PERFORMANCE BY SYSTEM
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ENTRANCES – PRODUCT COMPARISON

YKK AP PRODUCT	EFCO	KAWNEER	OLD CASTLE BUILDING ENVELOPE	US ALUMINUM
Model 20D Narrow Stile Entrance	D200	190 Series	NS-212	Series 250
Model 35D Medium Stile Entrance	D300	350 Series	MS-375	Series 400
Model 50D Wide Stile Entrance	D500	500 Series	WS-500	Series 550
Model 40M Monumental Entrance	DuraStile D318	350 Tuffline® 350 Heavy Wall™	Rugged MS-375	800 Durafront
Model 50M Monumental Entrance	DuraStile D518	500 Tuffline® 500 Heavy Wall™	Rugged MS-500	850 Durafront
Model 25FD Flush Panel Entrance	—	Flushline®	—	Series 1000 Flush Panel Doors

ENTRANCES – PERFORMANCE BY SYSTEM

Model 20D Narrow Stile Entrance A standard commercial entrance with narrow sight lines designed for light to medium traffic.	Air (ASTM E 283): Structural (ASTM E 330):	0.50 cfm/ft² @ 1.57 psf (Single) 1.00 cfm/ft² @ 1.57 psf (Pair) ±40 psf (Single) ±35 psf (Pair)
Model 35D Medium Stile Entrance Designed for medium traffic areas, ideally suited for institutional installations.	Air (ASTM E 283): Structural (ASTM E 330):	0.50 cfm/ft² @ 1.57 psf (Single) 1.00 cfm/ft² @ 1.57 psf (Pair) ±50.0 psf (Single) ±50.0 psf (Pair)
Model 50D Wide Stile Entrance Designed for medium to high traffic use, well suited for monumental applications.	Air (ASTM E 283): Structural (ASTM E 330):	0.50 cfm/ft² @ 1.57 psf (Single) 1.00 cfm/ft² @ 1.57 psf (Pair) ±60.0 psf (Single) ±60.0 psf (Pair)
Model 40M Monumental Entrance Features a 4" stile and is ideal for use in high traffic areas.	Air (ASTM E 283): Structural (ASTM E 330):	0.50 cfm/ft² @ 1.57 psf (Single) 1.00 cfm/ft² @ 1.57 psf (Pair) ±70.0 psf (Single) ±70.0 psf (Pair)
Model 50M Monumental Entrance Features a 5" stile and is ideal for use in high traffic areas.	Air (ASTM E 283): Structural (ASTM E 330):	0.50 cfm/ft² @ 1.57 psf (Single) 1.00 cfm/ft² @ 1.57 psf (Pair) ±65.0 psf (Single) ±65.0 psf (Pair)
Model 25FD Flush Panel Entrance 1-3/4" thick door with FRP or ribbed aluminum skin, multiple glazing and louver options.	Air (ASTM E 283): Structural (ASTM E 330):	0.50 cfm/ft² @ 1.57 psf (Single) 1.00 cfm/ft² @ 1.57 psf (Pair) +75/-50 psf (Single & Pair)

Certified test reports are available at www.ykkap.com/commercial/products/

ENTRANCES – PRODUCT COMPARISON

YKK AP PRODUCT	EFCO	KAWNEER	OLD CASTLE BUILDING ENVELOPE	US ALUMINUM
Model 25T Thermally Broken Entrance	ThermaStile™ D202	Insulpour® 250T AA250	—	Mojave 250T
Model 35T Thermally Broken Entrance	ThermaStile™ D302	Insulpour® 350T AA425	MS-375TC	Mojave 400T
Model 50T Thermally Broken Entrance	ThermaStile™ D502	Insulpour® 500T	WS-500TC	Mojave 550T

ENTRANCES – PERFORMANCE BY SYSTEM

Model 25T Thermal **Narrow Stile Entrance** A thermally broken commercial entrance with narrow sight lines designed for light to medium traffic.	Air (ASTM E 283): Structural (ASTM E 330): Thermal (AAMA 1503 & 507, NFRC 100): Acoustic (ASTM E 1425):	0.50 cfm/ft² @ 1.57 psf (Single) 1.00 cfm/ft² @ 1.57 psf (Pair) ±35.0 psf (Single) ±35.0 psf (Pair) CRF_f: A minimum of 59 U-value: 0.52 btu/hr/ft²/°F or less 27 STC, 31 OITC; 1” IGU 30 STC, 34 OITC; laminated
Model 35T Thermal **Medium Stile Entrance** A thermally broken entrance designed for medium traffic areas, ideally suited for institutional installations.	Air (ASTM E 283): Structural (ASTM E 330): Thermal (AAMA 1503 & 507, NFRC 100): Acoustic (ASTM E 1425):	0.50 cfm/ft² @ 1.57 psf (Single) 1.00 cfm/ft² @ 1.57 psf (Pair) ±50.0 psf (Single) ±40.0 psf (Pair) CRF_f: A minimum of 59 U-value: 0.54 btu/hr/ft²/°F or less 27 STC, 30 OITC; 1” IGU 29 STC, 30 OITC; laminated
Model 50T Thermal **Wide Stile Entrance** A thermally broken entrance designed for medium to high traffic use, well suited for monumental applications.	Air (ASTM E 283): Structural (ASTM E 330): Thermal (AAMA 1503 & 507, NFRC 100): Acoustic (ASTM E 1425):	0.50 cfm/ft² @ 1.57 psf (Single) 1.00 cfm/ft² @ 1.57 psf (Pair) ±50.0 psf (Single) ±40.0 psf (Pair) CRF_f: A minimum of 61 U-value: 0.56 btu/hr/ft²/°F or less 25 STC, 29 OITC; 1” IGU 27 STC, 30 OITC; laminated

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ENTRANCES – PRODUCT COMPARISON

YKK AP PRODUCT	EFCO	KAWNEER	OLD CASTLE BUILDING ENVELOPE	US ALUMINUM
Model 35H ProTek Impact Resistant & Blast Mitigating Entrance for Monolithic and Insulating Glass	D300 Impact	350 Heavy Wall™ IR	MSD-375 StormMax® MSD-375 BlastMax®	IG 500/600
Model 50H ProTek Impact Resistant & Blast Mitigating Entrance for Monolithic and Insulating Glass	D500 Impact	500 Heavy Wall™ IR	WSD-500 StormMax®	IG 500/600
Model 35HL ProTek Impact Resistant & Blast Mitigating Entrance for Monolithic and Insulating Glass	D300 Impact	350 IR	—	DH-350
Model 50HL ProTek Impact Resistant & Blast Mitigating Entrance for Monolithic and Insulating Glass	D500 Impact	500 IR	—	—

ENTRANCES – PERFORMANCE BY SYSTEM

Model 35H ProTek **Impact Resistant & Blast Mitigating Entrance – Monolithic Glazing** (Florida High Velocity Hurricane Zone Approved) The 3-1/2" 35H door is designed to provide maximum security under the most demanding conditions without the need for steel reinforcing.	Air (ASTM E 283): Structural (ASTM E 330): (ASTM E 1886 / 1996, TAS 201 – 203): ASTM F 1642: GSA-TS01:	0.50 cfm/ft² @ 1.57 psf (Single) 1.00 cfm/ft² @ 1.57 psf (Pair) +70/-90 psf (Single & Pair) TAS 201, TAS 202, & TAS 203 ASTM E 1886 & ASTM E 1996 (Large & Small Missile) Wet Glazed-No Break, Dry Glazed-Low Hazard Wet Glazed-Level 1, Dry Glazed-Level 3B
Model 35H ProTek **Impact Resistant & Blast Mitigating Entrance – Insulating Glazing** (Florida High Velocity Hurricane Zone Approved) The 3-1/2" 35H door is designed to provide maximum security under the most demanding conditions without the need for steel reinforcing.	Air (ASTM E 283): Structural (ASTM E 330): (ASTM E 1886 / 1996, TAS 201 – 203): ASTM F 1642: GSA-TS01: Thermal (AAMA 1503, NFRC 100): Acoustic (ASTM E 90 & ASTM E 1332):	0.50 cfm/ft² @ 1.57 psf (Single) 1.00 cfm/ft² @ 1.57 psf (Pair) ±90 psf Air Only Threshold and Air & Water Threshold, (Single & Pair) TAS 201, TAS 202, & TAS 203 ASTM E 1886 & ASTM E 1996 (Large & Small Missile) Wet Glazed-No Break, Dry Glazed-Low Hazard Wet Glazed-Level 1, Dry Glazed-Level 3B CRFf: A minimum of 28 U-value: 0.775 btu/hr/ft²/°F or less 32 STC, 30 OITC; 1" IGU 34 STC, 31 OITC; laminated
Model 50H ProTek **Impact Resistant & Blast Mitigating Entrance – Monolithic Glazing** (Florida High Velocity Hurricane Zone Approved) The 5" 50H door is designed to provide maximum security under the most demanding conditions without the need for steel reinforcing.	Air (ASTM E 283): Structural (ASTM E 330): (ASTM E 1886 / 1996, TAS 201 – 203): ASTM F 1642: GSA-TS01:	0.50 cfm/ft² @ 1.57 psf (Single) 1.00 cfm/ft² @ 1.57 psf (Pair) +70/-90 psf (Single & Pair) TAS 201, TAS 202, & TAS 203 ASTM E 1886 & ASTM E 1996 (Large & Small Missile) Wet Glazed-No Break, Dry Glazed-Low Hazard Wet Glazed-Level 1, Dry Glazed-Level 3B
Model 50H ProTek **Impact Resistant & Blast Mitigating Entrance – Insulating Glazing** (Florida High Velocity Hurricane Zone Approved) The 5" 50H door is designed to provide maximum security under the most demanding conditions without the need for steel reinforcing.	Air (ASTM E 283): Structural (ASTM E 330): (ASTM E 1886 / 1996, TAS 201 – 203): ASTM F 1642: GSA-TS01: Thermal (AAMA 1503, NFRC 100): Acoustic (ASTM E 90 & ASTM E 1332):	0.50 cfm/ft² @ 1.57 psf (Single) 1.00 cfm/ft² @ 1.57 psf (Pair) ±90 psf Air Only Threshold and Air & Water Threshold, (Single & Pair) TAS 201, TAS 202, & TAS 203 ASTM E 1886 & ASTM E 1996 (Large & Small Missile) Wet Glazed-No Break, Dry Glazed-Low Hazard Wet Glazed-Level 1, Dry Glazed-Level 3B CRFf: A minimum of 28 U-value: 0.775 btu/hr/ft²/°F or less 32 STC, 30 OITC; 1" IGU 34 STC, 31 OITC; laminated
Model 35HL ProTek **Impact Resistant & Blast Mitigating Entrance** (Florida High Velocity Hurricane Zone Approved) The 3-1/2" 35HL door is designed to provide impact resistance at a lower cost.	Air (ASTM E 283): Structural (ASTM E 330): Forced Entry:	0.50 cfm/ft² @ 1.57 psf (Single) 1.00 cfm/ft² @ 1.57 psf (Pair) ±50 psf (Single & Pair) 300 lbs.
Model 50HL ProTek **Impact Resistant & Blast Mitigating Entrance** (Florida High Velocity Hurricane Zone Approved) The 5" 50HL door is designed to provide impact resistance at a lower cost.	Air (ASTM E 283): Structural (ASTM E 330): Forced Entry:	0.50 cfm/ft² @ 1.57 psf (Single) 1.00 cfm/ft² @ 1.57 psf (Pair) ±50 psf (Single & Pair) 300 lbs.

Certified test reports are available at www.ykkap.com/commercial/products/

STOREFRONTS – PRODUCT COMPARISON

YKK AP PRODUCT	EFCO	KAWNEER	OLD CASTLE BUILDING ENVELOPE	US ALUMINUM
YCN 40 T (Front Set) Thermally Broken Ribbon Window Storefront System	—	—	ThermaStack™ (2” x 5”) TCR-250 2-1/2” x 4-1/2”	—
YES 40 FS (Center Set) Outside Glazed Storefront System	—	Trifab® 400	—	Series 400
YES 40 FI (Center Set) Outside Glazed Storefront System	—	—	—	—
YES 45 FS (Center Set) Center Set Storefront System	Series 401 (NT)	Trifab® VG 450 (Center Glazed)	FG-2000	Series 450 Series 450-S
YES 45 FI (Center Set) Center Set Storefront System	Series 402 (NT)	Trifab® VG 451 (Center Glazed)	FG-3000	Series 451 Series 451-S
YES 45 TU (Center Set) Thermally Broken Storefront System	Series 403 (T)	Trifab® VG 451 T	Series 3000 Thermal Multiplane	Series IT 451 Thermal
YES 45 TU (Front Set) Thermally Broken Storefront System	Series 433	Trifab® VG 451 T	ThermaStack™	Series FT 451 Thermal OST451

STOREFRONTS – PERFORMANCE BY SYSTEM

YCN 40 T 2-1/4” x 4” thermally broken offset, front loaded ribbon window framing system designed for insulating glass	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503, NFRC 102):	0.06 cfm/ft² @ 6.24 psf 10.0 psf U-Value of 0.45 btu/hr/ft²/°F or less CRF_f of 60
YES 40 FS (Center Set) 1-3/4" x 4" center set, flush glazed framing systems designed primarily for 1/4" glass or infill panels 1/4" to 3/8" thick.	Air (ASTM E 283): Water (ASTM E 331):	0.06 cfm/ft² @ 6.24 psf 10.0 psf
YES 40 FI (Center Set) 2" x 4" center set, flush glazed framing system developed for 1" insulating glass and infill panels of varying thickness.	Air (ASTM E 283): Water (ASTM E 331):	0.06 cfm/ft² @ 6.24 psf 10.0 psf
YES 45 FS (Center Set) 1-3/4" x 4-1/2" center set, flush glazed framing systems designed for 1/4" glass or infill panels of 1/4" to 3/8" thickness. Available in screw spline, shear block, or ribbon window assemblies.	Air (ASTM E 283): Water (ASTM E 331):	0.06 cfm/ft² @ 6.24 psf 10.0 psf
YES 45 FI (Center Set) 2" x 4-1/2" center set, flush glazed framing system developed for 1” insulating glass and infill panels of varying thickness. Available in screw spline, shear block, or ribbon window assemblies.	Air (ASTM E 283): Water (ASTM E 331): Thermal (NFRC 100): Acoustic (AAMA 1801):	0.06 cfm/ft² @ 6.24 psf 12.0 psf CRF_f of 44 U-value: 0.50 btu/hr/ft²/°F or less STC: 32 (1” IGU), 37 (1” laminated) OITC: 27 (1” IGU), 30 (1” laminated)
YES 45 TU (Center Set) 2" x 4-1/2" thermally broken, center set, flush glazed storefront system for insulating glass.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503, NFRC 100, & AAMA 507): Acoustic (ASTM E 90 & ASTM E 1332):	0.06 cfm/ft² @ 6.24 psf 12.0 psf CRF_f of 57 U-Value of 0.42 btu/hr/ft²/°F or less STC: 31 (1” annealed), 35 (1” laminated) OITC: 26 (1” annealed), 29 (1” laminated)
YES 45 TU (Front Set) 2" x 4-1/2" thermally broken, front set, flush glazed storefront system for insulating glass.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503, NFRC 100 & AAMA 507): Acoustic (AAMA 1801):	0.06 cfm/ft² @ 6.24 psf 12.0 psf CRF_f of 68 U-Value of 0.40 btu/hr/ft²/°F or less STC: 32 (1” annealed), 36 (1” laminated) OITC: 27 (1” annealed), 30 (1” laminated)

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STOREFRONTS – PRODUCT COMPARISON

YKK AP PRODUCT	EFCO	KAWNEER	OLD CASTLE BUILDING ENVELOPE	US ALUMINUM
YES 45 FT (Center Set) Thermally Broken Storefront System	Series 403-I (TS)	—	—	—
YES 45 XT (Center Set) enerGfacade High Performance Storefront System Featuring Dual Thermal Barriers	XTherm Series 403X (T)	Trifab® 451UT	Series 3000 XT	ArcticFront™ Series 45X
YES 60 FI (Center Set) Storefront System	—	Trifab® 601	—	Series FF601
YES 60 TU (Center Set) Thermally Broken Storefront System	406 (T)	Trifab® 601T	Series 6000 Thermal Multiplane	Series FT601
YES 60 TU (Front Set) Thermally Broken Storefront System	—	—	Series 6000 Thermal Multiplane	Series FT601
YES Veneer Veneer Wall Storefront System	—	Trifab® VG 450 (Veneer)	—	—
YES 60 XT (Center Set) enerGfacade High Performance Storefront System Featuring Dual Thermal Barriers	XTherm Series 406X (T)	Trifab® 601UT	Series 6000 XT	—

STOREFRONTS – PERFORMANCE BY SYSTEM

YES 45 FT (Center Set) 2-1/4" x 4-1/2" thermally broken, center set, flush glazed storefront system for insulating glass.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503 & NFRC 100):	0.06 cfm/ft² @ 6.24 psf 12.0 psf CRF_f of 60 U-Value of 0.46 btu/hr/ft²/°F or less
YES 45 XT (Center Set) enerGfacade 2" x 4-1/2" "Best in Class Performance" thermally broken, center set, flush glazed storefront system for insulating glass.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503, NFRC 100, & AAMA 507): Acoustic (AAMA 1801):	0.01 cfm/ft² @ 6.24 psf 12.0 psf CRF_f of 66 U-Value of 0.36 btu/hr/ft²/°F or less STC: 32 (1" annealed), 36 (1" laminated) OITC: 27 (1" annealed), 30 (1" laminated)
YES 60 FI (Center Set) 2" x 6" center set, flush glazed framing system developed for 1" insulating glass and infill panels of varying thickness.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503, NFRC 100, & AAMA 507): Acoustic (AAMA 1801):	0.06 cfm/ft² @ 6.24 psf 12.0 psf CRF_f of 42 U-value: 0.54 btu/hr/ft²/°F or less 31 STC, 25 OITC; annealed 34 STC, 28 OITC; laminated
YES 60 TU (Center Set) 2" x 6" thermally broken, center set, flush glazed storefront system for insulating glass.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503, NFRC 100, & AAMA 507): Acoustic (AAMA 1801):	0.06 cfm/ft² @ 6.24 psf 12.0 psf CRF_f of 69 U-Value of 0.41 btu/hr/ft²/°F or less 31 STC, 25 OITC; annealed 34 STC, 29 OITC; laminated
YES 60 TU (Front Set) 2" x 6" thermally broken, front set, flush glazed storefront system for insulating glass	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503, NFRC 100, & AAMA 507): Acoustic (AAMA 1801):	0.06 cfm/ft² @ 6.24 psf 12.0 psf CRF_f of 71 U-Value of 0.42 btu/hr/ft²/°F or less 32 STC, 26 OITC; annealed 36 STC, 30 OITC; laminated
YES Veneer 2" x 2" front set, flush glazed veneer storefront system for monolithic glass	Air (ASTM E 283): Water (ASTM E 331):	0.06 cfm/ft² @ 6.24 psf 8.0 psf
YES 60 XT enerGfacade (Center Set) 2" x 6" "Best in Class Performance" thermally broken, center set, flush glazed storefront system for insulating glass.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503, NFRC 100, & AAMA 507): Acoustic (AAMA 1801):	0.06 cfm/ft² @ 6.24 psf 12.0 psf CRF_f of 72 U-Value of 0.38 btu/hr/ft²/°F or less 31 STC, 25 OITC; annealed 34 STC, 28 OITC; laminated

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STOREFRONTS – PRODUCT COMPARISON

YKK AP PRODUCT	EFCO	KAWNEER	OLD CASTLE BUILDING ENVELOPE	US ALUMINUM
YES 600 Front Loading Thermally Broken Storefront System	System 960 Wall™	EnCore®	—	—
YES 20 Sash Storefront System for Monolithic or Insulating Glass	—	—	—	—
YHS 50 FS ProTek Impact Resistant and Blast Mitigating Storefront System for Monolithic Glass	Series 525 (NT)	IR 500	FG-5700 StormMax®	IG 500
YHS 50 FI ProTek Impact Resistant and Blast Mitigating Storefront System for Insulating Glass	—	IR 501 IR 521 (Preglazed)	FG-5750 StormMax®	BR 604/606
YHS 50 TU ProTek Thermally Broken Impact Resistant and Blast Mitigating Storefront System for Insulating Glass	Series 526 (T)	IR 501 T IR 521T/521UT (Preglazed)	FG-5750T StormMax®	BR 601 BT601 (Blast)

STOREFRONTS – PERFORMANCE BY SYSTEM

YES 600 1-3/4" x 4-1/2" or 1-3/4" x 6" front loading thermally broken storefront system for 1” insulating glass.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503 & NFRC 100): Acoustic (AAMA 1801)	0.06 cfm/ft² @ 6.24 psf 12.0 psf CRF_f of 71 U-Value of 0.41 btu/hr/ft²/°F or less STC: 32 (1” annealed), 37” (1” laminated) OITC: 26 (1” annealed), 31 (1” laminated)
YES 20 Sash 1" x 2" storefront system for varied thicknesses of monolithic or insulating glass.	Air (ASTM E 283): Water (ASTM E 331):	— —
YHS 50 FS ProTek (Florida High Velocity Hurricane Zone Approved) 2-1/2" X 5" impact resistant and blast mitigating storefront for monolithic glass.	Air (ASTM E 283): Water (ASTM E 331): (ASTM E 1886 / 1996, TAS 201 – 203): ASTM F 1642: GSA-TS01:	0.06 cfm/ft² @ 6.24 psf 12.0 psf ±70 psf Meets UFC 4-010-01 prescriptive standard in accordance with 2007 revisions Must be analyzed using dynamic analysis by a blast consultant
YHS 50 FI ProTek (Florida High Velocity Hurricane Zone Approved) 2-1/2" X 5" impact resistant and blast mitigating storefront for insulating glass 1" to 1-5/16" thick.	Air (ASTM E 283): Water (ASTM E 331): (ASTM E 1886 / 1996, TAS 201 – 203): ASTM F 1642: GSA-TS01: Thermal (NFRC 100):	0.06 cfm/ft² @ 6.24 psf 12.0 psf ±70 psf Meets UFC 4-010-01 prescriptive standard in accordance with 2007 revisions Must be analyzed using dynamic analysis by a blast consultant U-value: 0.49 btu/hr/ft²/°F or less
YHS 50 TU ProTek (Florida High Velocity Hurricane Zone Approved) 2-1/2" X 5" thermally broken impact resistant and blast mitigating storefront for insulating glass 1" to 1-5/16" thick.	Air (ASTM E 283): Water (ASTM E 331): (ASTM E 1886 / 1996, TAS 201 – 203): Thermal (AAMA 1503 & NFRC 102): ASTM F 1642: GSA-TS01: Thermal (AAMA 507): Thermal (NFRC 100):	0.06 cfm/ft² @ 6.24 psf 12.0 psf ±70 psf CRF_f of 59 U-Value of 0.45 btu/hr/ft²/°F or less Wet Glazed-Minimal Hazard Dry Glazed-Low Hazard Wet Glazed - Level 1 Dry Glazed-Level 3B U-value: 0.45 btu/hr/ft²/°F or less U-value: 0.398 btu/hr/ft²/°F or less

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WINDOW WALLS – PRODUCT COMPARISON

YKK AP PRODUCT	EFCO	KAWNEER	OLD CASTLE BUILDING ENVELOPE	US ALUMINUM
YWW 45 FS Front Set Window Wall System	System 901 (NT)	FG 623 ISOLOCK® (6" System)	—	FF 450
YWW 45 FI Front Set Window Wall System for Monolithic or Insulating Glass	—	FG 123 (6" System)	—	FF 451
YWW 45 TU Thermally Broken Front Set Window Wall System for Insulating Glass	Series 945 (T)	MetroView™ FG-501T	PDR-225 (5” depth)	TT 451
YWW 40 T Front Loading Thermally Broken Window Wall System for Insulating Glass	—	—	—	—
YWW 45 T Front Loading Thermally Broken Window Wall System for Insulating Glass	Series 955 (TS)	—	ICR-225 4-1/2”	—
YWW 50 T Front Loading Thermally Broken Window Wall System for Monolithic and Insulating Glass	System 902 (T)	—	TCR-250 4-1/2”	—
YWE 40 T Thermally Improved Front Set Window Wall System for Insulating Glass.	—	—	ICR-225 4-1/2”	BT 450

WINDOW WALLS – PERFORMANCE BY SYSTEM

YWW 45 FS 1-3/4" x 4-1/2" front set, inside, outside, or structural silicone glazed window wall system for monolithic glass.	Air (ASTM E 283): Water (ASTM E 331):	0.06 cfm/ft² @ 6.24 psf 12.0 psf
YWW 45 FI 2-1/4" x 4-1/2" thermally broken, offset, front loaded flush glazed, inside set framing system, with an option for exterior and structural silicone glazing.	Air (ASTM E 283): Water (ASTM E 331): AAMA 1801:	0.06 cfm/ft² @ 6.24 psf 12.0 psf STC 35, OITC 29
YWW 45 TU 2-1/4" x 4-1/2" thermally broken, offset, front loaded flush glazed, inside set framing system, with an option for exterior and structural silicone glazing.	Air (ASTM E 283): Water (ASTM E 331): Thermal AAMA 1503 & AAMA 507: Acoustic (AAMA 1801):	0.06 cfm/ft² @ 6.24 psf 12.0 psf CRF_f of 69 U-Value of 0.39 btu/hr/ft²/°F or less 31 STC, 25 OITC; annealed 35 STC, 29 OITC; laminated
YWW 40 T 2-1/4” x 4” thermally broken, offset, front loaded, inside set, flush glazed framing system for insulating glass, with an option for exterior glazing.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503 & NFRC 102): Acoustic (AAMA 1801):	0.06 cfm/ft² @ 6.24 psf 12.0 psf CRF_f of 73 U-Value of 0.46 btu/hr/ft²/°F or less 35 STC, OITC 29
YWW 45 T 2-1/4” x 4-1/2” thermally broken, offset, front loaded, inside set, flush glazed framing system for insulating glass, with options for exterior and structural silicone glazing.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503 & AAMA 507): Acoustic (AAMA 1801):	0.06 cfm/ft² @ 6.24 psf 12.0 psf CRF_f of 69 U-Value of 0.40 btu/hr/ft²/°F or less 33 STC, 26 OITC; annealed 35 STC, 29 OITC; laminated
YWW 50 T 2-1/4” x 5” thermally broken, offset, front loaded framing system for monolithic and insulating glass with options for exterior glazing, structural silicone glazing, and a slab edge cover.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503 & AAMA 507): Acoustic (ASTM E 1425):	0.06 cfm/ft² @ 6.24 psf 12.0 psf CRF_f of 70 U-Value of 0.41 btu/hr/ft²/°F or less 33 STC, 27 OITC; annealed 36 STC, 30 OITC; laminated
YWE 40 T 2” x 4” thermally improved, front set, inside or structural silicone glazed window wall system for insulating glass.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503 & NFRC 100):	0.06 cfm/ft² @ 6.24 psf 10.0 psf CRF_f of 57 U-Value of 0.45 btu/hr/ft²/°F or less

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WINDOW WALLS – PRODUCT COMPARISON

YKK AP PRODUCT	EFCO	KAWNEER	OLD CASTLE BUILDING ENVELOPE	US ALUMINUM
YWE 60 T Thermally Improved Front Set Window Wall System for Monolithic and Insulating Glass.	Series 600R (T)	—	ICR-225 6"	BT 600
YHW 60 TU ProTek Thermally Broken Front Set Impact-rated Window Wall System for Insulating GLass	—	FG 623 (not pre-glazed), MetroView™ FG-601T PG (non-impact)	RW-5100 StormMax®	—
YWW 50 TU Front Loading Thermally Broken Window Wall System for Insulating Glass	Series 4500 (4-1/2” Depth)	MetroView™ FG-501T	Reliance™ Window Wall	—
YWW 60 TU Front Loading Thermally Broken Window Wall System for Insulating Glass	Series 4500 6”	FG 623 (not pre-glazed), MetroView™ FG-601T PG MetroView™ TWW 600 PG	TCR-250 6”	TN601 / TT601
YWW 60 XT enerGfacade High Performance Front Loading Thermally Broken Window Wall System for Insulating Glass	—	MetroView® FF 601T PG	TCR-225 5”	TT501 (5” Depth)

WINDOW WALLS – PERFORMANCE BY SYSTEM

YWE 60 T 2-1/4" x 6" thermally improved, front set, inside or structural silicone glazed window wall system for insulating glass, with floor spanning capability.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503 & NFRC 100): Acoustic (AAMA 1801):	0.06 cfm/ft² @ 6.24 psf 15.0 psf CRF_f of 64 U-Value of 0.47 btu/hr/ft²/°F or less 31 STC, 26 OITC; annealed 34 STC, 28 OITC; laminated
YHW 60 TU ProTek 2-1/4” x 6” thermally broken, front set, impact rated window wall system with options for shop glazing, field glazing, and a slab edge cover.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503.1 & NFRC 102): Acoustic (ASTM E 90, 1425)	0.06 cfm/ft² @ 6.24 psf 15.0 psf CRF_f of 57 U-Value of 0.42 btu/hr/ft²/°F or less 39 STC, 33 OITC; laminated
YWW 50 TU 2-1/2" x 5" thermally broken, offset, front loaded, inside set, pre-glazed framing system for insulating glass, with options for structural silicone glazing and field glazing.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503 & NFRC 102): Acoustic (AAMA 1801):	0.06 cfm/ft² @ 6.24 psf 12.0 psf CRF_f of 49 U-Value of 0.41 btu/hr/ft²/°F or less 32 STC, OITC 26; heat strengthened 35 STC, OITC 29; laminated
YWW 60 TU 2-1/2” x 6” thermally broken, offset, front loaded, inside set, pre-glazed framing system for insulating glass, with options for structural silicone glazing and field glazing.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503 & AAMA 507): Acoustic (AAMA 1801):	0.06 cfm/ft² @ 6.24 psf 12.0 psf CRF_f of 50 U-Value of 0.40 btu/hr/ft²/°F or less
YWW 60 XT EnerGfacade 2-1/2” x 6” thermally broken, offset, front loaded, inside set, pre-glazed framing system for insulating glass, with options for structural silicone glazing and field glazing.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503 & AAMA 507): Acoustic (AAMA 1801):	0.06 cfm/ft² @ 6.24 psf 12.0 psf CRF_f of 74 U-Value of 0.36 btu/hr/ft²/°F or less

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CURTAIN WALLS – PRODUCT COMPARISON

YKK AP PRODUCT	EFCO	KAWNEER	OLD CASTLE BUILDING ENVELOPE	US ALUMINUM
YCW 750 XT enerGfacade High Performance Curtain Wall System Featuring Dual Thermal Barriers Captured and 2-Sided SSG Glazing	5500 X-Therm	1600 UT System™ 1 1600 UT System™ 2 (SSG)	Reliance™-HTC	Series 3252 / 3252SG Series 3253 / 3253SG
YCW 750 XTP enerGfacade High Performance Curtain Wall System Featuring Dual Thermal Barriers and Polyamide Pressure Plate	5600 X-Therm	—	Reliance™-TC	Series 3252HP / 3252HPSG
YCW 750 OG Thermally Improved Outside Glazed Curtain Wall System	S-5600 2-1/2”	1600 Wall System®1	Reliance™-OG	Series 3250
YCW 750 OGP Thermally Improved Outside Glazed Curtain Wall System with Polyamide Pressre Plate	S-5600 2-1/2” With Duracast®	1600 Wall System®1 (Fiberglass pressure plate)	Reliance™-OG	Series 3250
YCW 750 SSG Thermally Improved Structural Silicone Glazed Curtain Wall System	S-5600 2-1/2”	1600 Wall System®2 (2-side) Clearwall® (4-side)	Reliance™-SSG	Series 3150
YCW 750 IG Thermally Improved Inside Glazed Curtain Wall System	S-5900	1600 Wall System®5	Reliance™-IG SS	Series 4250
YCW 750 XT IG enerGfacade High Performance Inside Glazed Thermally Broken Curtain Wall System Captured and 2-Sided SSG Glazing	5500 (TS) Inside Glazed	1600 Wall System®4	Reliance™-TC IG	Series 4250T

CURTAIN WALLS – PERFORMANCE BY SYSTEM

YCW 750 XT EnerGfacade 2-1/2" x various depths High performance curtain wall featuring dual thermal barriers. Available with captured and 2-Sided SSG glazing.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503, AAMA 507, & NFRC 100): Acoustic (AAMA 1801):	0.06 cfm/ft² @ 6.24 psf 20.0 psf 1" IGU with CoG U-Factor of 0.29 btu/hr/SF/°F; CRF_f of 78, U-Value of 0.37 btu/hr/ft²/°F or less 1-1/2" IGU with CoG U-Factor of 0.29 btu/hr/SF/°F; CRF_f of 82, U-Value of 0.20 btu/hr/ft²/°F or less 2" IGU with CoG U-Factor of 0.29 btu/hr/SF/°F; CRF_f of 82, U-Value of 0.24 btu/hr/ft²/°F or less STC 32, OITC 27; heat strengthened STC 35, OITC 30; laminated
YCW 750 XTP EnerGfacade 2-1/2" x various depths High performance curtain wall featuring dual thermal barriers and Polyamide Pressure Plate	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 507, 1503 & NFRC 100): Acoustic (AAMA 1801):	0.06 cfm/ft² @ 6.24 psf 20.0 psf CRF_f of 81 U-Value of 0.36 btu/hr/ft²/°F or less STC 32, OITC 27; Low-E STC 35, OITC 30; laminated
YCW 750 OG 2-1/2" x 5-1/4", 6", 6-3/4", or 7-1/2" thermally improved, outside glazed curtain wall system for monolithic and insulating glass.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503 & 507, & NFRC 100): Acoustic (AAMA 1801):	0.06 cfm/ft² @ 6.24 psf 15.0 psf CRF_f of 66 U-Value of 0.46 btu/hr/ft²/°F or less STC 31, OITC 26; annealed STC 34, OITC 28; laminated
YCW 750 OGP 2-1/2" x 5-1/4", 6", 6-3/4", or 7-1/2" thermally improved, outside glazed curtain wall system for monolithic and insulating glass.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503 & 507, & NFRC 100): Acoustic (AAMA 1801):	0.06 cfm/ft² @ 6.24 psf 15.0 psf CRF_f of 76 U-Value of 0.37 btu/hr/ft²/°F or less STC 31, OITC 26; annealed STC 34, OITC 28; laminated
YCW 750 SSG 2-1/2" x 5-1/4", 6", 6-3/4", or 7-1/2" thermally improved, structural silicone glazed curtain wall system for monolithic and insulating glass.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503 & NFRC 100): Acoustic (AAMA 1801):	0.06 cfm/ft² @ 6.24 psf 20.0 psf CRF_f of 70 U-Value of 0.42 btu/hr/ft²/°F or less 35 STC, 29 OITC; laminated
YCW 750 IG 2-1/2" x 5-1/4", 6", 6-3/4", or 7-1/2" thermally improved, inside glazed curtain wall system for monolithic and insulating glass.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503 & NFRC 100): Acoustic (ASTM E 90 & ASTM E 1332):	0.06 cfm/ft² @ 6.24 psf 20.0 psf CRF_f of 61 U-Value of 0.49 btu/hr/ft²/°F or less 34 STC, 29 OITC; laminated
YCW 750 XT IG EnerGfacade 2-1/2" x 6", or 7-1/2" thermally broken inside glazed curtain wall system	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 507,1503 & NFRC 100, 102): Acoustic (ASTM E 90 & ASTM E 1332):	0.06 cfm/ft² @ 6.24 psf 20.0 psf CRF_f of 78 U-Value of 0.33 btu/hr/ft²/°F or less STC 31, OITC 25; heat strengthened STC 36, OITC 29; laminated

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CURTAIN WALLS – PRODUCT COMPARISON

YKK AP PRODUCT	EFCO	KAWNEER	OLD CASTLE BUILDING ENVELOPE	US ALUMINUM
YCW 750 SplineTech® Thermally Improved Pressure Wall System	5600 PG	1600 Wall System®5 (Inside Glazed)	Reliance™-SS	Series 3150/3250 (With custom mullions)
YCW 752 Outside Glazed Thermally Improved Pressure Wall System	S-5600 2”	1602 Wall 1620 Curtain Wall System	Reliance™-LT	Series 2200
YCW 752 OGP Outside Glazed Thermally Improved Pressure Wall System	—	1620 Curtain Wall System (Fiberglass pressure plate)	Reliance™-LT (Polyamide)	—
YCU 750 TU Thermally Broken Unitized Curtain Wall System	X-Therm® 8250	—	Reliance Unit Wall™	—
YUW 750 TU Unitized curtain wall system.	X-Therm® 8250	2500 UT Unitwall™	Signature Series Unit Wall	—
YUW 750 XT enerGfacade High performance, unitized curtain wall system.	X-Therm® 8750XD	2500 UT Unitwall™	Signature Series Unit Wall	—
YUW 750 XTH ProTek enerGfacade High performance, impact resistant, unitized curtain wall system.	—	2500 PG Wall™	—	—

CURTAIN WALLS – PRODUCT COMPARISON

YCW 750 SplineTech® 2-1/4" x 5-1/4", 6", 6-3/4", or 7-1/2" Thermally improved screw spline assembled curtain wall system for insulating or monolithic glazing.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503):	0.06 cfm/ft² @ 6.24 psf 15.0 psf CRF_f of 67 U-Value of 0.45 btu/hr/ft²/°F or less
YCW 752 2" wide, thermally improved, outside glazed curtain wall system that offers a reduced sightline.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 507, 1503 & NFRC 100, 102):	0.06 cfm/ft² @ 6.24 psf 15.0 psf CRF_f of 68 U-Value of 0.47 btu/hr/ft²/°F or less
YCW 752 OGP 2" wide, thermally improved, outside glazed curtain wall system that offers a reduced sightline, and a Polyamide Pressure Plate	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503):	0.06 cfm/ft² @ 6.24 psf 15.0 psf CRF_f of 75 U-Value of 0.39 btu/hr/ft²/°F or less
YCU 750 TU enerGfacade 3" x 7-1/2" thermally broken, unitized curtain wall system for monolithic and insulating glass.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503 & NFRC 100): Acoustic (ASTM E 1435):	0.06 cfm/ft² @ 6.24 psf 20.0 psf CRF_f of 71 U-Value of 0.42 btu/hr/ft²/°F or less 33 STC, 27 OITC; tempered 37 STC, 30 OITC; laminated
YUW 750 TU 2-1/2" x 7-1/2" thermally broken, unitized curtain wall system.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503, AAMA 507, & NFRC 100): Acoustic (ASTM E 1435):	0.06 cfm/ft² @ 6.24 psf 20.0 psf CRF_f of 73 for Captured, 72 for SSG U-Value of 0.41 btu/hr/ft²/°F or less for Captured U-Value of 0.41 btu/hr/ft²/°F or less for SSG STC 32 captured (33 SSG), OITC 30 laminated STC 36, OITC 30 annealed
YUW 750 XT enerGfacade 2-1/2" x 6" or 7-1/2" High performance, unitized curtain wall system.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503, AAMA 507, & NFRC 100): Acoustic (ASTM E 1435):	0.06 cfm/ft² @ 6.24 psf 20.0 psf CRF_f of 75, U-Value of 0.41 btu/hr/ft²/°F or less for Captured U-Value of 0.41 btu/hr/ft²/°F or less for SSG STC 37, OITC 30
YUW 750 XTH ProTek enerGfacade 2-1/2" x 6" or 7-1/2" High performance, impact resistant, unitized curtain wall system.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503 & 507, NFRC 100): Acoustic (AAMA 1801):	0.06 cfm/ft² @ 6.24 psf 20.0 psf CRF_f of 75, U-Value of 0.41 btu/hr/ft²/°F or less for 4-Sided Captured U-Value of 0.41 btu/hr/ft²/°F or less for 4-Sided SSG STC 32, OITC 37; Captured STC 33, OITC 38; SSG

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CURTAIN WALLS – PRODUCT COMPARISON

YKK AP PRODUCT	EFCO	KAWNEER	OLD CASTLE BUILDING ENVELOPE	US ALUMINUM
YHC 300 OG ProTek impact resistant and blast mitigating outside glazed curtain wall system	Series 5600 2¼" Impact	1600 Impact (2-1/2" Wide) 1630 SS IR (Screw Spline)	HR-250 StormMax® (Monolithic) HR-251 StormMax® (Insulating)	StormWall™ XL BW6250 (Blast)
YHC 300 SSG ProTek impact resistant and blast mitigating structural silicone glazed curtain wall system	Series 5600 2¼" Impact	1600 Wall System™2	HR-250 StormMax® (Monolithic) HR-251 StormMax® (Insulating)	StormWall™ XL
YHC 300 IG ProTek impact resistant and blast mitigating inside glazed curtain wall system	—	—	—	—

CURTAIN WALLS – PERFORMANCE BY SYSTEM

YHC 300 OG ProTek (55 PSF) (Florida High Velocity Hurricane Zone Approved) 3” x 6-15/16", 7-11/16", 9-3/4" or 10-1/2" impact resistant outside glazed curtain wall system for 1/4” to 9/16” monolithic or 1” to 1-5/16” insulating glass.	Air (ASTM E 283): Water (ASTM E 331): (ASTM E 1886 / 1996, TAS 201 – 203): Thermal (AAMA 1503 & NFRC 102): Acoustic (ASTM E 1425):	0.06 cfm/ft² @ 6.24 psf 20.0 psf ± 55 psf (Small Missile Level A) (Large Missile D) CRF_f of 72 U-Value of 0.43 btu/hr/ft²/°F or less 37 STC, 32 OITC; laminated
YHC 300 OG ProTek (Multiple Level, including E) (Florida High Velocity Hurricane Zone Approved) 3" x 6-15/16", 7-11/16", 9-3/4" or 10-1/2" impact resistant and blast mitigating outside glazed curtain wall system for 1/4" to 9/16" monolithic or 1" to 1-5/16" insulating glass.	Air (ASTM E 283): Water (ASTM E 331): (ASTM E 1886 / 1996, TAS 201 – 203): Thermal (AAMA 1503 & NFRC 102): ASTM E 1425: ASTM F 1642: GSA-TS01:	0.06 cfm/ft² @ 6.24 psf 20.0 psf ± 90 psf (Small Missile Level A) (Large Missile D and E) CRF_f of 72 U-Value of 0.43 btu/hr/ft²/°F or less 37 STC, 32 OITC; laminated 090 SG IGU - Wet Glazed - No Break 090 SG IGU - Dry Glazed - No Break 090 SG IGU - Wet Glazed - Level 1 090 SG IGU - Wet Glazed - Level 1
YHC 300 OG ProTek (Large Missile Impact) (Florida High Velocity Hurricane Zone Approved) 3" x 6-15/16", 7-11/16", 9-3/4" or 10-1/2" impact resistant outside glazed curtain wall system for 1/4” to 9/16” monolithic or 1" to 1-5/16" insulating glass.	Air (ASTM E 283): Water (ASTM E 331): (ASTM E 1886 / 1996, TAS 201 – 203): Thermal (AAMA 1503 & NFRC 102): Acoustic (ASTM E 1425):	0.06 cfm/ft² @ 6.24 psf 20.0 psf ± 130 psf (Large Missile Level D and E) CRF_f of 72 U-Value of 0.43 btu/hr/ft²/°F or less 37 STC, 32 OITC; laminated
YHC 300 SSG ProTek (Florida High Velocity Hurricane Zone Approved) 3" x 7-1/16" or 7-3/4" impact resistant and blast mitigating structural silicone glazed curtain wall system for 1/4" to 9/16" monolithic or 1" to 1-5/16" insulating glass.	Air (ASTM E 283): Water (ASTM E 331): (ASTM E 1886 / 1996, TAS 201 – 203): Thermal (AAMA 1503 & 507: ASTM F 1642: GSA-TS01:	0.06 cfm/ft² @ 6.24 psf 20.0 psf ± 90 psf (Large Missile Level D) U-Value of 0.41 btu/hr/ft²/°F or less Meets UFC 4-010-01 Prescriptive Standard Must be analyzed using dynamic analysis by a blast consultant
YHC 300 IG ProTek (Florida High Velocity Hurricane Zone Approved) 3" x 7-1/16", 7-13/16", or 7-13/16" impact resistant and blast mitigating inside glazed curtain wall system for 1/4" to 9/16" monolithic or 1" to 1-5/16" insulating glass.	Air (ASTM E 283): Water (ASTM E 331): (ASTM E 1886 / 1996, TAS 201 – 203): Thermal (AAMA 1503 & NFRC 102): ASTM F 1642: GSA-TS01:	0.06 cfm/ft² @ 6.24 psf 20.0 psf ± 90 psf (Large and Small Missile) ± 120 psf (Large and Small Missile) CRF_f of 63 U-Value of 0.49 btu/hr/ft²/°F or less Meets UFC 4-010-01 Prescriptive Standard Must be analyzed using dynamic analysis by a blast consultant

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SLOPED GLAZING – PRODUCT COMPARISON

YKK AP PRODUCT	EFCO	KAWNEER	OLD CASTLE BUILDING ENVELOPE	US ALUMINUM
YSK 750 A slope glazed framing sytem design to work with a vertical YCW 750 curtain wall	—	1600 Sloped Glazing 2000 Skylight	BMS 3000	—

SUN CONTROLS – PRODUCT COMPARISON

YKK AP PRODUCT	EFCO	KAWNEER	OLD CASTLE BUILDING ENVELOPE	US ALUMINUM
ThermaShade® enerGfacade 24”, 30”, or 36” projected Cradle to Cradle Certified℠ sunshade system featuring a thermal barrier.	E-Shade™	1600 PowerShade® Versoleil® Sunshade	Solar Eclipse™	Series 3600 Sun Shade
Luminance® enerGfacade 2” struts x 24” or 36” projected light shelf system constructed from high quality aluminum extrusions and a lightweight, rigid honeycomb core panel with a durable melamine surface.	E-Lite™	InLighten® (Light Shelf)	Solar Shelf	Series 7100

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BALCONY DOORS – PRODUCT COMPARISON

YKK AP PRODUCT	EFCO	KAWNEER	OLD CASTLE BUILDING ENVELOPE	US ALUMINUM
YSD 400 Heavy Duty Sliding Glass Door	Series 3000 (3-1/4” Depth)	SR 2105 (5” Depth)	Terra Slide Series 60E	Series 3000 (4-1/2” depth)
YSD 600 T Thermally Broken Architectural Sliding Glass Door	Series 5XPT	AA® 3200	—	—
YSD 600 TH ProTek Thermally Broken Impact Resistant Architectural Sliding Glass Door	Series 5XPT	AA® 3200IR	—	—

BALCONY DOORS – PERFORMANCE BY SYSTEM

YSD 400 4-1/16" deep heavy duty sliding door for 1" insulating glass.	Air (ASTM E 283): Water (ASTM E 331): (ASTM E 1886 / 1996, TAS 201 – 203): Thermal (AAMA 507): Acoustic (AAMA 1801):	0.30 cfm/ft² @ 1.57 psf 9.0 psf (Low SIII) 15.0 psf (High Sill) ± 60 psf U-Value of 0.54 btu/hr/ft²/°F or less 31 STC, 27 OITC; annealed 33 STC, 30 OITC; laminated
YSD 600 T 6" deep thermally broken, architectural sliding door for 1" insulating glass. Available in Standard and Low Sill.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503 & AAMA 507): Acoustic (AAMA 1801):	0.30 cfm/ft² @ 6.24 psf 20.0 psf Std Sill, 12.0 psf Low Sill CRF_f of 43 U-Value of 0.51 btu/hr/ft²/°F or less 33 STC, 30 OITC; laminated
YSD 600 TH ProTek (Florida High Velocity Hurricane Zone Approved) 6" deep thermally broken, impact resistant architectural sliding door for 1" (Small Missile) and 1-3/16" (Large & Small Missile) insulating glass. Available in Standard and Low Sill.	Air (ASTM E 283): Water (ASTM E 331): (ASTM E 1886 / 1996, TAS 201 – 203): Thermal (AAMA 1503 & AAMA 507): Acoustic (AAMA 1801):	0.30 cfm/ft² @ 6.24 psf 18.0 psf Std Sill, 12.0 psf Low Sill ± 120 psf CRF_f of 43 U-Value of 0.51 btu/hr/ft²/°F or less 33 STC, 30 OITC; laminated

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BALCONY DOORS – PRODUCT COMPARISON

YKK AP PRODUCT	EFCO	KAWNEER	OLD CASTLE BUILDING ENVELOPE	US ALUMINUM
YSD 700 Heavy Commercial Sliding Glass Door	Series 5XP	—	—	—
YSD 700 H ProTek Impact Resistant Heavy Commercial Sliding Glass Door	Series 5XP	—	—	—
YTD 350 T Thermally Broken Architectural Terrace Door	Series T350 TerraStile®	2000T	Terra Swing 62E	Series 900
YTD 350 TH ProTek Thermally Broken Impact Resistant Architectural Terrace Door	Series T351 TerraStile®	2000T NX 8900	—	Storm Front Series D900

BALCONY DOORS – PERFORMANCE BY SYSTEM

YSD 700 7" deep thermally broken, heavy commercial sliding door for 1/4" to 3/8" monolithic, and 1" insulating non-impact glass.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503 & AAMA 507): Acoustic (AAMA 1801):	0.30 cfm/ft² @ 6.24 psf 15.0 psf monolithic glass 20.0 psf insulating glass CRF_f of 21 U-Value of 0.61 btu/hr/ft²/°F or less 30 STC, 26 OITC annealed 30 STC, 27 OITC laminated
YSD 700 H ProTek (Florida High Velocity Hurricane Zone Approved) 7" deep thermally broken, impact resistant heavy commercial sliding glass door for 9/16" monolithic (Small & Large Missile), and 1-3/16" insulating (Small & Large Missile) glass.	Air (ASTM E 283): Water (ASTM E 331): (ASTM E 1886 / 1996, TAS 201 – 203): Thermal (AAMA 1503 & AAMA 507): Acoustic (AAMA 1801):	0.30 cfm/ft² @ 6.24 psf 15.0 psf monolithic 20.0 psf insulating glass ±120 psf CRF_f of 21 U-Value of 0.61 btu/hr/ft²/°F or less 30 STC, 26 OITC annealed 30 STC, 27 OITC laminated
YTD 350 T 3-1/2" or 4-1/2" deep high performance thermally broken, architectural terrace door for 1" insulating glass. Available in Standard and Low Threshold.	Air (ASTM E 283): Water (ASTM E 331): Thermal (AAMA 1503): ASTM E 330, AAMA 101: Acoustic (AAMA 1801):	0.10 cfm/ft² @ 6.24 psf 15.0 psf single outswing 12.0 psf single, 8.0 psf inswing pair CRF_f of 56 U-Value of 0.44 btu/hr/ft²/°F or less Outswing; 80 psf single, 65 psf pair Inswing; 60 psf single, 40 psf pair 35 STC, 29 OITC; tempered 38 STC, 32 OITC; laminated
YTD 350 TH ProTek 3-1/2" or 4-1/2" deep high performance thermally broken, impact resistant architectural terrace door for 1" insulating glass. Available in Standard and Low Threshold.	Air (ASTM E 283): Water (ASTM E 331): ASTM E 330, TAS 202): Thermal (AAMA 1503): ASTM E 330, AAMA 101: Acoustic (AAMA 1801):	0.10 cfm/ft² @ 6.24 psf 16.0 psf single outswing 110 psf single up to 3'-6" x 10' 90 psf pair up to 6' x 9' 110 psf pair up to 7' x 8' CRF_f of 56 U-Value of 0.44 btu/hr/ft²/°F or less Outswing; 80 psf single, 65 psf pair Inswing; 60 psf single, 40 psf pair 35 STC, 29 OITC; tempered 38 STC, 32 OITC; laminated

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OPERABLE WINDOWS – PRODUCT COMPARISON

YKK AP PRODUCT	EFCO	KAWNEER	OLD CASTLE BUILDING ENVELOPE	US ALUMINUM
YES SSG Vent Outswing Vent Window for Storefront and Window Wall	WV-410 / 430 Vent	GLASSvent™ (Storefront)	Zero Sightline 2750	Series 7500
YES SSG TU Vent Outswing Vent Window for Storefront and Window Wall with Thermally Broken Sash and Frame.	WV-410 / 430 Vent	GLASSvent™ UT	Zero Sightline 30P	Series 7500
YES SSG TUH Vent ProTek Impact Resistant Outswing Vent Window for Storefront and Window Wall with Thermally Broken Sash and Frame.	—	GLASSvent™ UT	ZS-2750 Project Out StormMax®	IW7600
YOV SSG Outswing Vent for integration into Curtain Wall Framing	875X Wall Vent	GLASSvent™ (Curtain Wall)	ZeroSightline 30P ZeroSightline-HT	Series 7500/7600
YFW 400 TU 4” Deep Thermally Broken Fixed Windows	Series 660 (T)	8410 TL 516/518 Fixed / Ribbon Window	1200 Arctic Fixed	Series 8100
YFW 400 TUH ProTek 4” Deep Thermally Broken, Impact Resistant and Blast Mitigating Fixed Windows	Series 6621	8410 TL	—	Series IW8100

OPERABLE WINDOWS – PERFORMANCE BY SYSTEM

YES SSG Vent Outswing vent window for 1" insulating glass that provides ventilation for storefront applications without adding the obtrusive sight line of a traditional window.	Air (ASTM E 283): Water (ASTM E 331): AAMA/WDMA Rating: Thermal (AAMA 1503 & NFRC 102): Acoustic (ASTM E 90 & ASTM E 1332):	0.10 cfm/ft² @ 1.57 psf 12.0 psf Operable, 15 psf Fixed CW-60 CRF_f of 59 U-Value of 0.43 btu/hr/ft²/°F or less STC: 34 Casement, 28 Project OITC: 27 Casement, 28 Project
YES SSG TU Vent Thermally broken outswing vent window for 1" insulating glass that provides ventilation for storefront applications without adding the obtrusive sight line of a traditional window.	Air (ASTM E 283): Water (ASTM E 331, ASTM E 547): AAMA/WDMA Rating: Thermal (AAMA 1503 & NFRC 102): Acoustic (ASTM E 90 & ASTM E 1332):	0.10 cfm/ft² @ 6.24 psf 12.0 psf Operable, 15 psf Fixed AW-PG-65 CRF_f of 69 U-Value of 0.41 btu/hr/ft²/°F or less 35 STC, 28 OITC
YES SSG TUH Vent ProTek Thermally broken, impact resistant, outswing vent window for 1” insulating glass that provides ventilation for storefront applications without adding the obtrusive sight line of a traditional window.	Air (ASTM E 283): Water (ASTM E 331, ASTM E 547): AAMA/WDMA Rating: (ASTM E 330 / 1996, TAS 202): Thermal (AAMA 1503 & NFRC 102): Acoustic (ASTM E 90 & ASTM E 1332):	0.10 cfm/ft² @ 6.24 psf 15.0 psf Operable, 15 psf Fixed AW-PG-65 ± 70 psf w/ Standard Hardware ± 80 psf w/ Optional Hardware CRF_f of 69 U-Value of 0.41 btu/hr/ft²/°F or less 35 STC, 28 OITC
YOV SSG Thermally broken outswing vent window for 1” insulating glass that provides ventilation for curtain wall applications without adding the obtrusive sight line of a traditional window.	Air (ASTM E 283): Water (ASTM E 331, ASTM E 547): AAMA/WDMA Rating: Thermal (AAMA 1503 & NFRC 102): Acoustic (ASTM E 90 & ASTM E 1332):	0.10 cfm/ft² @ 6.24 psf 12.0 psf Operable, 15 psf Fixed AW-70, AW-100 Project Out w/ VMPL Hardware CRF_f of 69 U-Value of 0.41 btu/hr/ft²/°F or less 35 STC, 28 OITC
YFW 400 TU 4" deep thermally broken fixed window for 1" insulating glass.	Air (ASTM E 283): Water (ASTM E 331): AAMA/WDMA Rating: Thermal (AAMA 1503 & NFRC 100): Acoustic (ASTM E 90 & ASTM E 1332):	0.10 cfm/ft² @ 1.57 psf 15.0 psf AW-PG100-FW CRF_f of 67 U-Value of 0.41 btu/hr/ft²/°F or less 38 STC, 30 OITC
YFW 400 TUH ProTek (Florida High Velocity Hurricane Zone Approved) 4" deep thermally broken, impact resistant and blast mitigating fixed window for 1” insulating glass.	Air (ASTM E 283): Water (ASTM E 331): AAMA/WDMA Rating: (ASTM E 1886 / 1996, TAS 201 – 203): Thermal (AAMA 1503 & NFRC 100): ASTM E 90 & ASTM E 1332: ASTM F 1642: GSA-TS01:	0.10 cfm/ft² @ 1.57 psf 15.0 psf AW-PG100-FW + 90 / -120 psf CRF_f of 67 U-Value of 0.41 btu/hr/ft²/°F or less 38 STC, 30 OITC Wet Glazed-Minimal Hazard Wet Glazed-Level 2

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OPERABLE WINDOWS – PRODUCT COMPARISON

YKK AP PRODUCT	EFCO	KAWNEER	OLD CASTLE BUILDING ENVELOPE	US ALUMINUM
YOW 225 Operable and Fixed Window for Monolithic and Insulating Glass	Series 2600	—	—	Series 7400
YOW 225 H ProTek Impact Resistant Operable and Fixed Window for Monolithic Glass	Series 2600	—	—	—
YOW 225 TU Thermally Broken Operable and Fixed Window for Insulating Glass	Series 511	8225TL	Signature Series 12PL (2-1/2” depth)	Series 7400
YOW 225 TUH ProTek Thermally Broken Operable and Fixed Window for Insulating Glass	Series 2701 Impact (2” depth)	8225TL	—	—
YOW 350 T Thermally Broken Heavy Wall Operable and Fixed Window for Monolithic and Insulating Glass	Series 810-I	NX-300 Series (3-1/4” depth)	—	—

OPERABLE WINDOWS – PERFORMANCE BY SYSTEM

YOW 225 2-1/4” deep operable and fixed window system for 1/4” monolithic, and 1” insulating glass.	AAMA/WDMA Rating: Thermal (AAMA 1503 & NFRC 100): Acoustic (ASTM E 90 & ASTM E 1332):	AW-65 Operable, AW-100 Fixed CRF_f of 30 U-Value of 0.47 btu/hr/ft²/°F or less 32 STC, 26 OITC 1" IGU annealed
YOW 225 H ProTek (Florida High Velocity Hurricane Zone Approved) 2-1/4" deep impact resistant operable and fixed window system for 9/16" monolithic glass.	Air (ASTM E 283): Water (ASTM E 331): AAMA/WDMA Rating: (ASTM E 1886 / 1996, TAS 201 – 203): Acoustic (ASTM E 90 & ASTM E 1332):	0.10 cfm/ft² @ 1.57 psf 12.0 psf Operable, 15 psf Fixed AW-65 Operable AW-100 Fixed ± 65 psf Operable + 70 / -90 psf Fixed (Large Missile) ± 100 psf Fixed (Small Missile) 32 STC, 26 OITC
YOW 225 TU 2-1/4" deep thermally broken operable and fixed window system for 1" insulating glass.	Air (ASTM E 283): Water (ASTM E 331): AAMA/WDMA Rating: Thermal (AAMA 1503 & NFRC 100): Acoustic (ASTM E 90 & ASTM E 1332):	0.10 cfm/ft² @ 6.24 psf 12.0 psf Operable, 15 psf Fixed AW-65 Operable AW-100 Fixed CRF_f of 55 Operable, 57 Fixed U-Value of 0.52 btu/hr/ft²/°F or less (Operable) U-Value of 0.39 btu/hr/ft²/°F or less (Fixed) 34 STC, 27 OITC Operable 32 STC, 27 OITC Fixed
YOW 225 TUH ProTek (Florida High Velocity Hurricane Zone Approved) 2-1/4" deep impact resistant and blast mitigating thermally broken operable and fixed window system for 1" insulating glass.	Air (ASTM E 283): Water (ASTM E 331): AAMA/WDMA Rating: (ASTM E 1886 / 1996, TAS 201 – 203): Thermal (AAMA 1503 & NFRC 102): Acoustic (ASTM E 90 & ASTM E 1332): ASTM F 1642: GSA-TS01:	0.10 cfm/ft² @ 6.24 psf 12.0 psf Operable, 15 psf Fixed AW-65 Operable AW-100 Fixed ± 65 psf Operable + 70 / -90 psf Fixed (Large Missile) ± 100 psf Fixed (Small Missile) CRF_f of 55 Operable, 57 Fixed U-Value of 0.52 btu/hr/ft²/°F or less (Operable) U-Value of 0.39 btu/hr/ft²/°F or less (Fixed) 34 STC, 27 OITC (Operable) 32 STC, 27 OITC (Fixed) Wet or Dry Glazed-Low Hazard Wet or Dry Glazed-Level 3B
YOW 350 T 3-1/2" deep thermally broken, heavy wall window for 1/4" monolithic or 1" insulating glass, with standard or triple glazing options.	Air (ASTM E 283): Water (ASTM E 331): AAMA/WDMA Rating: Thermal (AAMA 1503 & NFRC 102):	0.10 cfm/ft² @ 6.24 psf 12.0 psf Operable, 15 psf Fixed AW-80 Operable AW-100 Fixed CRF_f of 50 Operable, 63 Fixed Standard Glazing U-Value of 0.53 btu/hr/ft²/°F or less (Casement) U-Value of 0.53 btu/hr/ft²/°F or less (Project) U-Value of 0.37 btu/hr/ft²/°F or less (Fixed) Triple Glazing U-Value of 0.45 btu/hr/ft²/°F or less (Casement) U-Value of 0.44 btu/hr/ft²/°F or less (Project) U-Value of 0.32 btu/hr/ft²/°F or less (Fixed)

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OPERABLE WINDOWS – PRODUCT COMPARISON

YKK AP PRODUCT	EFCO	KAWNEER	OLD CASTLE BUILDING ENVELOPE	US ALUMINUM
YOW 350 TU Thermally Broken Operable and Fixed Window for Insulating Glass	—	—	Signature Series 14PL	—
YOW 350 TUH ProTek Thermally Broken, Impact Rated Operable and Fixed Window for Insulating Glass	Series 811-I Impact	NX-3500 (3-1/4" depth)	—	—
YOW 350 XT EnerGfacade Thermally Broken Operable and Fixed Window for Insulating Glass	325G/X XTherm™ (3-1/4" Depth)	NX-3100 NX-3200 NX-3400 NX-3500 NX-3800 (All 3-1/4" depth)	Signature Series 3375 (3-3/8" depth)	—
YPI 1500 Interior Secondary Access Panel	—	—	Access Panel 41N	—

OPERABLE WINDOWS – PERFORMANCE BY SYSTEM

YOW 350 TU 3-1/2” deep thermally broken operable and fixed window system for 1” insulating glass.	Air (ASTM E 283): Water (ASTM E 331): AAMA/WDMA Rating: Thermal (AAMA 507, 1503 & NFRC 100): Acoustic (AAMA 1801):	0.10 cfm/ft² @ 6.24 psf 12.0 psf Operable, 16 psf Fixed AW-65 Operable AW-100 Fixed CRF_f of 58 Operable, 65 Fixed U-Value of 0.51 btu/hr/ft²/°F or less (Operable) U-Value of 0.36 btu/hr/ft²/°F or less (Fixed) 32 STC, 26 OITC Operable 31 STC, 26 OITC Fixed
YOW 350 TUH ProTek 3-1/2” deep impact resistant and blast mitigating thermally broken operable and fixed window system for 1” insulating glass.	Air (ASTM E 283): Water (ASTM E 331): AAMA/WDMA Rating: (ASTM E 1886 / 1996, TAS 201 – 203): Thermal (1503 & NFRC 102) Acoustic (AAMA 1801): ASTM F 1642: GSA-TS01:	0.10 cfm/ft² @ 6.24 psf 12.0 psf Operable, 15 psf Fixed AW-65 Operable AW-100 Fixed ± 65 psf Operable + 70 / -90 psf Fixed (Large Missile) ± 100 psf Fixed (Small Missile) CRF_f of 55 Operable, 57 Fixed U-Value of 0.52 btu/hr/ft²/°F or less (Operable) U-Value of 0.39 btu/hr/ft²/°F or less (Fixed) 34 STC, 27 OITC (Operable) 32 STC, 27 OITC (Fixed) Wet or Dry Glazed-Low Hazard Wet or Dry Glazed-Level 3B
YOW 350 XT enerGfacade 3-1/2” deep “Best in Class Performance” thermally broken, state of the art energy performance window for 1” insulating glass.	Air (ASTM E 283): Water (ASTM E 331): AAMA/WDMA Rating: Thermal (AAMA 1503 & NFRC 100): Acoustic (ASTM E 90 & ASTM E 1332):	0.10 cfm/ft² @ 6.24 psf 12.0 psf Operable, 15 psf Fixed AW-80 Operable AW-100 Fixed CRF_f of 68 U-Value of 0.35 btu/hr/ft²/°F or less (Operable) U-Value of 0.34 btu/hr/ft²/°F or less (Fixed) 34 STC, 27 OITC Operable 32 STC, 27 OITC Fixed
YPI 1500 Interior secondary access panel that can be integrated into most new and retrofit storefront, window wall, and curtain wall systems.	Acoustic (AAMA 1801):	32 STC, 26 OITC

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OPERABLE WINDOWS – PRODUCT COMPARISON

YKK AP PRODUCT	EFCO	KAWNEER	OLD CASTLE BUILDING ENVELOPE	US ALUMINUM
YSW 400 T Thermally Broken Sliding Window for Monolithic and Insulating Glass	Series 6551 (TS)	8470TL Non-Impact	—	8200 (4-1/2” Depth)
YVS 400 TU Thermally Broken Single and Double Hung Window for Insulating Glass	Series 680/690	8430TL Non-Impact	5100 4-Track Vertical Hung	Series 8000
YVS 410 TU Thermally Broken Single and Double Hung Window for Insulating Glass	Series 670-675	8450TL Non-Impact	5100 4-Track Vertical Hung	Series 8000
YVS 410 TUH ProTek Thermally Broken Impact Resistant Single and Double Hung Window for Insulating Glass	Series 663 Impact Grade	8450TL	—	Series IW8000

OPERABLE WINDOWS – PERFORMANCE BY SYSTEM

YSW 400 T 4" deep thermally broken horizontal sliding window for 1" insulating glass.	Air (ASTM E 283): Water (ASTM E 331): AAMA/WDMA Rating: Thermal (AAMA 1503 & NFRC 102): Acoustic (ASTM E 90 & ASTM E 1332):	0.30 cfm/ft² @ 1.57 psf 9.0 psf HS-AW-40 CRF_f of 55 U-Value of 0.50 btu/hr/ft²/°F 33 STC, 28 OITC
YVS 400 TU 4" deep thermally broken single or double hung tilt-in window for 1" insulating glass.	Air (ASTM E 283): Water (ASTM E 331): AAMA/NAFS 101 Rating: Thermal (AAMA 1503 & NFRC 102): Acoustic (ASTM E 90 & ASTM E 1332):	0.30 cfm/ft² @ 6.24 psf 10.0 psf AW-50 CRF_f of 51 Single Hung, 53 Double Hung U-Value of 0.50 btu/hr/ft²/°F or less (Single) U-Value of 0.53 btu/hr/ft²/°F or less (Double) 30 STC, 23 OITC Single Hung 31 STC, 24 OITC Double Hung
YVS 410 TU 4" deep thermally broken single or double hung side-loaded window for 1" insulating glass.	Air (ASTM E 283): Water (ASTM E 331): AAMA/NAFS 101 Rating: Thermal (AAMA 1503 & NFRC 102): Acoustic (ASTM E 90 & ASTM E 1332):	0.30 cfm/ft² @ 6.24 psf 12.0 psf Operable, 15 psf Fixed AW-65 CRF_f of 51 Single Hung, 53 Double Hung U-Value of 0.50 btu/hr/ft²/°F or less (Single) U-Value of 0.53 btu/hr/ft²/°F or less (Double) 30 STC, 23 OITC Single Hung 31 STC, 24 OITC Double Hung
YVS 410 TUH ProTek (Florida High Velocity Hurricane Zone Approved) 4" deep thermally broken, impact resistant and blast mitigating single or double hung side-loaded window for 1" insulating glass.	Air (ASTM E 283): Water (ASTM E 331): AAMA/WDMA Rating: (ASTM E 1886 / 1996, TAS 201 – 203): Thermal (AAMA 1503 & NFRC 102): Acoustic (ASTM E 90 & ASTM E 1332): ASTM F 1642: GSA-TS01:	0.30 cfm/ft² @ 6.24 psf 12.0 psf Operable, 15 psf Fixed AW-65 + 80 / -120 psf CRF_f of 54 U-Value of 0.49 btu/hr/ft²/°F or less 36 STC, 22 OITC Wet Glazed-Minimal Hazard Wet Glazed- Level 3b

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