELL ® MICROCELLULAR FOAM	TRADITIONAL URETHANE FOAM SEALS WITH POLYOLEFIN CLADDING
Materials	Microcellular Closed Cell TPV Foam, rigid polypropylene base	Open Cell Urethane / Polyolefin Film Wrapping
Foam Type	Microcellular Closed Cell TPV Foam	Open Cell Urethane Foam
Recyclability	Excellent	Not Capable
Environmental Impact	Minimal	Significant (Not Recyclable)
Tear Resistance	High	Poor due to thin cladding film
Tooling Cost	Minimal due to conventional extrusion process	High due to significant tooling required for foaming and wrapping process
Lead Time for New Product	Typically 6-12 weeks depending on complexity of part design	Extended due to more complex process
Bulb Design	Wide Range- Coextrusion	Limited due to process deployed
AAMA 702 VCL Rating	Class A (Extra High Performance)	Class A (Extra High Performance)
Foam Type	Closed Cell	Open Cell
Compression Set Resistance	Excellent	Excellent
Water Absorption	Minimal water absorption	Supstantial water absorption
Loss of Functional Height over Time	Excellent	Excellent
Low Operational Force	Excellent	Excellent
Coefficient of Friction	Excellent- Ultra Glide S® low friction slip coat	Excellent due to embossed polyolefin wrapping material
Acoustical Seal	Excellent due to denser microcellular closed cell foam	Good
Shrink Resistant	Excellent	Excellent
Mounting Options	Extensive- Coextrusion	Some limitations due to process deployed
Durability	Excellent	Good-Susceptible to tearing long term
Heat Weldable	Yes	No
Color Options	Variety of colors, custom options available	Limited due to process deployed and cladding used
Typical Applications	Similar	Similar
Product Summary	Extremely low loss of functional height, near zero end to end shrinkage, minimal water absorption, fully recyclable, heat weldable, and colorable. Lower cost tooling.	Good Compression set resistance, low loss of functional height. Water absorption due to open cell foam. Low operational force due to polyolefin cladding
UV Durability	Excellent	Good