

Thermal-Block

HIGH-PERFORMANCE THERMAL FRAMING



- Dramatically reduces the transfer of heat and cold
- No frost buildup

TUBELITE[®]

DEPENDABLE

LEADERS IN ECO-EFFICIENT STOREFRONT,
CURTAINWALL AND ENTRANCE SYSTEMS



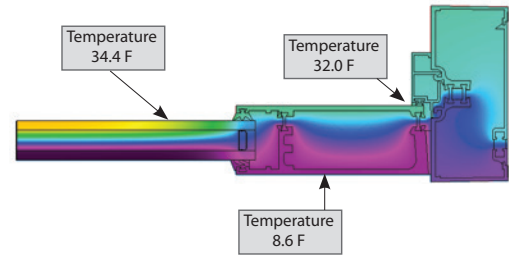
ThermI=Block[®] Thermal Entrance

Tubelite ThermI=Block Entrances are designed using the same durable components as our Standard Entrances for outstanding craftsmanship and strength, with the additional benefit of strut thermal barriers for enhanced thermal performance. Door stiles are available in Medium Stile 4" and Wide Stile 5" models; top rails in 4" and 5" heights; and bottom in 10" height for ADA compliance. Snap-in thermally broken vertical frame closures easily accommodate addition of sidelites and incorporation with thermal storefront framing.

ThermI=Block Entrances are furnished with mortised butt hinges, offset pivots or continuous hinges as specified. Standard deadbolt locks, and concealed vertical rod or rim panic exit devices also may be selected. Standard pull handles have been designed for ADA access and have matching push bars.

The strength and flexibility of steel tie-rod construction is what holds it all together and makes our doors endure. Tie-rod assembly is as durable as welded corner construction, but superior in many ways. Monumental doors can be modified, disassembled or resized right in the field. No other door offers you this much strength and flexibility.

*Tubelite thermal entrances use **ThermI=Block** to provide superior insulation through increased aluminum separation and air space, while also increasing strength and reducing stress.*



ThermI=Block Thermal Entrance Specifications

See Tubelite's Test Reports for mock up sizes and test conditions.

Application: Thermally broken door with insulating glass for enhanced thermal performance

Glass:	Air Infiltration:	Structural:	U-Value SINGLE DOOR:*	U-Value DOUBLE DOOR:*	CRF:*
1" std	1.0 CFM/Ft.2 @ 1.57 PSF	50 PSF – Design 75 PSF – Overload	Medium: 0.58 Wide: 0.59	Medium: 0.52 Wide: 0.53	57

* See Tubelite website for pop-up tables with complete list of U-Values and CRF-Values.





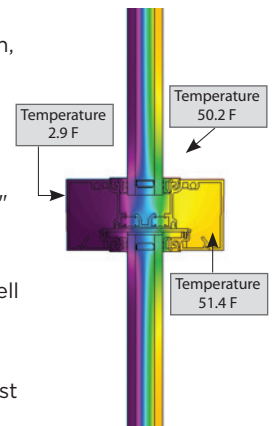
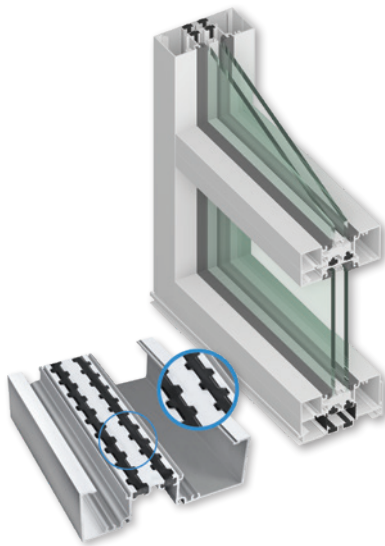
Wilmington Gardens, Salt Lake City, UT
Photographer: Cache Valley Photographers

TU24000 Series Storefront

Tubelite's most popular thermally broken storefront line has been expanded and enhanced with an additional P&D thermal break. The TU24000 Series has the same 2" x 4-1/2" profile as the T14000 system, and offers standard screw-spline or shear block connections.

The dual thermal break decreases U-Factor and increases CRF over a single P&D pocket when using the same size and type of insulated glass. Azon's Lancer™ mechanical lock provides long-term resistance to shrinkage of the polyurethane barrier. Glass is centered in the 4-1/2" system depth for a pleasing reveal on the exterior and interior sides of the frame. Seven anodized finishes and 20 standard paint color are available to complement any project with warranted protection, as well as street appeal.

Our TU24000 Series Storefront products are subjected to thorough testing by an independent laboratory, ensuring that you get the highest quality storefront framing products that the industry has to offer.



TU24000 Series Storefront Product Specifications

See Tubelite's Test Reports for mock up sizes and test conditions.

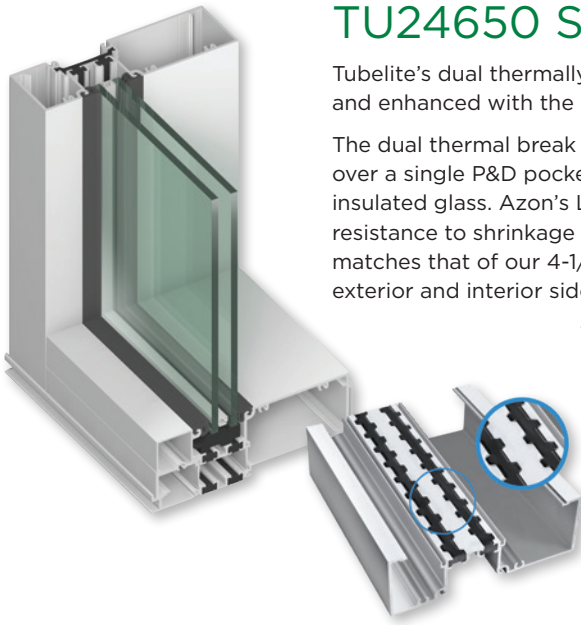
Application: Low and mid-rise commercial buildings requiring high energy and condensation resistance performance

Description: 2" x 4-1/2" dual thermal barrier center set storefront system, screw spline or shear block connections, exterior or interior glazed

Face Width:	Overall Depths:	Glass:	Air Infiltration:	Water Infiltration:	Structural:	U-Value:*	CRF:*	Acoustics:
2"	4-1/2"	1" (1/8" to 1-1/8")	0.06 CFM/Ft.2 @ 6.24 PSF	12 PSF – Static 12 PSF – Dynamic	30 PSF – Design 45 PS – Overload	0.31	69F 68G	37 STC 31 OITC

* See Tubelite website for pop-up tables with complete list of U-Values and CRF-Values.

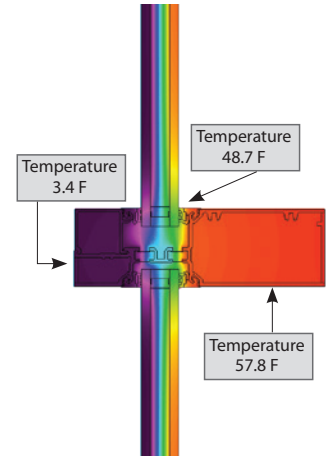
TU24650 Series Storefront



Tubelite's dual thermally broken storefront line has been expanded and enhanced with the addition of TU24650 Series 2" x 6-1/2".

The dual thermal break decreases U-Factors and increases CRF over a single P&D pocket when using the same size and type of insulated glass. Azon's Lancer™ mechanical lock provides long-term resistance to shrinkage of the polyurethane barrier. The glass plane matches that of our 4-1/2" system depth for a pleasing reveal on the exterior and interior sides of the frame. Seven anodized finishes and 20 standard paint color are available on this storefront framing system to complement any project with warranty protection, as well as street appeal.

Our TU24650 Series Storefront products are subjected to thorough testing by an independent laboratory, ensuring that you get the highest quality storefront framing products that the industry has to offer.



TU24650 Series Storefront Product Specifications

See Tubelite's Test Reports for mock up sizes and test conditions.

Application: Low-Rise storefront, center set glass, inside/outside glazed

Face Width:	Overall Depths:	Glass Thickness:	Air Infiltration:	Dynamic Water:	Structural:	CRF Outside Set*:	U-Value*:	Sound Transmission:	Outside HVHZ Approved:
2"	6-1/2"	1"	0.06 CFM/Ft.2 @ 6.24 PSF	12 PSF	30 PSF – Design 45 PSF – Overload	75F 70G	0.31 - NFRC 102	31 STC 25 OITC	YES FL# 20393.1

* See Tubelite website for pop-up tables with complete list of U-Values and CRF-Values.

Thermal-Block
HIGH-PERFORMANCE THERMAL FRAMING

Project: Emerald Elementary School, Broomfield, CO,
Products Used: TU24650, Erector: Front Range Commercial Window,
Finish: Clear Anodized





400TU Series Curtainwall

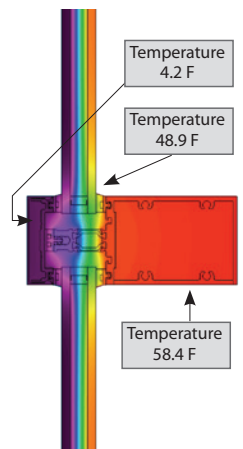


Tubelite's best thermally broken curtainwall product has been designed to meet or exceed today's stringent energy codes. The 400TU Series has a 2-1/2" face, and offers screw-spline or shear clip assembly. The pressure bar system can be stick fabricated, or assembled into "ladders" at your shop for field glazing.

The dual thermal strut decreases U-Factors and increases CRF significantly over many current thermal barrier systems. Glass is positioned to the system exterior for enhanced resistance to rainwater. 400TU also accepts accessories like Tubelite Operable Windows, Thermal=Block® Doors and Maxblock Sunshades.

The 1/2" bite securely grips insulating glass or panels of 1" or 1-3/4" thickness. Verticals can be steel-reinforced for high performance against strong windloads.

Thorough testing by an independent laboratory ensures that 400TU is the highest quality curtainwall framing product that the industry has to offer.



400TU Series Product Specifications

See Tubelite's Test Reports for mock up sizes and test conditions.

Application: Low and mid-rise commercial buildings including retail, office, healthcare, schools, etc.

Description: 2-1/2" x (6" to 10") field glazed, screw spline or shear block high performance curtainwall

Face Width:	Overall Depths:	Glass:	Air Infiltration:	Water Infiltration:	Structural:	U-Value Pressure Plate: [NFRC 100]*	CRF Pressure Plate: [AAMA 1503]*	Acoustic:
2-1/2"	6" to 10"	1" (1/4" to 1-3/4")	0.06 CFM/Ft.2 @ 6.24 PSF	15 PSF – Static 15 PSF – Dynamic	40 PSF – Design 60 PSF – Overload	Dual glazed: 0.31 Aluminum 0.30 Polyamide 0.29 Thermal	Dual glazed: 80 Aluminum 81 Polyamide 82 Thermal	32 STC 26 OTC

* See Tubelite website for pop-up tables with complete list of U-Values and CRF-Values.

Project: Centrum Bucktown, Chicago, IL, Products Used: 900RW Thermal Ribbon Window, TerraPorte 7600 - Terrace Door, Phantom 5000 Zero Sightline Windows, Erector: Northern Glass, Finish: Clear Anodized

Thermal-Block
HIGH-PERFORMANCE THERMAL FRAMING

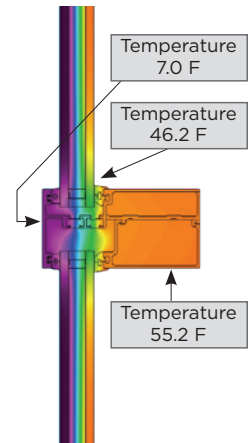
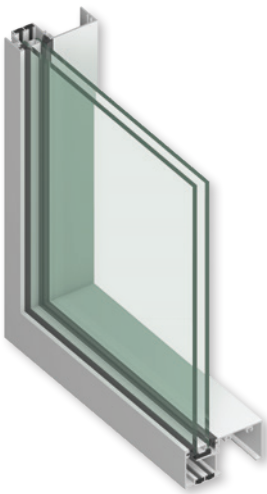


900RW Series Ribbon Window

Tubelite's 900RW Series offers solutions for between slab strip window applications. The 2-1/4" wide system is available in 4-1/2" and 6" depths. Glazing options include all captured, silicone glazed verticals, and exterior glazing for spandrel areas. Optional integrated slab edge finishes off the building's exterior, and head and sill starters enable complete installation from the inside of the building. The single or dual thermal break option help ensure project energy compliance at the best value.

Labor Savings with Thermal Performance

The dual thermal break with Azon's Lancer™ Mechanical lock improves performance where more stringent energy codes apply Thermal-Block Curtainwall, Storefronts and Entrances compliment the system providing a complete package that's easy to fabricate and install. The 900RW Window system is available with environmentally friendly paint and anodized finishes from Linetec.



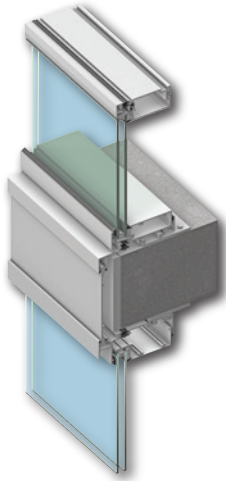
900RW Series Ribbon Window Product Specifications

See Tubelite's Test Reports for mock up sizes and test conditions.

Application: Low to mid-rise Ribbon Window with both interior and exterior glazing

Face Width:	Overall Depths:	Glass Thickness:	Air Infiltration:	Static & Dynamic Water:	Structural:	CRF:*	U -Value:*	Sound Transmission:	Interstory Liveload:	Product Approval: (non-impact)
2-1/4"	4-1/2" & 6"	1"	0.06 CFM/FT.2 @6.24 PSF	15 PSF	40 PSF – Design 60 PSF – Overload	Single – 68 Dual – 72	Single – 0.35 Dual – 0.33 NFRC 100	31 STC [36 STC] 25 OITC [32 OITC]	+/- 1/2"	FL21062-R1 (FPA) CWSF-55 (TDI)

* See Tubelite website for pop-up tables with complete list of U-Values and CRF-Values.



950SG Thermal Window Wall

Tubelite's 950SG Series offers solutions for between slab window wall applications. The 4- side SSG system has a 6" depth and can be installed entirely from the building interior. A vertical silicone diverter replaces the need for an exterior applied seal.

Optional integrated slab edge covers can be extruded or brake metal to finish off the building's exterior. The system design eliminates the need for an exterior seal at the sill starter. Head, sill and jamb starters enable complete installation from the inside of the building. The 3" sightline head starter also provides +/- 3/4" vertical interstory movement.

Labor Savings with Thermal Performance

The dual strut ultra-thermal barrier provides industry leading performance where more stringent energy codes apply. A single piece anti-buckling clip simplifies installation with fewer parts and steps. The 950SG Series Thermal Window Wall is available with Tubelite's high recycled aluminum content, Ecoluminum, and environmentally friendly paint and anodized finishes from Linetec.

Tubelite® 950SG Window Wall Product Specifications

Application: Office, mixed use, healthcare, education, between slab system, interior and exterior glazing.

Description: 2-1/4" x 4-1/2" or 6" exterior set, screw spline construction, dual thermal strut, field or shop glazed window wall.

Face Width:	Overall Depths:	Glass Thickness:	Air Infiltration:	Static & Dynamic Water:	Structural (L/175)	U -Factor**: By Sill	CRF: (Frame)	Sound Movement:	Interstory Liveload:	Product Approval: (non-impact)
2-1/4" 3" w/starter	6"	1" & 1-1/16"	0.06 CFM/FT.2 @ 6.24 PSF	15 PSF	40 PSF – Design -60 PSF – Overload	Std – 0.34 Low – 0.35 SSG – 0.33 NFRC 100	Std – 81 Low – 81 SSG – 82	1" IGU 31 STC 28 OITC 1 1/16" IGU 36 STC 31 OITC	+/- 3/4"	Coming Soon

** U-Factor per NFRC 100. Refer to the U-Value table at: www.tubeliteinc.com/products/window-wall/

Project: Kansas City Convention Center/Lowes Hotel, Kansas City, MO. Photographer: Eric BowersAno





Project: Centrum Bucktown, Chicago, IL, Erector: Northern Glass, Finish: Clear Ano

TerraPorte 7600 – Terrace Door

The TerraPorte 7600 Series Out-swing and In-swing architectural terrace doors are ideal for mid-rise residential projects, condominiums, and hotels. The 3-1/4" deep thermal system can be installed as a standalone product or easily integrated into Tubelite's curtainwall, ribbon window, and storefront systems.

Features & Benefits

- AAMA AW70 Performance Class
- Rainscreen design for superior performance
- 3-1/4" frame depth
- Polyamide thermal barrier for superior thermal and energy performance
- Two color, split finish capability
- Giesse multi-lock hardware in Gray, Black or White painted finishes
- Thumb turn lock with keyed cylinder option
- Heavy Duty aluminum hinges
- Large sizes, up to 12" tall
- Optional low-profile accessABLE™ sill for outswing doors
- Mitered frame and door leaf, corner key and crimped construction for durability
- Life cycle tested to AAMA 910
- Optional closure or concealed stop



TerraPorte 7600 Series Product Specifications

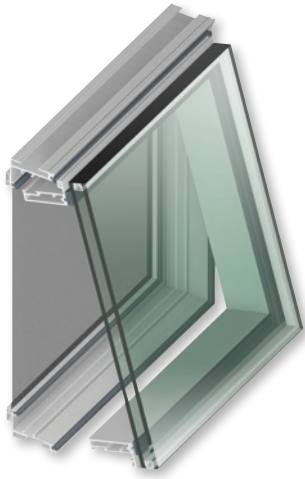
See Tubelite's Test Reports for mock up sizes and test conditions.

Application: Mid-rise residential projects, condominiums, and hotels

Description: Out-swing and In-swing thermally broken architectural terrace door

Performance Class:	System Depth:	Glass:	Air Infiltration:	Water Infiltration:	Structural:	U-Value:*	CRF:*	Acoustic (STC):	Acoustic (OITC):
AW70-ATD	3-1/4"	1"	0.1 CFM/Ft.2 @ 6.24 PSF	15 PSF – Standard 12 PSF – accessABLE™	70 PSF – Design 105 PSF – Overload	Out-swing 0.40 In-swing 0.41	Out-swing 56F 70G In-swing 60F 71G	Out-swing 35 In-swing 35	Out-swing 29 In-swing 30

* See Tubelite website for pop-up tables with complete list of U-Values and CRF-Values.



Phantom 5000 Zero Sightline Windows

Let fresh air into your building with these zero sightline windows that install easily into Tubelite's curtainwall and window wall products.

Available in awning and casement configurations and large sizes, the Architectural Grade (AW) Phantom windows provide excellent thermal, structural, air, and water performance.

The concealed frame design is virtually invisible for the exterior of the building providing a consistent appearance of fixed lites. Hinging options allow opening from the bottom or side of the window. Screens are available with frames to match the window.

Phantom Vent 5000 Zero Sightline Window Product Specifications

See Tubelite's Test Reports for mock up sizes and test conditions.

Application: Mid-rise residential projects, condominiums, hotels, offices, and schools

Description: Awning and Casement Out-swing Zero Sightline vents

Performance Class:	System Depth:	Glass:	Air Infiltration:	Water Infiltration:	Structural:	CRF:*	U-Value:*	Acoustic:
Awning: AW-PG85 Casement: AW-PG90	4-1/4"	1"	0.10 CFM/Ft.2 @ 6.24 PSF	15 PSF	Awning: 85 PSF / 127.5 PSF Casement: 90 PSF / 135 PSF)	Awning 77 SSG CW Awning 79 Captured CW Casement 76 SSG CW Casement 78 Captured CW	Awning 0.35 SSG CW Awning 0.43 Captured CW Casement 0.34 SSG CW Casement 0.41 Captured CW	STC 33 OITC 26

* See Tubelite website for pop-up tables with complete list of U-Values and CRF-Values.



Project: Centrum Bucktown, Chicago, IL, Erector: Northern Glass, Finish: Clear Ano

UniVent 1375AW Insert Vent

Let fresh air into the building using natural ventilation with Tubelite's new UniVent 1375AW Series Windows. These operable windows are engineered to complement and seamlessly integrate within mid- to high-rise commercial buildings' storefront and curtainwall systems

These architectural rated windows have a frame depth of 2-3/4" (70mm) for dual glazed IGU's with mitered/sealed corners and crimped on an "L" shaped clip. Maximum sizes up to 72 by 36 inches (1828.8mm x 914.4mm) for hoppers, 36 by 62 (914.4mm x 1574.8mm) inches for project-out casements, and 66 x 36 (1676mm x 914.4mm) for awning windows.

UniVent 1375AW Series Windows are tested to meet AW Architectural Performance Class, the most stringent performance and durability requirements of North American Fenestration Standard /Specification for windows, doors, and skylights

(NAFS-17) plus the AAMA/WDMA/CSA 101/ I.S.2/A440-19 Canadian supplement. This industry standard includes high-performance criteria for air, water and structural integrity, lifecycle testing to 4,000 operating cycles.



UniVent 1375AW Insert Vent	Awning	Casement	Hopper	Casement
Application	Project Out	Project Out	Project In	Project In
Frame Joints	Mitered, 2 Corner Keys			
Window Joints	Mitered, 2 Corner Keys			
Glass Thickness	1" [25.4mm], 1 1/16" [27mm], 1 3/4 [44.5mm]			
Face Width	2-3/4" (70mm) Dual	2-3/4" (70mm) Dual	2-7/16" (62mm) Dual	2-3/4" (70mm) Dual
Frame Depth	2-3/4" (70mm) Dual	2-7/16" (62mm) Dual	2-7/16" (62mm) Dual	2-3/4" (70mm) Dual
Hardware	4-bar hinges, Cam lock	4-butt hinges, Cam lock, optional roto operator, 2-point egress lock, opening restrictor, egress pull-ring	4-bar hinges, Cam lock	4-butt hinges, Cam lock, optional roto operator, 2-point egress lock, opening restrictor, egress pull-ring
ASTM E331 AND E547 Uniform and Cyclic Static Water	15 PSF (720pa)			
U-Factor**	0.37		0.37	
Air Infiltration and Exfiltration @6.27 psf	0.02 cfm/ft ² 0.04 cfm/ft ²	0.09 cfm/ft ² 0.06 cfm/ft ²	0.09 cfm/ft ² 0.09 cfm/ft ²	0.06 cfm/ft ² 0.06 cfm/ft ²
AAMA/WDMA/CSA 101 I.5.2/A440-17, NAFS Testing	AW-PG60+	AW-PG80	AW-PG80	AW-PG80
AAMA910 Life Cycle Tested	4000 Cycles			
CRF (AAMA 1503-2010)	Dual: 69		Dual: 62	
Temperature Index (CSA A440.2/A440.3)	Dual: 57		Dual: 49	

** U-Factor per NFRC 100. Refer to the U-Value table at: www.tubeliteinc.com/products/operable-windows/

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We offer an option for recycled aluminum on selected extruded products with an industry leading content of post-consumer and pre-consumer material.

Anodized Finishes

Clear Class 2 C2	Light Champagne LC	Champagne CH	Light Bronze LB	Medium Bronze MB
Clear Class 1 C1				
Dark Bronze DB	Extra Dark Bronze EB	Black BL	Copper CA	Bordeaux BD

Standard Painted Colors – 70% PVDF

Bone White 1P (L7609-70)	Colonial White NP (L7640-70)	Sandstone SP (L3607-70)	Burnt Sun 7P (L7612-70)	Antique Bronze ZP (L7641-70)
Beige BP (L7603-70)	Light Seawall Beige CP (L7614-70)	Devo Gray VP (L7615-70)	Slate Gray WP (L7604-70)	Charcoal Gray XP (L7605-70)
Patina Green SP (L7616-70)	Dark Ivy TP (L7617-70)	Harford Green ZP (L7606-70)	Military Blue DP (L7630-70)	Black 3P (L7601-70)
Colonial Red RP (L7622-70)	Boysenberry 9P (L7608-70)	Sage Brown 8P (L7620-70)	Quaker Bronze 6P (L7602-70)	

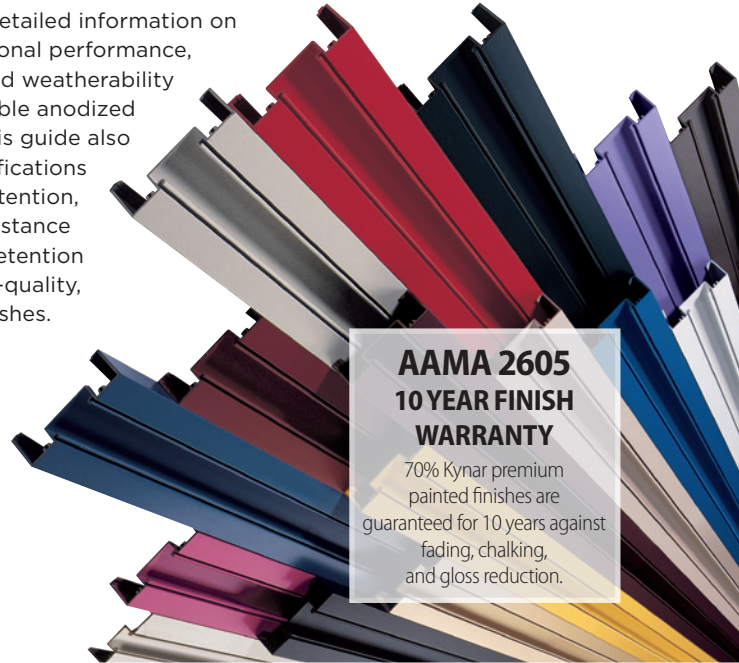
NOTE: Colors shown are not exact and are intended for planning purposes. For actual job, Tubelite® will supply Linetec color chips.

www.tubeliteinc.com • 800-866-2227 • Fax 877-299-2414 • 3056 Walker Ridge Drive NW, Suite G, Walker, Michigan 49544

Painted and Anodized Finishes

In addition to our stocked Clear and Bronze anodized, and White painted finishes Tubelite offers a wide variety of additional standard anodized and painted colors. Blended custom colors are also available, providing you with an infinite variety of options. More than a palette of pretty colors, our finishes are tough and backed by some of the best warranties in the industry.

See Tubelite's Standard Finish Color Guide for detailed information on the exceptional performance, integrity and weatherability of our durable anodized finishes. This guide also gives specifications for color retention, erosion resistance and gloss retention of our high-quality, painted finishes.



AAMA 2605 10 YEAR FINISH WARRANTY

70% Kynar premium painted finishes are guaranteed for 10 years against fading, chalking, and gloss reduction.

Visit www.tubeliteinc.com/finishes for all the latest finishes.

800-866-2227 / www.tubeliteinc.com

Wood Grain Finishes by Tubelite

Recommended Interior Use Only. No Finish Warranty.

Aged Light Oak	Aged Dark Oak	Oregon Douglas	Teak
National Walnut	Table Cherry	Knotty Pine	Oak
European Cherry	Dark Walnut	Golden Oak	Cherry with Flame
Colony Maple	Cherry	American Douglas	American Maple

For Samples Email: marketing@tubeliteinc.com
Note: Colors shown are not exact and are intended for planning purposes. Due to the natural characteristics of the finish, minimal variations in color and grain can be expected. Please check with Tubelite for availability and pricing.

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WARRANTY: Wood grain finishes by Tubelite meet AAMA 2604 with a 5-year warranty.

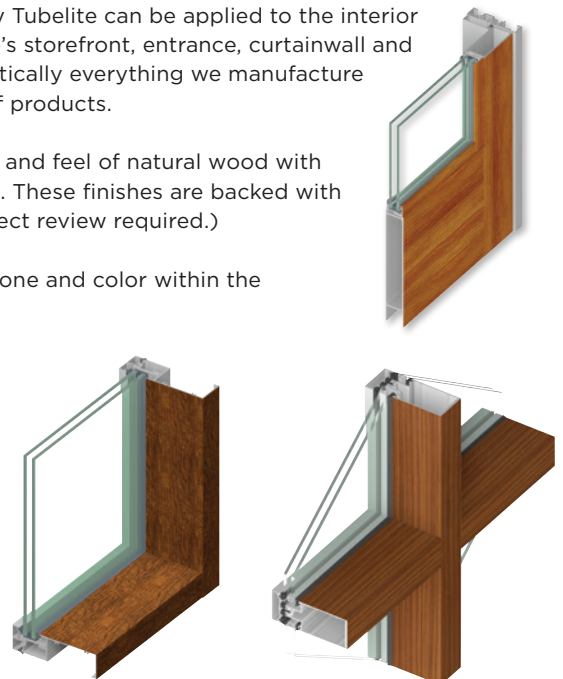
Wood Grain Finishes

When your design requires more than a stock color, our wood grain textures are ready to dazzle. Wood Grain Finishes by Tubelite have the look and feel of natural wood with the durability and recyclability of aluminum. No more refinishing due to salt, dirt and UV exposure. Our Wood Grain finishes are designed for the toughest environment and clean easily with mild soap and water.

Wood Grain Finishes by Tubelite can be applied to the interior and exterior of Tubelite's storefront, entrance, curtainwall and sunshade devices. Practically everything we manufacture in the Tubelite family of products.

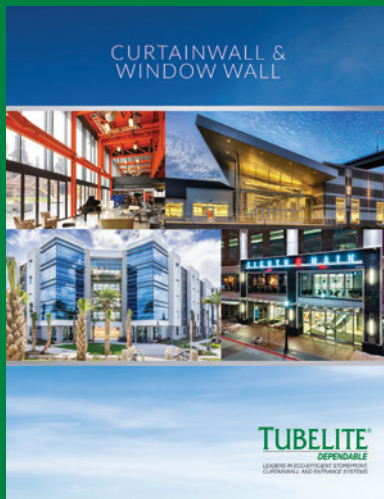
Tubelite offers the look and feel of natural wood with 16 Wood Grain Finishes. These finishes are backed with a 5 year warranty (project review required.)

* Finishes may vary in tone and color within the same wood grain.



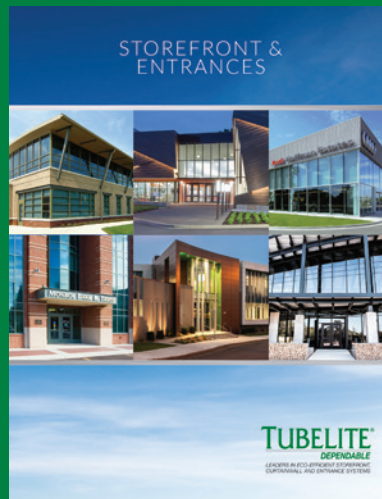
Visit www.tubeliteinc.com/finishes for all the latest finishes.

Visit us online to download other Tubelite literature at www.tubeliteinc.com/product-brochures.



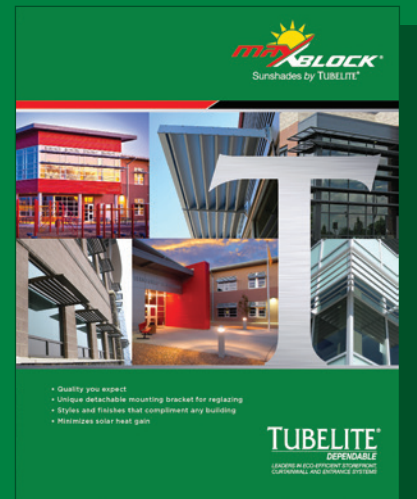
Curtainwall & Window Wall Product Brochure

This brochure contains our 400 Series Curtainwall, 200 Series Curtainwall, 900RW Series Thermal Ribbon Window, TerraPorte 7600 Terrace Door, Phantom 5000 Zero Sight Line Windows and Finishes.



Storefront and Entrances Product Brochure

This brochure contains our Narrow, Medium and Wide Entrances. Our 4500, 14000, 14000 I/O, 14650 and VersaTherm™ framing along with our operable windows and Finishes.



MaxBlock® Sunshades Product Brochure

MaxBlock brochure includes Tubelite's three sun shade designs, Airfoil, "Z" Blade and Tubular, along with Highlighting the benefits of these sun shades.

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