

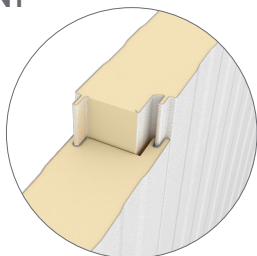
MESA

Insulated Metal Panel

TC Mesa is the panel of choice for use as exterior walls, interior partitions, and ceilings in applications where energy efficiency is paramount. Ideal for the construction of temperature-controlled, industrial, and commercial buildings, TC Mesa is used in the distribution, processing, manufacturing, pharmaceutical, automotive, and aviation markets.

Trust TrueCore's Mesa, produced using veteran knowledge and experience for the industry's best contractors.

SIDE JOINT



PANEL PROFILE AND CROSS SECTION



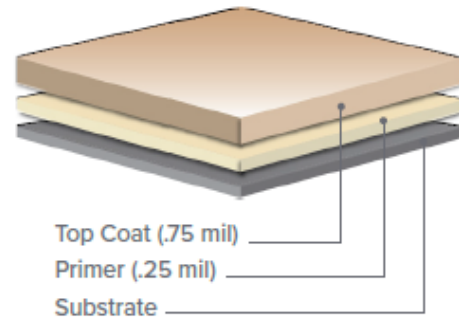
EXTERIOR AND INTERIOR PROFILE & TEXTURE	Mesa profile with non-directional stucco embossing or smooth surface texture
EXTERIOR FACINGS	26, 24, 22 Ga. G-90 galvanized or AZ50 aluminum coated steel
INTERIOR FACINGS	26, 24, 22 Ga. G-90 galvanized or AZ50 aluminum coated steel 26, 24 Ga. 304L and 316L stainless steel with 2B finish
EXTERIOR COATINGS	Siliconized Polyester (SMP) Fluoropolymer (PVDF) Flurothane* II, IV, V
INTERIOR COATINGS	Polyester Siliconized Polyester (SMP) Fluoropolymer (PVDF) Flurothane* II, IV, V PVC Plastisol
WIDTH	44", 40"
LENGTH	8'-0" to 53'-0" standard <i>Contact TrueCore for information and pricing on longer lengths.</i>
THICKNESS	2", 3", 4", 5", 6", 8"
CORE	Foamed-in-place Class 1 rated polyisocyanurate
JOINT	Double Tongue and Groove for concealed fastening
R-VALUE	R-8 per inch of thickness (nominal)

**Flurothane is a registered trademark of The Sherwin-Williams Company*

STANDARD COLORS

TrueCore's color and coating systems are powered by Valspar and optimized for durable performance and reflectivity efficiency in the cold storage and industrial markets. Custom colors and premium-level coatings are also available, just contact us for more information on non-standard options.

Polyester Coating System



valspar PROUDLY FINISHED WITH
SNERVIN-WILLIAMS
 Coil Coatings



IGLOO WHITE*



DESTIN WHITE



POLAR WHITE



SANDSTONE



SURREY BEIGE



REGAL GRAY

	Polyester (USDA Poly)	Siliconized Polyester (SMP)	Fluoropolymer (PVDF)
IGLOO WHITE*	●		
DESTIN WHITE		●	
POLAR WHITE			●
SANDSTONE		●	●
SURREY BEIGE		●	●
REGAL GRAY		●	●

* Igloo White is United States Department of Agriculture (USDA) compliant

* Igloo White is the standard interior color for all panels

SECTION 042200

CONCRETE UNIT MASONRY

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
1. Standard concrete masonry units.
 2. Architectural concrete masonry units of the following types:
 - a. Ground face.
 - b. Polished face.
 - c. Weathered polished.
 - d. Split face.
 - e. Smooth face.
 - f. Fluted.
 - g. Prism.
 - h. Acoustical.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. USGBC LEED Submittals:
1. Recycled Content, Product Certificates for Credit MR 4: Indicating percentages by weight of postconsumer and preconsumer recycled content for products having recycled content. Include statement indicating costs for each product having recycled content.
 2. USGBC LEED Submittals, Regional Materials, Product Certificates for Credit MR 5: For materials which may contribute to this credit, Indicating location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include statement indicating cost for each regional material and the fraction by weight that is considered regional.
- C. Samples for Verification: Submit the following:
1. Four representative samples of the masonry units showing the range of color, texture, dimension and any scoring, similar treatment.
 2. Pigmented mortar. Make Samples using same sand and mortar ingredients to be used on Project. Label Samples to indicate types and amounts of pigments used.
 3. Weep holes/vents.
 4. Accessories embedded in masonry.

1.3 QUALITY ASSURANCE

- A. Source Limitations for Masonry Units: Obtain all concrete masonry units through one source from a single manufacturer for each product required.

- B. Fire-Resistance Ratings: Where indicated, provide materials and construction identical to those of assemblies with fire-resistance ratings determined per ASTM E 119 by a testing and inspecting agency, by equivalent concrete masonry thickness, or by other means, as acceptable to authorities having jurisdiction.
- C. Sample Panels: Build sample panels to verify selections made under sample submittals and to demonstrate aesthetic effects. Comply with requirements in Division 01 for mockups.
 - 1. Build sample panels for typical exterior and interior walls in sizes approximately 72 inches long by 48 inches high by full thickness.
 - 2. Where masonry is to match existing, erect panels adjacent and parallel to existing surface.
 - 3. Clean one-half of exposed faces of panels with masonry cleaner indicated.
 - 4. Protect approved sample panels from the elements with weather-resistant membrane.
 - 5. Sample panels shall remain in place until removal is authorized by Owner or Architect.
 - 6. Approval of sample panels is for quality, color, texture, and blending of masonry units; relationship of mortar and sealant colors to masonry unit colors; tooling of joints; aesthetic qualities of workmanship; clean down; and other material and construction qualities specifically approved by Architect in writing.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver concrete masonry units to the job site on manufacturer's standard pallets. Deliver ground face, polished and weathered polished units with heat shrink plastic covering and with non-staining protection cushion between faces.
- B. Store masonry units on elevated platforms in a dry location. Do not double stack. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied daily. If units become wet, do not install until they are dry.

1.5 PROJECT CONDITIONS

- A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.
 - 1. Extend cover a minimum of 24 inches down both sides and hold cover securely in place.
 - 2. Where 1 wythe of multiwythe masonry walls is completed in advance of other wythes, secure cover a minimum of 24 inches down face next to unconstructed wythe and hold cover in place.
- B. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.
 - 1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
 - 2. Protect sills, ledges, and projections from mortar droppings.
 - 3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
 - 4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.

- C. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
 - 1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and above and will remain so until masonry has dried, but not less than 7 days after completing cleaning.
- D. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

PART 2 - PRODUCTS

2.1 STANDARD CONCRETE MASONRY UNITS

A. Standard Concrete Masonry Units:

- 1. Manufacturer: A. Jandris & Sons, 202 High Street, Gardner, MA 01440. Tel. 978-632-0089. Fax: 978-632-6065. www.ajandris.com
- 2. Shapes and Sizes: As indicated on the Drawings, selected from manufacturer's standard and custom shapes and sizes.
- 3. Sustainable Design: Normal weight units with 40% recycled SCM's (supplementary cementitious materials), medium weight units with 40% recycled SCM's and up to 20% recycled post-industrial aggregate replacement, light weight units with 40% recycled SCM's and up to 50% recycled post-industrial aggregate replacement.
- 4. Integral Water Repellent Coating For Exterior Units Exposed to the Weather: Rheopel by BASF Construction Chemicals.
- 5. Integral Insulation at Single Wythe Exterior Walls: Manufacturer's standard Korfil or Icon inserts.

B. Manufacturing Requirements:

- 1. Type: Normal Weight, Medium Weight and Light Weight as required.
- 2. Hollow and Solid Load-Bearing Units: ASTM C 90.
- 3. Normal Weight Aggregates: ASTM C 33.
- 4. Light Weight Aggregates: ASTM C 331.
- 5. Portland Cements: ASTM C 150.
- 6. Compressive Strength: ASTM C140, 1900 minimum on the net area.

2.2 ARCHITECTURAL CONCRETE MASONRY UNITS

A. Ground Face Concrete Masonry Units:

- 1. Manufacturer: A. Jandris & Sons, 202 High Street, Gardner, MA 01440. Tel. 978-632-0089. Fax: 978-632-6065. www.ajandris.com
- 2. Type and Color: As selected by Architect from manufacturer's full range of types and colors.
- 3. Type and Color: 500 Series, colors as selected by Architect.
- 4. Type and Color: 2500 Series, colors as selected by Architect.
- 5. Type and Color: 9300 Series, colors as selected by Architect.
- 6. Type and Color: Plymouth Series, colors as selected by Architect.

7. Shapes and Sizes: As indicated on the Drawings, selected from manufacturer's standard and custom shapes and sizes.
8. Sustainable Design: Sustainablock with recycled content, percentage as standard with manufacturer.
9. Integral Water Repellent For Exterior Units Exposed to the Weather: Manufacturer's standard product.
10. Integral Insulation at Single Wythe Exterior Walls: Manufacturer's standard Korfil or Icon inserts.
11. Factory Coating: Manufacturer's standard protective coating.

B. Polished Series Concrete Masonry Units:

1. Manufacturer: A. Jandris & Sons, 202 High Street, Gardner, MA 01440. Tel. 978-632-0089. Fax: 978-632-6065. www.ajandris.com
2. Type and Color: As selected by Architect from manufacturer's full range of types and colors.
3. Shapes and Sizes: As indicated on the Drawings, selected from manufacturer's standard and custom shapes and sizes.
4. Sustainable Design: Sustainablock with recycled content, percentage as standard with manufacturer.
5. Integral Water Repellent For Exterior Units Exposed to the Weather: Manufacturer's standard product.
6. Integral Insulation at Single Wythe Exterior Walls: Manufacturer's standard Korfil or Icon inserts.

C. Weathered Polished Series Concrete Masonry Units:

1. Manufacturer: A. Jandris & Sons, 202 High Street, Gardner, MA 01440. Tel. 978-632-0089. Fax: 978-632-6065. www.ajandris.com
2. Type and Color: As selected by Architect from manufacturer's full range of types and colors.
3. Shapes and Sizes: As indicated on the Drawings, selected from manufacturer's standard and custom shapes and sizes.
4. Sustainable Design: Sustainablock with recycled content, percentage as standard with manufacturer.
5. Integral Water Repellent For Exterior Units Exposed to the Weather: Manufacturer's standard product.
6. Integral Insulation at Single Wythe Exterior Walls: Manufacturer's standard Korfil or Icon inserts.

D. Split Face Concrete Masonry Units:

1. Manufacturer: A. Jandris & Sons, 202 High Street, Gardner, MA 01440. Tel. 978-632-0089. Fax: 978-632-6065. www.ajandris.com
2. Face: As selected by Architect from manufacturer's full range of types.
3. Face: Standard split face.
4. Face: Single-score split face.
5. Face: Seven groove eight rib split face.
6. Face: Three groove four rib split face.
7. Face: One groove two rib split face.
8. Face: Four rib split face.
9. Color: As selected by Architect from manufacturer's full range of colors.
10. Color: LT Series, colors as selected by Architect.
11. Color: DK Series, colors as selected by Architect.
12. Color: W Series, colors as selected by Architect.

13. Color: B Series, colors as selected by Architect.
14. Shapes and Sizes: As indicated on the Drawings, selected from manufacturer's standard and custom shapes and sizes.
15. Sustainable Design: Sustainablock with recycled content, percentage as standard with manufacturer.
16. Integral Water Repellent For Exterior Units Exposed to the Weather: Manufacturer's standard product.
17. Integral Insulation at Single Wythe Exterior Walls: Manufacturer's standard Korfil or Icon inserts.

E. Smooth Face Concrete Masonry Units:

1. Manufacturer: A. Jandris & Sons, 202 High Street, Gardner, MA 01440. Tel. 978-632-0089. Fax: 978-632-6065. www.ajandris.com
2. Face: As selected by Architect from manufacturer's full range of types.
3. Face: Smooth face.
4. Face: Smooth face center score.
5. Color: As selected by Architect from manufacturer's full range of colors.
6. Color: LT Series, colors as selected by Architect.
7. Color: DK Series, colors as selected by Architect.
8. Color: W Series, colors as selected by Architect.
9. Shapes and Sizes: As indicated on the Drawings, selected from manufacturer's standard and custom shapes and sizes.
10. Sustainable Design: Sustainablock with recycled content, percentage as standard with manufacturer.
11. Integral Water Repellent For Exterior Units Exposed to the Weather: Manufacturer's standard product.
12. Integral Insulation at Single Wythe Exterior Walls: Manufacturer's standard Korfil or Icon inserts.

F. Fluted Concrete Masonry Units:

1. Manufacturer: A. Jandris & Sons, 202 High Street, Gardner, MA 01440. Tel. 978-632-0089. Fax: 978-632-6065. www.ajandris.com
2. Face: Rounded fluted face.
3. Color: As selected by Architect from manufacturer's full range of colors.
4. Shapes and Sizes: As indicated on the Drawings, selected from manufacturer's standard and custom shapes and sizes.
5. Sustainable Design: Sustainablock with recycled content, percentage as standard with manufacturer.
6. Integral Water Repellent Coating For Exterior Units Exposed to the Weather: Rheopel by BASF Construction Chemicals.
7. Integral Insulation at Single Wythe Exterior Walls: Manufacturer's standard Korfil or Icon inserts.

G. Prism Concrete Masonry Units:

1. Manufacturer: A. Jandris & Sons, 202 High Street, Gardner, MA 01440. Tel. 978-632-0089. Fax: 978-632-6065. www.ajandris.com
2. Face: Prism face face.
3. Color: As selected by Architect from manufacturer's full range of colors.
4. Shapes and Sizes: As indicated on the Drawings, selected from manufacturer's standard and custom shapes and sizes.
5. Sustainable Design: Sustainablock with recycled content, percentage as standard with manufacturer.

6. Integral Water Repellent Coating For Exterior Units Exposed to the Weather: Rheopel by BASF Construction Chemicals.
7. Integral Insulation at Single Wythe Exterior Walls: Manufacturer's standard Korfil or Icon inserts.

H. Acoustical Concrete Masonry Units:

1. Manufacturer: A. Jandris & Sons, 202 High Street, Gardner, MA 01440. Tel. 978-632-0089. Fax: 978-632-6065. www.ajandris.com
2. Type: Soundblox.
3. Type: Soundcells.
4. Shapes and Sizes: As indicated on the Drawings, selected from manufacturer's standard and custom shapes and sizes.
5. Sustainable Design: Sustainablock with recycled content, percentage as standard with manufacturer.

I. Manufacturing Requirements:

1. Type: Normal Weight, Medium Weight and Light Weight as required by mix design/color choice.
2. Hollow and Solid Load-Bearing Units: ASTM C 90.
3. Normal Weight Aggregates: ASTM C 33.
4. Light Weight Aggregates: ASTM C 331.
5. Portland Cements: ASTM C 150.
6. Compressive Strength: ASTM C140, 3500 psi minimum on the net area.

PART 3 - EXECUTION

3.1 MASONRY CLEANERS

- A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.

3.2 EXAMINATION

- A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
 1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.
 2. Verify that foundations are within tolerances specified.
- B. Before installation, examine rough-in and built-in construction for piping systems to verify actual locations of piping connections.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 INSTALLATION

- A. Comply with PCA Recommended Practices for Laying Concrete Block, NCMA TEK Bulletins and with the following requirements.

- B. Thickness: Build cavity and composite walls and other masonry construction to full thickness shown. Build single-wythe walls to actual widths of masonry units, using units of widths indicated.
- C. Build chases and recesses to accommodate items specified in this and other Sections.
- D. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match the construction immediately adjacent to opening.
- E. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed. Do not use units cut to less than one-half size.
- F. Do not install concrete masonry units with more than 5 percent damage to the face.
- G. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures. Mix units from several pallets or cubes as they are placed.
- H. Matching Existing Masonry: Match coursing, bonding, color, and texture of existing masonry.
- I. Comply with construction tolerances in ACI 530.1/ASCE 6/TMS 602 and with the following:
 - 1. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
 - 2. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet, or 1/2 inch maximum.
 - 3. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
 - 4. For exposed bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch. Do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.
 - 5. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch. Do not vary from adjacent bed-joint and head-joint thicknesses by more than 1/8 inch.
 - 6. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch except due to warpage of masonry units within tolerances specified for warpage of units.

3.4 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.
- B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in bond pattern indicated on Drawings; do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs. Prior to installation review bond pattern with Architect.

- C. Stopping and Resuming Work: Stop work by racking back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar and remove loose masonry units and mortar.
- D. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.
- E. Fill space between steel frames and masonry solidly with mortar, unless otherwise indicated.
- F. Fill cores in hollow concrete masonry units with grout 24 inches under bearing plates, beams, lintels, posts, and similar items, unless otherwise indicated.
- G. Build non-load-bearing interior partitions full height of story to underside of solid floor or roof structure above, unless otherwise indicated.
 - 1. Install compressible filler in joint between top of partition and underside of structure above.
 - 2. Fasten partition top anchors to structure above and build into top of partition. Grout cells of CMUs solidly around plastic tubes of anchors and push tubes down into grout to provide 1/2-inch clearance between end of anchor rod and end of tube. Space anchors 48 inches o.c., unless otherwise indicated.
 - 3. Wedge non-load-bearing partitions against structure above with small pieces of tile, slate, or metal. Fill joint with mortar after dead-load deflection of structure above approaches final position.
 - 4. At fire-rated partitions, treat joint between top of partition and underside of structure above to comply with Section 078440 – FIRE-RESISTIVE JOINT SYSTEMS.

3.5 MASONRY JOINT REINFORCEMENT

- A. Install Joint reinforcement in accordance with NCMA TEK 12-2, *Joint Reinforcement for Concrete Masonry*.
- B. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches. Space reinforcement not more than 16 inches o.c.
- C. Interrupt joint reinforcement at control and expansion joints, unless otherwise indicated.
- D. Provide continuity at wall intersections by using prefabricated T-shaped units.
- E. Provide continuity at corners by using prefabricated L-shaped units.

3.6 CONTROL AND EXPANSION JOINTS

- A. Install control joints in accordance with NCMA TEK 10-2, *Control Joints for Concrete Masonry Walls*, NCMA TEK 10-3, *Control Joints For Concrete Masonry Walls - Alternative Engineered Method*, and NCMA TEK 10-4, *Crack Control For Concrete Brick and other Concrete Masonry Veneers*.
- B. General: Install control and expansion joint materials in unit masonry as masonry progresses. Do not allow materials to span control and expansion joints without provision to allow for in-plane wall or partition movement.
- C. Form control joints in concrete masonry using one of the following methods:

1. Fit bond-breaker strips into hollow contour in ends of concrete masonry units on one side of control joint. Fill resultant core with grout and rake out joints in exposed faces for application of sealant.
2. Install preformed control-joint gaskets designed to fit standard sash block.
3. Install interlocking units designed for control joints. Install bond-breaker strips at joint. Keep head joints free and clear of mortar or rake out joint for application of sealant.
4. Install temporary foam-plastic filler in head joints and remove filler when unit masonry is complete for application of sealant.

3.7 FLASHING, WEEP HOLES, CAVITY DRAINAGE, AND VENTS

- A. Install Flashing in accordance with NCMA TEK 19-04, *Flashing Strategies for Concrete Masonry Walls*, and NCMA TEK 19-05, *Flashing Details for Concrete Masonry Walls*.
- B. General: Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated.
- C. Install flashing as follows, unless otherwise indicated:
 1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.
 2. At multiwythe masonry walls, including cavity walls, extend flashing through outer wythe, turned up a minimum of 8 inches, and 1-1/2 inches into the inner wythe. Form 1/4-inch hook in edge of flashing embedded in inner wythe.
 3. At masonry-veneer walls, extend flashing through veneer, across air space behind veneer, and up face of sheathing at least 8 inches; with upper edge covered with elastomeric membrane, lapping at least 4 inches.
 4. At lintels and shelf angles, extend flashing a minimum of 6 inches into masonry at each end. At heads and sills, extend flashing 6 inches at ends and turn up not less than 2 inches to form end dams.
 5. Install air barrier transition strips to seal embedded flashings in masonry to air barrier membrane in accordance with Section 072700 – AIR BARRIERS.
- D. Install reglets and nailers for flashing and other related construction where they are shown to be built into masonry.
- E. Install metal drip edge plate in accordance with architectural details and manufacturer's requirements.
- F. Install weep holes in head joints in exterior wythes of first course of masonry immediately above embedded flashing and as follows:
 1. Use specified weep/vent products to form weep holes.
 2. Space weep holes 24 inches o.c., unless otherwise indicated.
- G. Place cavity drainage material in cavities to comply with configuration requirements for cavity drainage material in Part 2 "Miscellaneous Masonry Accessories" Article.
- H. Install vents in head joints in exterior wythes at spacing indicated.

3.8 CLEANING

- A. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- B. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
 - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 - 2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
 - 3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
 - 4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
 - 5. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A, *Removal of Stains from Concrete Masonry*, applicable to type of stain on exposed surfaces, and NCMA TEK 8-04: *Cleaning Concrete Masonry*.

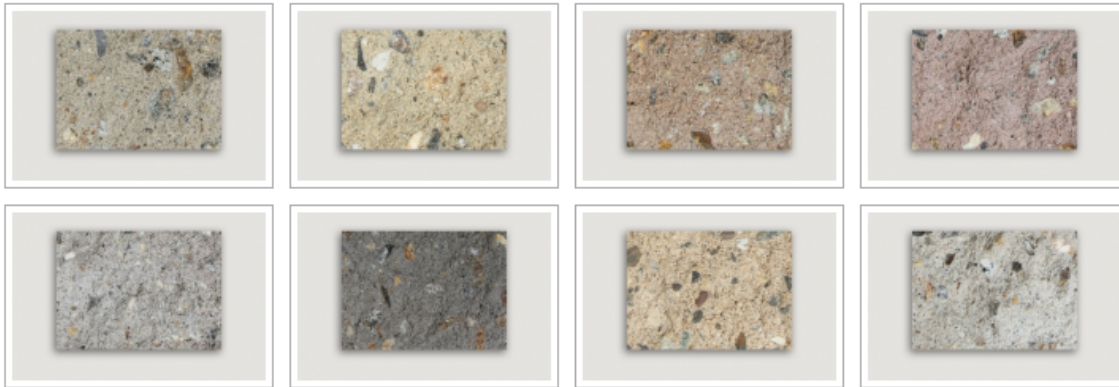
3.9 MASONRY WASTE DISPOSAL

- A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.
- B. Masonry Waste: Remove masonry waste and legally dispose of off the Site.

END OF SECTION

REV 3/14

LT Series



DK Series



W Series



B Series



PLYFOAM® II

COOLER AND FREEZER DOORS

- *White Metal Clad Finish*
- *Five Year Warranty*



Cooler Door Shown
Right Hand Swing

COOLER DOOR SPECIFICATIONS:

Supply where indicated on plans Jamison Plyfoam® II Cooler Door.

Door panel to be constructed of #26 gauge white pre-painted stucco embossed steel pans front and back with reinforcement for hardware attachment.

Casing frame metal clad on all exposed surfaces with #26 gauge white pre-painted stucco embossed steel.

Door to be filled with 4" of Jamifoam non-CFC polyurethane insulation with an R value of 28 at 40° F.

Gasket at sides and head of door lip to be grease resistant synthetic skin with resilient sponge core, sill gasket to be sweep type.

Hardware to have protective coating against corrosion and to consist of self-rising hinges and safety release type fastener. (Permits door to be opened from inside even though padlocked on front).

FREEZER DOOR SPECIFICATIONS:

Freezer door specifications to be same as cooler door except for these substitutions and additions:

Supply where indicated on plans Jamison Plyfoam® II Freezer Door.

All metal cladding on warm side of door (front-unless otherwise specified) and frame

to be applied with all seams and penetrating bolts sealed.

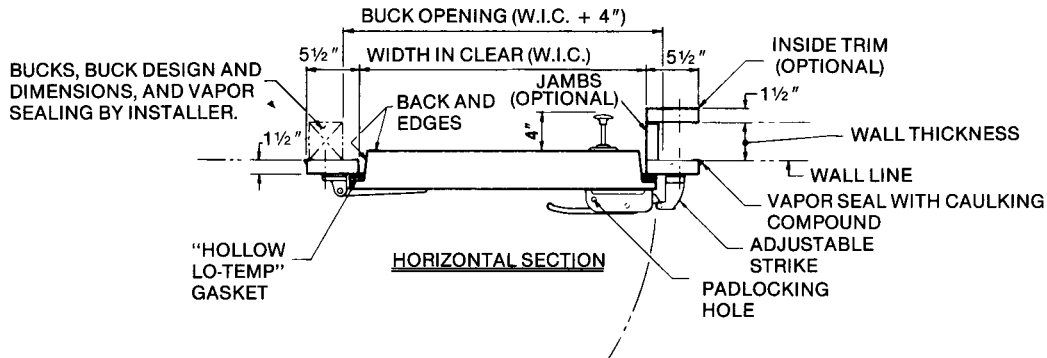
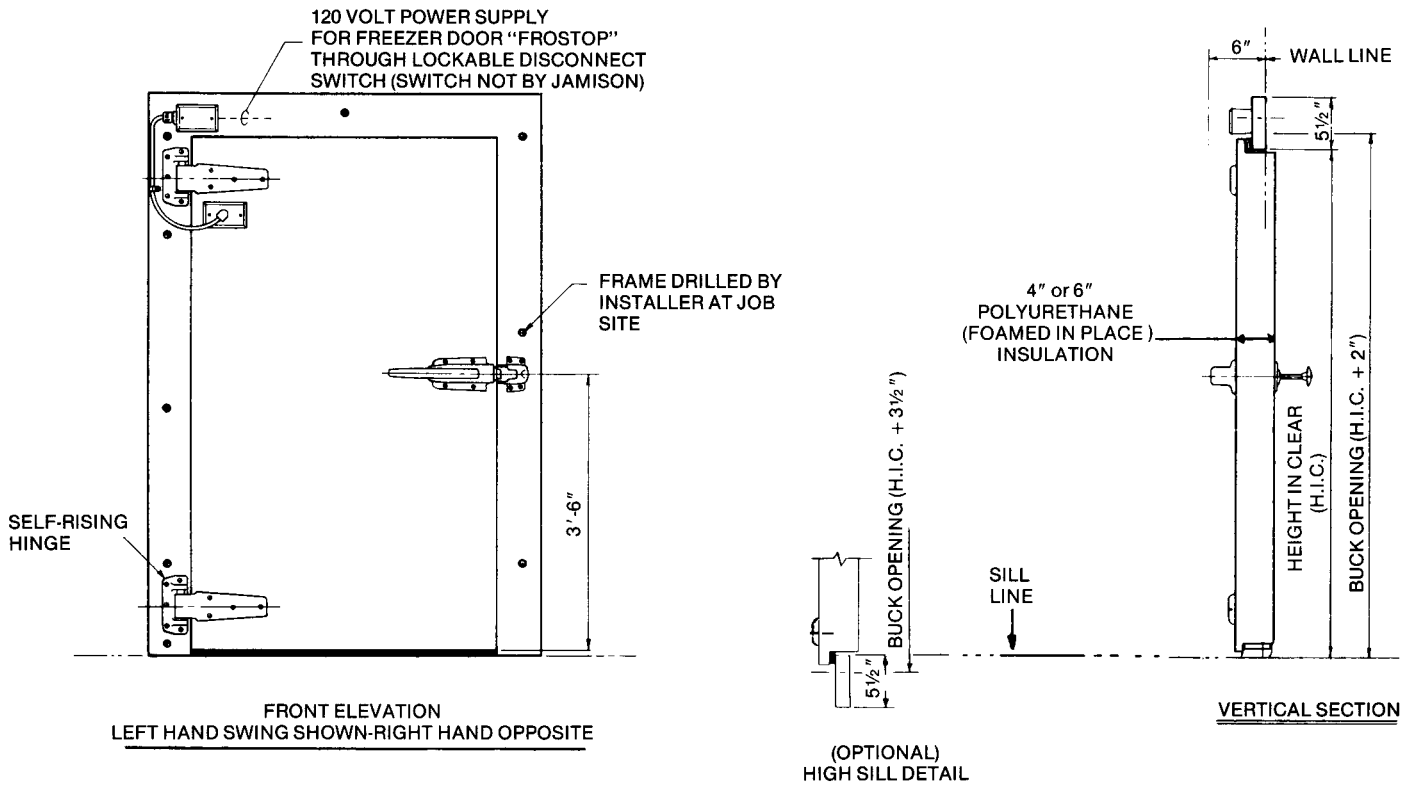
Provide Frostop heater cables in the sides and head of the frame and the bottom of the door at gasket contact areas. Heating cable to be assembled, ready for connection to 120 volt, 60 Hertz, single phase AC line.

SPECIAL NOTES:

1. When cold room temperature is below -20° F. or temperature difference is more than 90° F., contact factory.
2. If freezer door must be mounted in freezer room, please contact factory for recommendations.

OPTIONS: (SPECIFY which options are desired):

1. Metal cladding can be stainless steel, stucco aluminum, galvanized, or galvanized steel painted to meet specifications.
2. Kickplates-door and/or frame protected partial height (specify finish).
3. If doors to be used in meat processing plants subject to federal and state inspection, metal cladding to be applied per M.I.D. requirements.
4. Jambs/inside trim-see detail on back.
5. 6" of insulation for freezer door (R value of 42).
6. Door closer.
7. View Windows: 12" x 14" sealed glass unit.
 - a. Cooler Door - 2 layer, 1" thick.
 - b. Freezer Door - 3 layer, 1" thick with 120 V.A.C. heat film.



NOTE: FREEZER DOOR FURNISHED WITH FROSTOP HEATER CABLES IN SIDES AND HEAD OF FRAME, AND BOTTOM OF DOOR. OPTIONAL HIGH SILL FREEZER, FROSTOP IN FOUR SIDES OF FRAME ONLY.

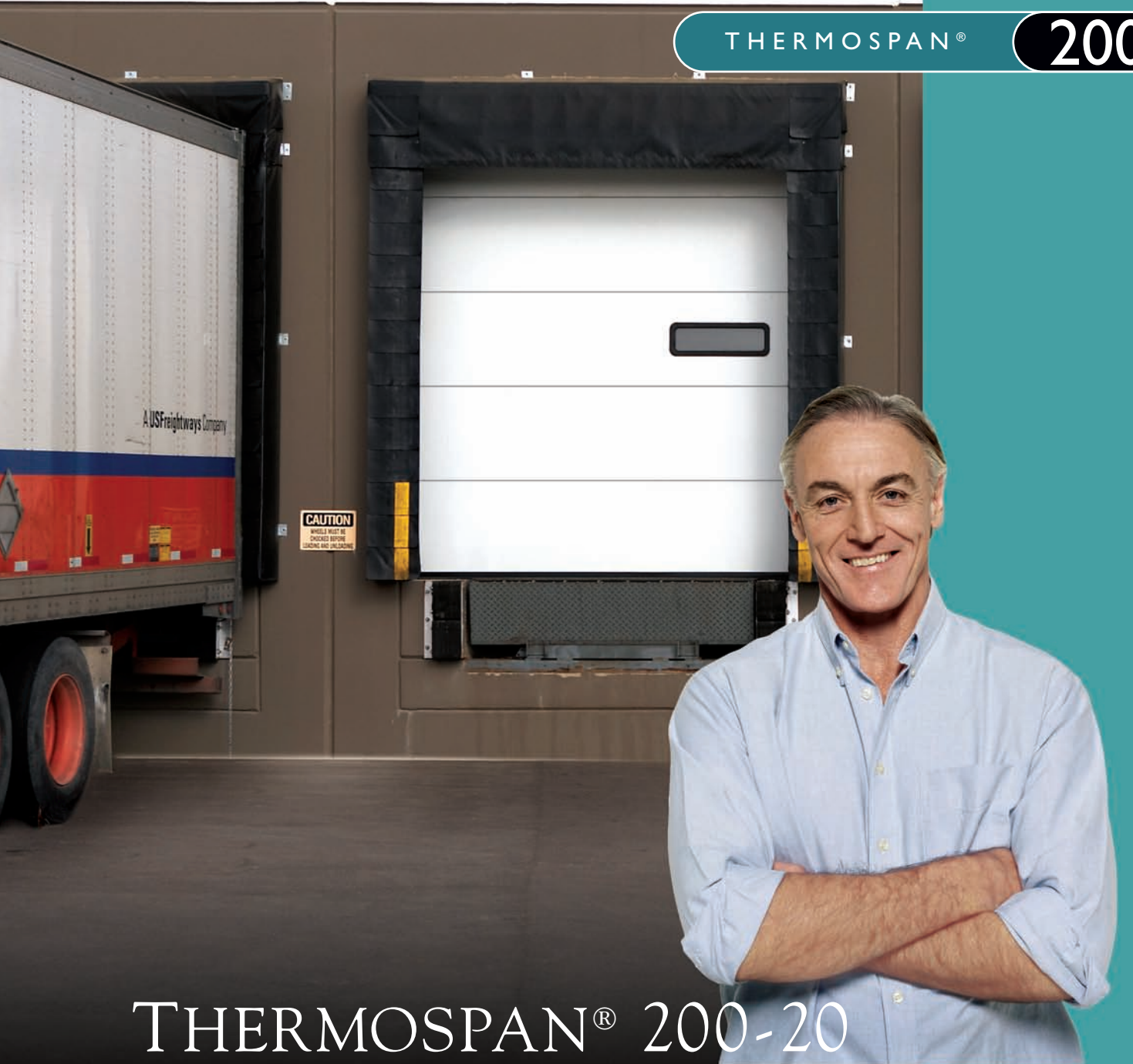
SIZES AVAILABLE
Standard sizes up to and including 5'0" width in clear x 8'0" height in clear.

INSTALLATION POINTS:

1. Bucks should be installed true, plumb and square and of sufficient size to accommodate door weight.
2. Wood bucks and back of door frame should be painted with a suitable preservative to protect against moisture penetration into wood.
3. Floor at door swing area should be smooth and level.
4. All bolts, lags and joints between buck and door frame should be vapor sealed with oil-suspended, nonhardening, waterproof caulking compound or similar material.



Jamison Door Company • P. O. Box 70 • Hagerstown, MD 21741-0070
 Call Toll Free • 1-800-532-3667 or 301-733-3100
 FAX 301-791-7339
 INTERNET: <http://www.jamison-door.com>
 E-MAIL: sales@jamison-door.com



THERMOSPAN® 200-20

SECTIONAL DOOR SYSTEMS

INSULATED SECTIONAL STEEL DOORS CUT YOUR TOTAL COST

Wayne-Dalton Thermospan® 200-20 offers premium thermal efficiency combined with a heavy-duty 20-gauge flush exterior surface. Featuring continuous foamed-in-place insulation and a non-conductive thermal break between the inner and outer skins, the Thermospan 200-20 provides a U-value of .057 and an R-value of 17.50, making it the ideal door for energy-conscious architects, engineers, contractors, and building owners.

The Wayne-Dalton Thermospan Series doors are the only doors in the industry with patented, roll-formed integral struts on each section, making them the most rigid doors available.



- PREMIUM THERMAL QUALITIES (R-VALUE = 17.50, U-VALUE = 0.057)
- STANDARD SIZES UP TO 24' 2" WIDE AND 16' 1" HIGH
- INDUSTRIAL/COMMERCIAL DURABILITY
- SMOOTH, FLUSH EXTERIOR FINISH
- INTEGRAL STEEL STRUTS FOR SUPERIOR STRENGTH
- 25K CYCLE SPRINGS STANDARD

SECTIONAL DOOR SYSTEMS

THERMOSPAN® 200-20

The Thermospan 200-20 outperforms other conventional insulated steel doors in the area of energy efficiency. The Thermospan 200-20 offers a U-Value of .057 (R-value of 17.5) – a dramatic improvement over most conventional insulated steel doors, which typically have U-values between .33 and .51. At the heart of the Thermospan 200-20's excellent insulation qualities is a patented manufacturing process during which the polyurethane core is continuously foamed-in-place between the outer and inner skins, forming a homogenous sandwich of steel/polyurethane/steel. This process creates outstanding thermal, strength, and bonding characteristics which combine to make the Thermospan 200-20 an ideal choice for commercial and industrial applications. Additionally, a non-conductive thermal break virtually stops hot or cold outside temperatures from being transmitted to the inside.

Materials & Construction

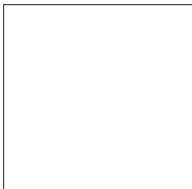
The Thermospan 200-20 also features two patented 1 3/4" integral roll-formed struts per section providing the highest strength-to-weight ratio.

Part of what makes the Thermospan 200-20 virtually maintenance free is the pre-painted flush exterior surface. This outer skin of hot-dipped galvanized, structural quality steel is factory finished with baked-on corrosion-resistant primer and a white polyester finish coat. The inner skin is also hot-dipped galvanized steel factory finished with the same corrosion-resistant primer and polyester finish coat.

The Thermospan 200-20 features an innovative thermal break that keeps the interior skin at room temperature, preventing condensation and frost and thereby resisting corrosion. A flexible vinyl bulb seal and non-corrosive polymer retainer prevent water and air filtration at the bottom of the door. Reinforcement plates are located at all hardware attachment locations, and industry standard commercial-grade, heavy-duty, hot-dipped galvanized hardware also contribute to the Thermospan 200-20's long service life.

For the same energy efficiency with a pinstriped, pebbled outer skin, see Wayne-Dalton's Thermospan 200. Contact Wayne-Dalton for additional sizes and colors.

Color Options



White Smooth Flush Finish

Joint seal prevents air infiltration and saves energy.

Thermal break separates inner and outer skins so virtually no heat or cold is conducted through section.

Prepainted inner and outer skins for added corrosion-resistance.

NOTE: Both skins are also hot-dipped galvanized steel for further protection against corrosion.

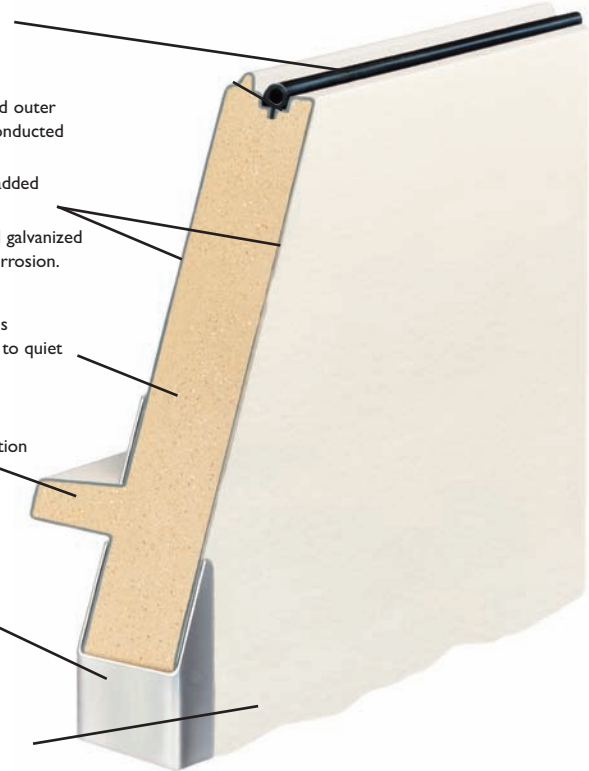
Solid polyurethane core provides maximum thermal efficiency and adds to quiet operation and strength.

Integral struts

Two 1 3/4" roll-formed struts per section increases rigidity and strength.

Two-inch nominal thickness.

Rugged 20-gauge smooth, flush exterior skin gives the Thermospan 200-20 excellent strength qualities, ideal for large openings.



Extended Limited Warranty

TEN (10) YEARS against cracking, splitting or deterioration due to rust.

SEVEN (7) YEARS against separation of polyurethane from the steel skin of the panel.

Operation Options

- Chain Hoist Operation
- Motor Operation

Performance Options

- High Cycle Spring (50K, 100K)
- 3" Track Option
- Windload

Window Options



Vision Lites allow for visibility while maintaining security

Safety Options

- Broken Cable Devices
- Safety Edges
- Safety Photo Eyes

Special Application Options

- Special Track Designs
- Pass Doors
- Mullions



Aluminum full view sections all for maximum natural light and visibility



STANDARD SIZES UP TO:
24' 2" WIDE & 16' 1" HIGH

ENERGY EFFICIENCY VALUES:

U = 0.057
R = 17.50

WINDLOAD:



MEET OR EXCEED
ANSI/DASMA 102-2003
IN ACCORDANCE WITH
ASTM E-330-70.

BEST APPLICATIONS:

- Extra Heavy-Duty Applications
- Where High Insulation Value Is Desired

U.S. Patent Nos. 4238544 and 4339487

General Operating Clearances

Type	Headroom***		Sideroom**		Depth Into Room 2" & 3" track	Center Line of Springs	
	2" track	3" track	2" track	3" track		2" track	3" track
Standard Lift Manual 12"R	12½-17"	NA	4½"	5½"	Opening Height +18"	Opening Height +12"	NA
Standard Lift Manual 15"R	14½-20"	15½-21"				Opening Height +13"	Opening Height +14"
Standard Lift Motor Oper. 12"R	15-19½"	NA			Opening Height +66"	Opening Height +12"	NA
Standard Lift Motor Oper. 15"R	15-19½"	18-23½"				Opening Height +13"	Opening Height +14"
High Lift Manual	Door Height +12"		24" One Side		Opening Height - Lift +30"	Opening Height +Lift +6½"	Opening Height +Lift +7½"
High Lift Motor Oper.							
Vertical Lift Manual 12"R	Door Height +20"		4½"	5½"	Opening Height +18"	Double Door Height +13"	
Vertical Lift Motor Oper. 12"R			24" One Side				
Low Headroom Manual*	6-14½"	6-14½"	6"	9"	Opening Height +20" - 26"	Does Not Apply	
Low Headroom Motor Oper.*	8½-17"	8½-17"					

Panel/Section Selection Guide

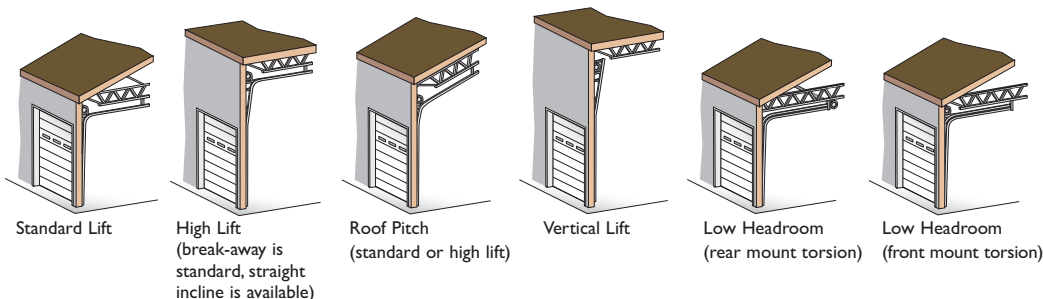
Door Section and Lite Selection			Door Height and Section Selection	
Door Width	No. Panels	Max. No. Windows	Door Height	No. Sections
Up to 9'2"	2	2	Up thru 8'1"	4
9'3" to 12'2"	3	3	8'2" thru 10'1"	5
12'3" to 16'2"	4	4	10'2" thru 12'1"	6
16'3" to 19'2"	5	5	12'2" thru 14'1"	7
19'3" to 24'2"	6	7	14'2" thru 16'1"	8
24'3" & up	Call Factory		16'2" & up	Call Factory

*Note: Rear mount torsion requirements shown on chart. See drawings for front mount torsion clearances.

**Note: 8" sideroom required, one side for doors having chain hoist. 24" side room required, one side for doors having jackshaft operators.

***Note: Clear headroom is based on cable size so please contact factory for specific headroom for your door.

Track Selection Guide



SECTIONAL DOOR SYSTEMS

THERMOSPAN® 200-20

Note to specifiers: Words in parentheses indicate frequently specified and highly recommended options.

PART I – GENERAL

1.01 Section Includes

- A. Sectional overhead doors [manually] [motor] operated with accessories and components.

1.02 Related Work

- A. Opening preparation, miscellaneous or structural steel work, access panels finish or field painting are in the scope of work of other trades and divisions of these specifications.

1.03 Reference Standards

- A. **ANSI/DASMA 102** – American National Standards Institute [A216.1] Specifications for sectional overhead doors published by Door & Access Systems Manufacturers Association, International in bulletin 102-1990.
- B. **ASTM A123** – Zinc [hot-dipped galvanized] coatings on iron and steel products.
- C. **ASTM A216** – Specifications for sectional overhead type doors.
- D. **ASTM A229** – Steel wire, oil-tempered for mechanical springs.
- E. **ASTM A-653-94** – Steel sheet, zinc-coated [galvanized] by the hot-dipped process, commercial quality.
- F. **ASTM D1929** – Ignition temperature test to determine flash and ignition temperature of foamed plastics.
- G. **ASTM E84-91A** – Tunnel test for flame spread and smoke developed index.
- H. **ASTM E330** – Structural performance of exterior windows, curtain walls, and doors by uniform static air pressure difference.
- I. **ASTM E413-87** – Sound transmission class. Acoustical performance value = 23
- J. **ASTM E1332-90** – Outdoor-indoor transmission class. Acoustical performance value = 22.
- K. **ASTM E283** – Air infiltration for = .07CFM/FT² at 15 MPH.

1.04 Quality Assurance

- A. Sectional overhead doors and all accessories and components required for complete and secure installations shall be manufactured as a system from one manufacturer.
- B. Sectional overhead doors shall be tested and labeled certifying compliance with ASTM D1929 and ASTM E84-91A standards.

1.05 Systems Description

- A. Sectional Overhead Door: Type: **Thermospan 200-20**
- B. Mounting: Continuous angle mounting for [steel] [wood] jambs
- C. Operation: [manual push-up] [chain hoist] [motor] [motor with chain hoist]
- D. Material: Galvanized steel with polyester finish paint
- E. Insulation: Polyurethane

1.06 Submittals

- A. Shop Drawings: Clearly indicate the following:
 - 1. Design and installation details to withstand standard windload.
 - 2. All details required for complete operation and installation.
 - 3. Hardware locations.
 - 4. Type of metal and finish for door sections.
 - 5. Finish for miscellaneous components and accessories.
- B. Product Data: Indicating manufacturer's product data, and installation instructions.

1.07 Delivery, Handling, Storage

- A. Deliver products in manufacturer's original containers, dry, undamaged, seals and labels intact.
- B. Store and protect products in accordance with manufacturer's recommendations.

1.08 Warranty

- A. Provide manufacturer's standard SEVEN YEAR warranty against separation/degradation of the polyurethane foam from the steel skin of the panel under provisions of Section 01700. Standard manufacturer's TEN YEAR warranty against cracking, splitting or deterioration due to rust-through. TEN YEARS on insulation value.

PART II – PRODUCTS

2.01 Manufacturer

- A. Wayne-Dalton or approved equal **Thermospan 200-20** insulated sectional overhead doors of steel construction complete as specified in this section and as manufactured by **Wayne-Dalton Corp.**, Mt. Hope, Ohio.

2.02 Materials

- A. Door Sections: Shall be of steel/polyurethane/steel sandwich type construction with thermal break and calculated materials "R"-value of 17.50, in accordance with industry guidelines.
 - 1. Exterior Skin: Structural quality hot-dipped galvanized steel, 20 gauge white flush smooth.
 - 2. Interior Skin: Structural quality, hot-dipped, galvanized steel, factory finished with a polyester primer and white finish coat. Interior skin shall have two 1 1/4" roll-formed integral struts sealed with polypropylene rib caps per section.
 - 3. Ends of section shall be sealed with 18 or 16 [14 GA.] gauge hot-dipped galvanized steel full height end caps.
 - 4. Insulation: Cavity shall be filled with foamed-in-place CFC free polyurethane core separated by a factory extruded thermal break.
 - 5. Insulated sections shall be tested by an I.C.B.O. certified laboratory in accordance with ASTM E-84-91A and shall achieve a Flamespread Index of 10 or less, and a Smoke Developed Index of 210 or less.
 - 6. Insulation material shall be tested by an I.C.B.O. certified laboratory in accordance with ASTM D-1929 and shall achieve a minimum Flash Ignition temperature of 734 degrees F; and a minimum Self Ignition temperature of 950 degrees F.
 - 7. Insulated sections shall be tested and meet all requirements of the UBC 17-5 corner burn.
- B. Track: Track design shall be [standard lift] [high lift] [vertical lift] [low headroom]. Vertical mounting angles shall be hot-dipped galvanized. Track size shall be [2"] [3"]. Vertical track shall be graduated to provide wedge type weathertight closing with continuous angle mounting for [steel] [wood] jambs, and shall be fully adjustable to seal door at jambs. Horizontal track shall be reinforced with continuous angle of adequate length and gauge to minimize deflection.
 - Note: Horizontal track applies to standard lift, high lift, low headroom and follow-the-roof designs only.
- C. Hardware: Hinge and Roller Assembly:
 - 1. Hinges and brackets shall be made from hot-dipped galvanized steel.
 - 2. Track rollers shall be case-hardened inner steel races with 10-ball [2"] [3"] rollers.
 - 3. All factory authorized attachments shall be made at locations indicated and reinforced with backup plates.

D. Counterbalance:

- 1. Springs shall be torsion type, low-stress, helical wound, oil-tempered spring wire to provide minimum [25,000 standard] [50,000] [100,000] cycles of use, on continuous steel [solid].
- 2. Spring fittings and drums made of die cast, high strength aluminum.
- 3. Pre-formed galvanized steel aircraft cable shall provide a minimum of a 5:1 safety factor.

2.03 Operation

- A. Operation shall be [manual push-up] [chain hoist] [motor] [motor with chain hoist]. Manufacturer does not recommend chain hoists or jack shaft operators on the following track applications.
 - 15" radius standard lift with roof pitch less than 2:12
 - Hi-lift less than 24"
 - Hi-lift between 12" – 23" with roof pitch less than 1:12
 - Low headroom track
 - Special chain hoist assemblies (using a trolley rail) are available for the above track systems.

2.04 Locks

- A. Locks shall engage the right-hand vertical track and utilize [an interior side lock] [standard size rim cylinder].

2.05 Weatherstripping

- A. Doors shall be equipped with top and side seals to seal against header, co-polymer joint seals between sections, and vinyl "bulb" shaped astragal provided on the bottom section.

2.06 Glazing

- A. Optional.

2.07 Windload

- A. Windload – per DASMA 102-2003 and as required by local codes.

PART III – EXECUTION

3.01 Installation

- A. General:
 - 1. Install doors in accordance with manufacturer's instructions and standards. Installation shall be by an authorized Wayne-Dalton representative.
 - 2. Verify that existing conditions are ready to receive sectional overhead door work.
 - 3. Beginning of sectional overhead door work means acceptance of existing conditions.
- B. Install door complete with necessary hardware, jamb and head mold strips, anchors, inserts, hangers, and equipment supports in accordance with final shop drawings, manufacturer's instructions, and as specified herein.
- C. Fit, align and adjust sectional overhead door assemblies level and plumb for smooth operation.
- D. Upon completion of final installation, lubricate, test and adjust doors to operate easily, free from warp, twist or distortion and fitting for entire perimeter.
 - Note:** Architect may consider providing a schedule when more than one sectional overhead door or opening type is required.

3.02 Materials (See note above.)

Specifications and technical information also available at www.arcad.com, SpecWizard™, and Sweets.com®.

Distributed By:



COMMERCIAL DOORS & OPERATORS

Printed in U.S.A.
Item #332537 Revised 9/2007

For technical information, visit:
www.wayne-dalton.com/commercial

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Mt. Hope, OH • Dalton, OH • Trail, OH • Pensacola, FL • Portland, OR



THERMOSPAN™ 200 & 200-20 INSULATED OVERHEAD DOORS

PROJECT: _____

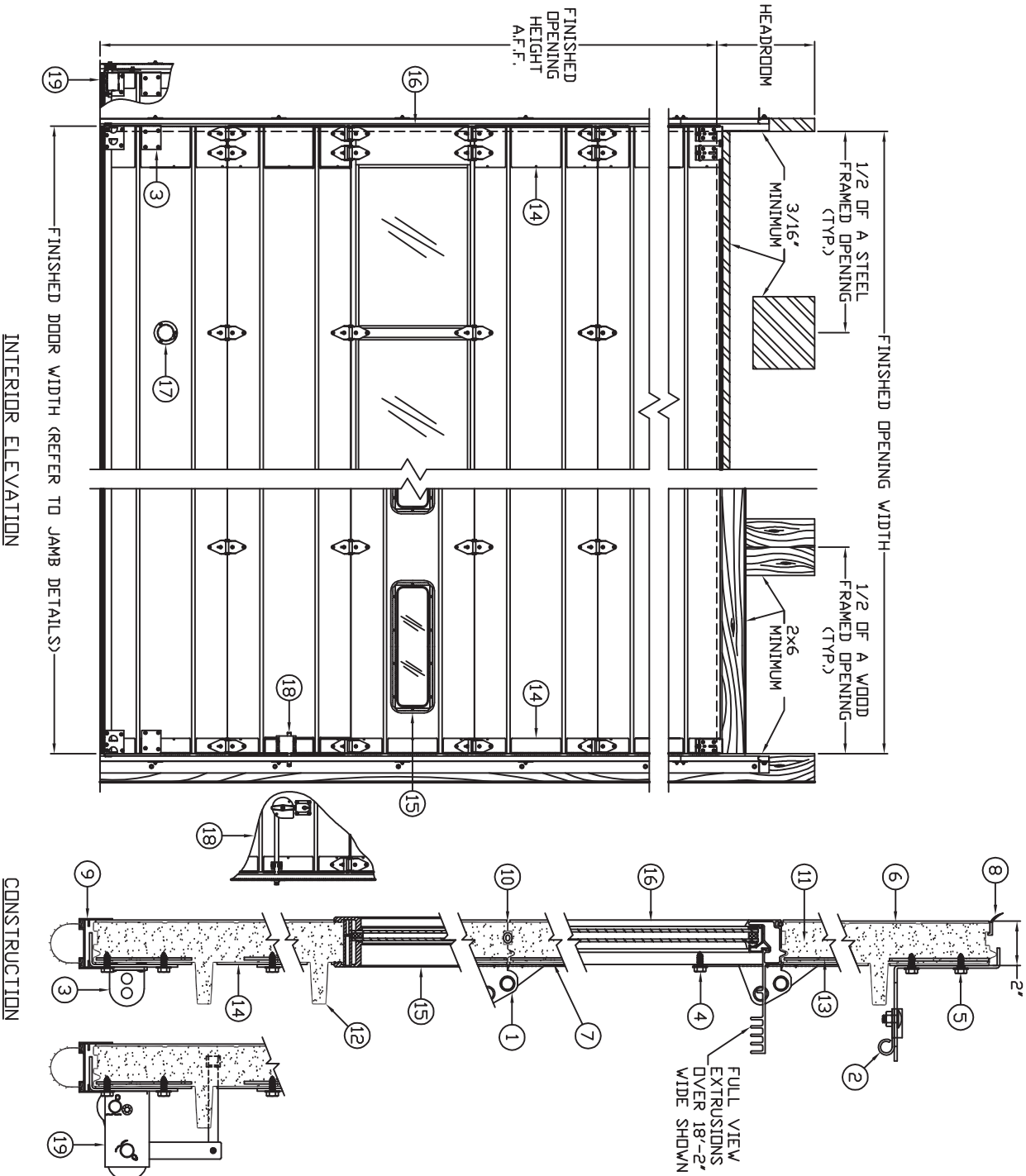
CONTRACTOR: _____

ARCHITECT: _____

DOOR DISTRIBUTOR: _____

DRAWING No.: _____
 SHEET No.: _____ OF _____
 DRAWN BY: _____ DATE: _____

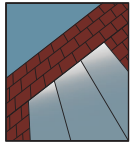
FRAMING NOTE: WAYNE-DALTON CORP. DESIGN ENGINEERS EACH COMMERCIAL SECTIONAL OVERHEAD GARAGE DOOR FOR INDIVIDUAL APPLICATIONS BASED ON PRODUCT & OPTIONS REQUIRED. ONE, TWO OR FOUR SPRING TORSION ASSEMBLIES ARE TYPICALLY SUPPLIED AS STANDARD. DUAL TORSION SHAFT ASSEMBLIES ARE SUPPLIED WHEN REQUIRED. WHEN IT IS TIME TO PREPARE THE OPENINGS FOR INSTALLATION OF A WAYNE-DALTON PRODUCT, CONTACT OUR CUSTOMER SERVICE REPRESENTATIVES FOR MOUNTING PAD LOCATIONS.



- STANDARD FEATURES**
- GRADUATED HOT-DIPPED GALVANIZED STEEL END HINGES (1/4 GAUGE MINIMUM).
 - ADJUSTABLE HOT-DIPPED GALVANIZED STEEL TOP BRACKETS.
 - HOT-DIPPED GALVANIZED STEEL BOTTOM BRACKETS WITH CABLE ATTACHMENT.
 - (4) 1/4-20 TEK SCREWS PER TOP HINGE.
 - (4) 1/4-20 TEK SCREWS PER TOP BRACKET.
 - THERMOSPAN 200 - EXTERIOR-HOT-DIPPED GALVANIZED STEEL .022" MINIMUM EMBOSSED NON-REPEATING RANDOM STUCCO PATTERN WITH (7) ROLL-FORMED SHALLOW HORIZONTAL RIBS.
 - THERMOSPAN 200-20 EXTERIOR-HOT-DIPPED GALVANIZED STEEL 20 GAUGE FLUSH, PRE-PAINTED PRIOR TO ROLL-FORMING (2 MIL PRIMER & .7 MIL POLYESTER FINISH COAT).
 - WHITE BROWN (THERMOSPAN 200 ONLY) PRE-PAINTED PRIOR TO ROLL-FORMING (6 MIL POLYESTER WHITE FINISH COAT).
 - PVC RETAINER WITH 'BULB-SHAPED' BOTTOM ASTRAGAL
 - TONGUE & GROOVE JOINT WITH RUBBER JOINT SEAL.
 - CFC FREE POLYURETHANE CORE SANDWICH-TYPE CONSTRUCTION INCLUDES THERMAL BREAKS EACH SECTION. ASHRAE CALCULATED 'R'-VALUES: THERMOSPAN 200=17.59/THERMOSPAN 200-20=17.46
 - (2) 1-3/4" INTEGRAL ROLL-FORMED STRUTS PER SECTION.
 - GA. BUILT-IN REINFORCEMENT PLATES FOR HARDWARE ATTACHMENT.
 - HOT-DIPPED GALVANIZED STEEL WRAP-AROUND END CAPS.
 - GA-SINGLE END HARDWARE (UP TO 14'-2" WIDE).
 - GA-DOUBLE END HARDWARE (OVER 14'-2" WIDE).
U.S. PATENT PRODUCT #288544 - 4339487
- FREQUENTLY SELECTED OPTIONS**
- 24x6 LITES WITH HIGH-IMPACT POLYMER FRAME:
 - 1/2" DOUBLE INSULATED SSB THERMOLITE
 - 1/4" ACRYLIC (PLEXIGLASS)
 - 1/4" POLYCARBONATE (LEXAN)
 - 1/4" POLISHED WIRE GLASS
 - 1/2" DOUBLE INSULATED TEMPERED THERMOLITE
 - NO. SECTIONS GLAZED _____
 - ALUMINUM FULL VIEW SECTION: WHITE BROWN
 - 1/8" DSB
 - 1/8" ACRYLIC (PLEXIGLASS)
 - 1/8" TEMPERED GLASS
 - 1/8" POLYCARBONATE (LEXAN)
 - 1/4" TEMPERED PLATE GLASS
 - 1/4" POLISHED WIRE GLASS
 - 1/4" PLATE GLASS
 - 1/4" ACRYLIC (PLEXIGLASS)
 - 1/4" POLYCARBONATE (LEXAN)
 - 1/2" DOUBLE INSULATED (SSB GLASS)
 - 1/2" DOUBLE INSULATED (TEMPERED GLASS)
 - NO. FULL VIEW SECTIONS _____
 - 3" EXHAUST PORT (CENTERED BOTTOM SECTION), OMIT LOCKING (INSIDE SIDE LOCK STANDARD)
 - STANDARD SIZE RIM CYLINDER SHORT LOCK BAR (NOT AVAILABLE IN ALUMINUM FULL VIEW).
 - CABLE FAILURE DEVICE.

YES 45 FT

Thermally Broken, Center Set Storefront System



STOREFRONT SYSTEM

Product Description

The YES 45 FT is a thermally broken, center set, flush glazed storefront system for monolithic and insulating glass. The system is thermally broken by YKK AP MegaTherm® technology, which provides a continuous thermal barrier while conserving energy and reducing condensation. MegaTherm® technology incorporates 6/6 nylon polyamide glass-fiber reinforced pressure extruded bars that will not crack, shrink, or degrade.

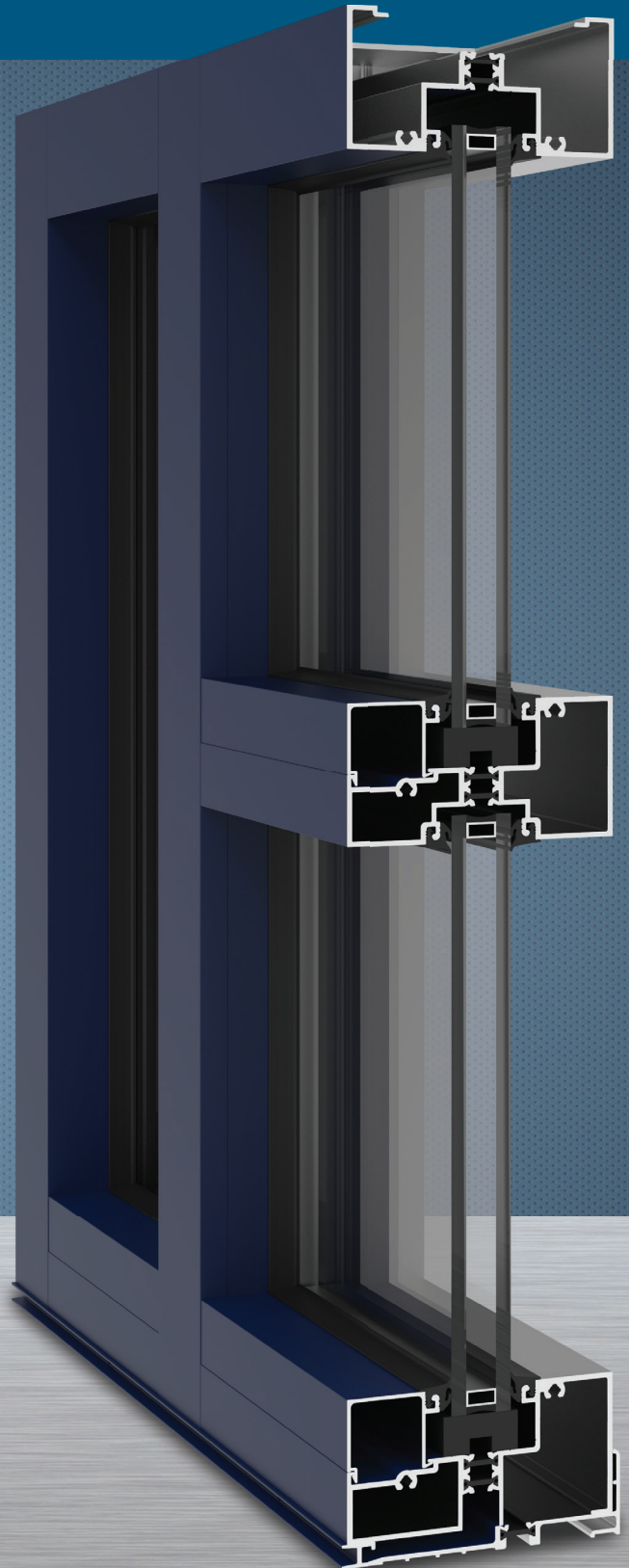
Product Options & Features

- 2-1/4" Face by 4-1/2" Overall Depth
- Outside Glazed / Inside Glazed Option
- Glazing of 1/4" up to 1" Infills
- Screw Spline or Shear Block Assembly
- Seamless Entrance Door Integration
- Optional 4" Vertical and Horizontal Profiles
- Gasket With Stretch-Resistant Cord
- YKK AP MegaTherm® Thermal Break
- Separate Interior/Exterior Finish Options



**YKK
ap**

Quality
inspires®



YES 45 FT

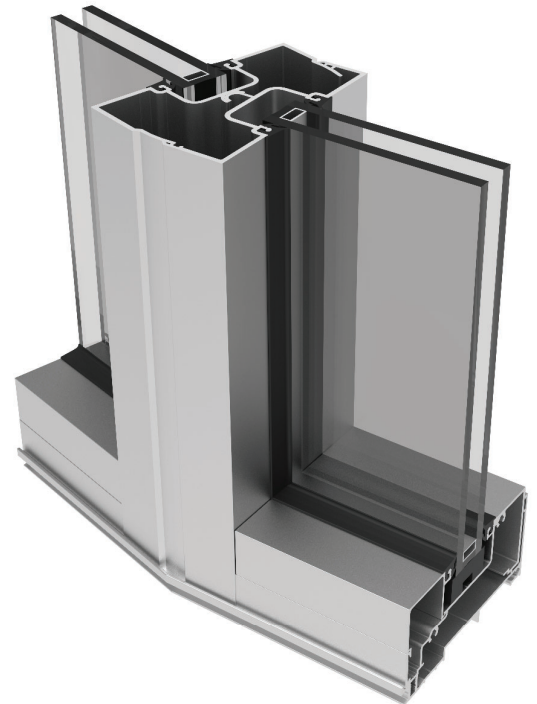
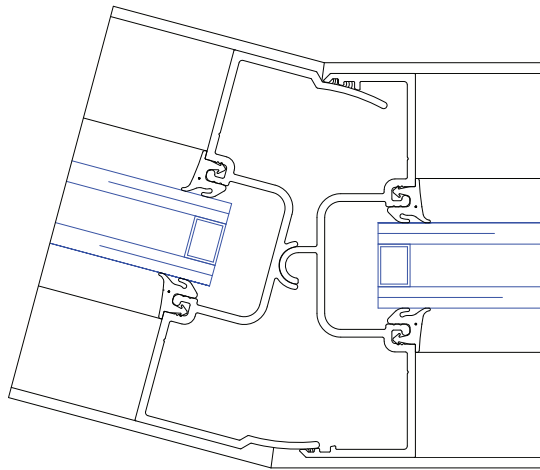
SYSTEM SPECIFICATIONS

System Sightline	Base Depth	Glazing & Config	Glass	Air Infiltration	Water Infiltration	Thermal Performance
2-1/4"	4-1/2"	Inside or Outside & Center Set	1" IGU with Low-E (C.O.G. U-factor: 0.29)	0.06 CFM/FT ² (1.10 m ³ /h·m ²) @ 6.24 PSF (299 Pa)	Static: 15 PSF (718 Pa)	U-factor: 0.46 BTU/HR•FT ² •°F* CRF: Minimum of 60 on frame**
Testing Standards				ASTM E 283	ASTM E 331 & AAMA 501	* NFRC 100 & ** AAMA 1503
Installation Options				Screw Spline or Shear Block with Monolithic or Insulating Glass		
Available Finishes				Factory Anodized (AAMA 612) and Organic Paints (AAMA 2604 & AAMA 2605)		

HINGED MULLIONS

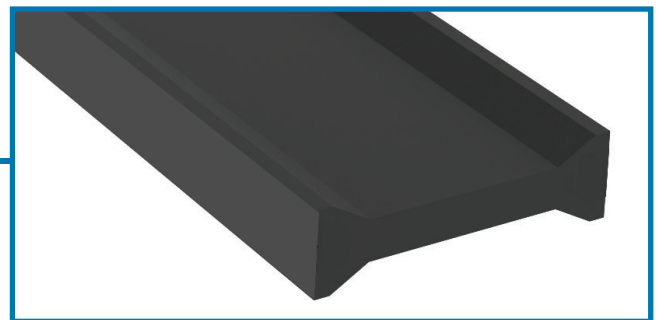
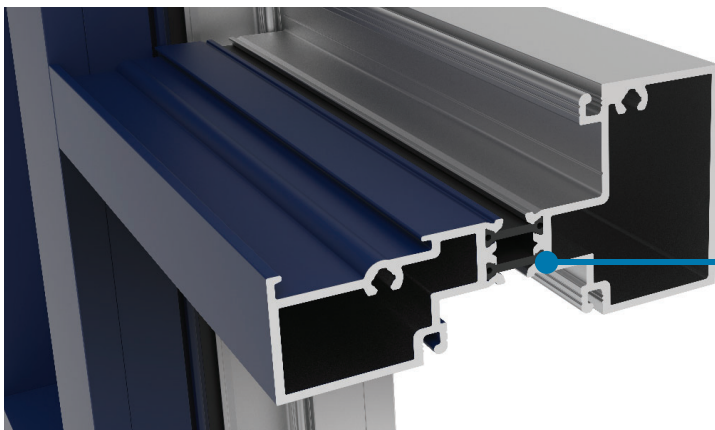
With the use of our hinged mullion setup, the YES 45 system direction can be changed to allow angles and curves to create more a aesthetic and functional design with your building project. The 165-180 degree hinged mullion can be combined with a 90 degree static mullion.

165-180 Degree Hinge Mullion



ISO STRUTS

This system utilizes a dual barrier 6/6 polyamide iso strut set that secures the inner and outer mullion pieces together. This strut provides a thermal barrier that conserves energy and limits heat transference. It will not degrade, crack or break due to the glass-fiber reinforcement.

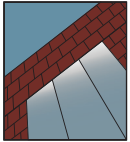


Additional information including CAD details, CSI specifications, Test Reports and Installation instructions are available online at:

www.ykkap.com/commercial/product/storefronts/yes-45-ft/

YES 45 TU

Thermally Broken, Center Set Storefront System



STOREFRONT SYSTEM

Product Description

The YES 45 TU is a thermally broken, center set, flush glazed storefront system for insulating glass. The system is thermally broken by means of a poured and debridged pocket that employs a patented process, ThermaBond Plus®, to greatly improve adhesion of the polyurethane to the extruded aluminum. Combining science and technology, ThermaBond Plus® resolves the problem of adhesion and the resulting dry shrinkage associated with typical poured and debridged systems.

Product Options & Features

- Excellent thermal performance utilizing standard 1" insulating glass
- Patented ThermaBond Plus® thermal break
- High Performance Sill Flashing
 - ◆ No Blind Seals
 - ◆ Tall back leg for enhanced water resistance
 - ◆ Patented 3-point attachment of end dam
- Assembled with either our Screw Spline or Shear Block Technology
- Integrates with our Model 20D/35D/50D Doors

U-Factor Values as low as 0.32*

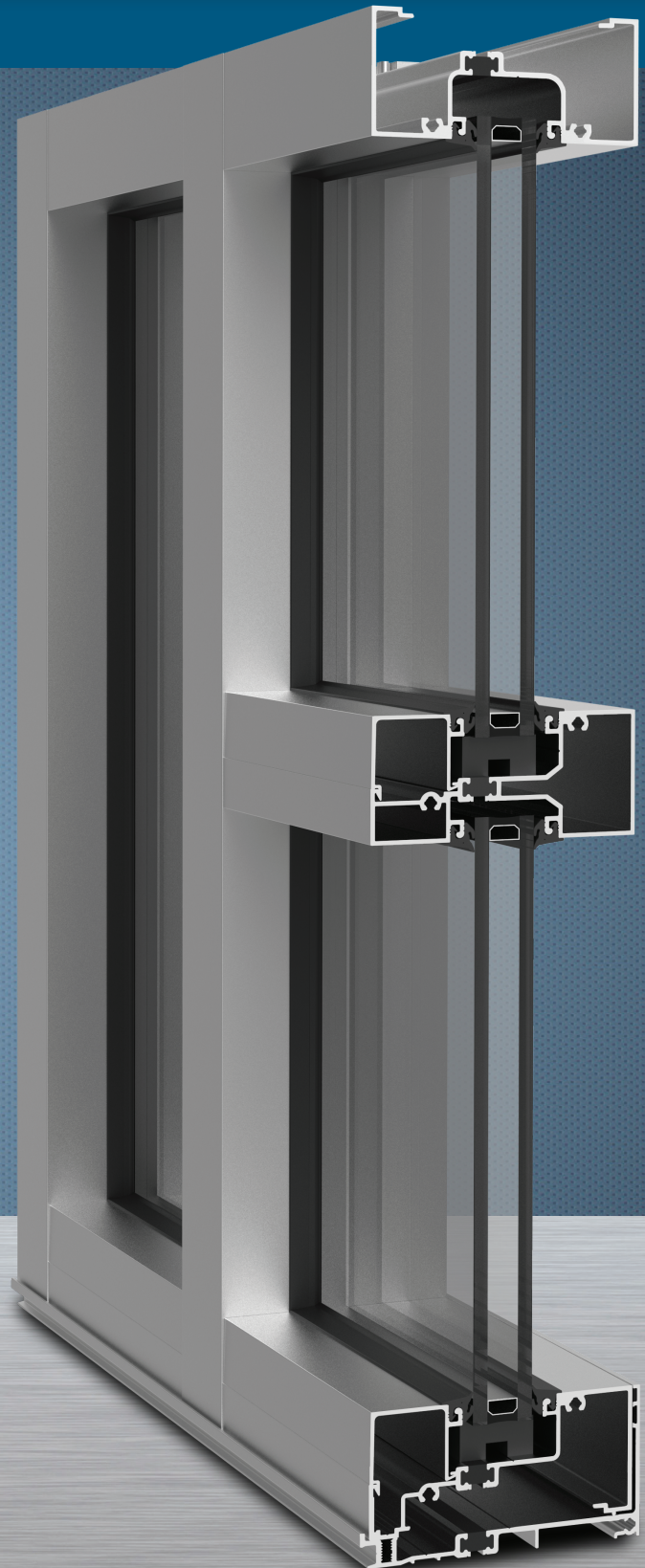
CRF Minimum 57_{frame} & 62_{glass}

*Based on AAMA 507. Lower values may be achieved through further simulation.



**YKK
ap**

Quality
inspires®



YES 45 TU

SYSTEM SPECIFICATIONS

System Sightline	Base Depth	Glazing & Config	Glass	Air Infiltration	Water Infiltration	Acoustical Performance
2"	4-1/2"	Inside or Outside & Center Set	1" IGU with Low-E (C.O.G. U-factor: 0.29)	0.06 CFM/FT ² (1.10 m ³ /h-m ²) @ 6.24 PSF (299 Pa)	Static: 12 PSF (575 Pa)	Std STC: 31 Std OITC: 26
Testing Standards				ASTM E 283	ASTM E 331 & AAMA 501	ASTM E 90 & 1425
Installation Options				Screw Spline or Shear Block with Monolithic or Insulating Glass		
Available Finishes				Factory Anodized (AAMA 612) and Organic Paints (AAMA 2604 & AAMA 2605)		

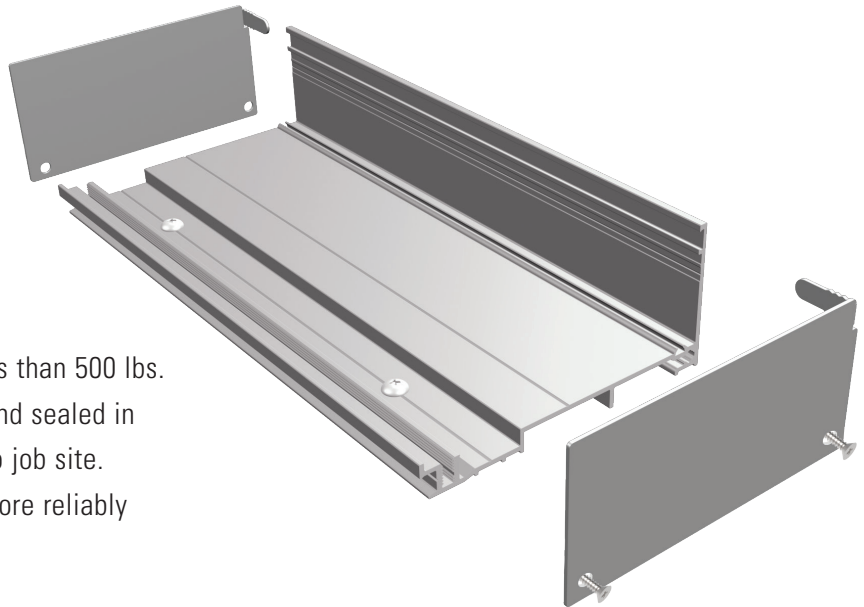
Thermal Performance						
1" IGU BTU/hr-ft²·°F						
C.O.G U-Factor	0.30	0.28	0.26	0.24	0.22	0.20
2" x 4-1/2"	0.43	0.42	0.40	0.39	0.37	0.35
1" IGU BTU/hr-ft²·°F						
C.O.G U-Factor	0.30	0.28	0.26	0.24	0.22	0.20
2" x 4-1/2" (XT Filler)	0.40	0.38	0.36	0.35	0.33	0.32
Testing Standards	AAMA 507					

CRF	
Frame	Glass
57	62

CRF	
Frame	Glass
Not Tested	Not Tested
AAMA 1503	

SILL FLASHING

- No Secondary penetration of sill and flashing.
- 2" back leg on sill flashing – enhanced water resistance in the field and in field water testing.
- Three point attachment of end dam, with two patented screw splines.
- No sill anchoring required if end reaction is less than 500 lbs.
- Sill flashing and end dams can be assembled and sealed in the shop. Much more secure during transport to job site.
- New silicone sill flashing splice sleeve seals more reliably and with less "bump".



THERMALLY BROKEN

ThermaBond Plus® process is a pour and debridged process that greatly improves the adhesion of the polyurethane material to the aluminum extrusion. Combining science and technology, ThermaBond Plus® process resolves the problem of adhesion and the resulting dry shrinkage associated with typical poured and debridged systems.

Additional information including CAD details, CSI specifications, Test Reports and Installation instructions are available online at:
www.ykkap.com/commercial/product/storefronts/yes-45-tu-center-set/

Insulating Glass

Introduction

Insulating glass use in residential and commercial construction has risen steadily over the years to where the majority of all new and renovation construction today includes IG units. IG units not only save on monthly heating and cooling costs, but they also reduce the initial size and cost of the heating and cooling equipment required on a project.

By combining Low-E coatings, tinted glasses, reflective coatings, silk-screened patterns, laminated glass products and more, a wide variety of insulating glass configurations are available to satisfy a wide range of performance and aesthetic

requirements. IG units can be fabricated to meet state energy codes, sound control requirements, seismic requirements, impact resistance, bullet resistance and hurricane and blast resistance requirements. IG units can be designed to reduce heat loss and solar heat gain entering the building, with a minimal reduction of visible light transmittance.

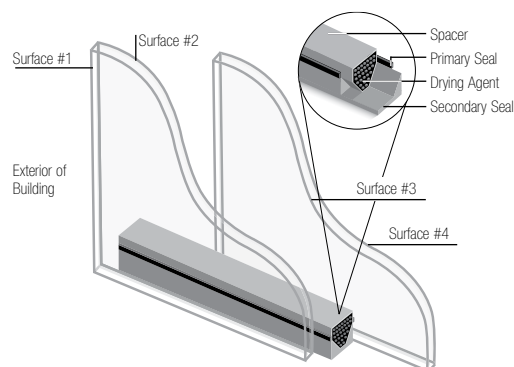
IG units will have a warmer room-side glass surface temperature than single glazing, thus reducing condensation and moisture-related problems.

Description

IG units are sealed combinations of two or more lites of glass separated by a dry airspace. Desiccated spacers are dual sealed with polyisobutylene primary sealant and an organic or silicone secondary sealant, depending on the project specifications and the application. (See the diagrams below.) Argon gas-filled IG units are available to further improve the insulating properties (reduce the U-Value) of a standard air-filled IG unit.

The glass lites of an IG unit can be annealed, heat-strengthened, tempered or laminated, as needed, to meet building code requirements, safety glazing standards and design requirements. The lites of an IG unit can be of equal or unequal thickness.

Insulating Glass Unit



Glass Types Available

Outboard Lite	Inboard Lite
Clear	Clear & Low-E
Tints	Clear & Low-E
Low-E	Clear
Spectrally Selective Tints	Clear & Low-E
Patterned	Clear & Low-E
Reflective #1 or #2	Clear & Low-E

Others include: Laminated Glass, Spandrel Glass, Silk-Screened Glass and Other Decorative Glass.



Insulating Glass

Description (continued)

Glass Options

Insulating glass units are fabricated according to project specifications. IG units can be constructed using a large variety of glass products including clear, low iron, Low-E, standard or high performance (spectrally selective) tints; and reflective, silk-screened, spandrel, laminated, decorative and wired glass to achieve desired aesthetics, meet design criteria and/or to improve solar control and thermal performance.

For a list of available glass products/colors, go to the Glass Options Tab.

For more information on silk-screened, spandrel and laminated glass products, go to their respective Product Information Tabs.

Capabilities

The standard 1" commercial IG unit is made up of two lites of 1/4" glass and a nominal 1/2" airspace. Custom IG unit designs can be fabricated with glass thicknesses ranging from 1/8" to 3/4" and with airspace thicknesses ranging from 3/16" to 1". Maximum sizes for IG units are determined by a number of considerations. Size, thickness, weight,

aspect ratio, application and load requirements are the factors utilized to make this determination.

For more information log on to <http://www.oldcastlebe.com/products/architectural-glass/insulating-glass/insulating-glass/capabilities>

Applications

Insulating glass units are used in essentially all exterior building applications, including vertical glazing, sloped glazing, overhead glazing and skylights, in both vision and spandrel (non-vision) areas. Depending on the glass type used, IG units can be designed for light and solar control; sound control; ultraviolet screening (to reduce fading); hurricane, earthquake and blast resistance; security; bullet resistance; and decorative applications.

IG units are also used for interior applications such as sound control and to reduce energy usage for climate-controlled (hot or cold) rooms.

See the Glass Selector Tab for some typical applications.

Residential Applications

Insulating glass has become the standard for both new and replacement residential windows. Most residential IG units are made with one outboard lite of clear glass and an inboard lite of clear glass, often with a Low-E coating to further reduce heat loss.

When the short-wave infrared (IR) energy of the sun strikes an object in the house, some of the energy is absorbed and reradiated as long-wave IR (heat) energy. The Low-E coating acts to reflect this heat energy back into the residence. In cold climates, the Low-E coating is normally placed on the #3 surface of the unit. This is done



Insulating Glass

Applications (continued)

to maximize passive solar heat gain from the sun, while still improving (reducing) the winter nighttime heat loss (winter U-Value). In warm climates, the Low-E coating is positioned on the #2 surface of an IG unit to minimize solar heat gain. The U-Value remains unchanged for the second or third surface application.

Commercial Applications

Most commercial buildings spend the majority of their energy dollars on cooling loads, even in cold climates, due to the internal heat generated by lights, people, copiers, computers and other office equipment. Also, there has been an increase in the number and size of windows to maximize the use of natural daylight to reduce energy usage

and lighting costs, as well as the positive effect on employee productivity. Therefore, the major emphasis in commercial buildings is to reduce heat gain (minimize the shading coefficient/the solar heat gain coefficient). Of lesser importance, but still quite significant in cold climates, is the need to minimize nighttime heat loss (winter U-Value).

There are now a large number of high performance/spectrally selective tints, with and without reflective or Low-E coatings, that do an excellent job of reducing heat gain. And there are a number of Low-E glasses that not only improve (reduce) the winter U-Value, but also reduce heat gain.

Characteristics

Certification

Oldcastle BuildingEnvelope™ insulating glass units are independently tested and certified according to North American standards for quality and performance. The US and Canadian tests are performed in accordance with the new harmonized standard ASTM E2190. IGCC (Insulating Glass Certification Council) sponsors the certification program of independent laboratory tests and periodic audits in the US while IGMA (Insulating Glass Manufacturers Alliance) sponsors the certification program in Canada. Oldcastle BuildingEnvelope™ is an active member in both IGCC and IGMA. Oldcastle BuildingEnvelope™ US insulating glass products are listed in the IGCC Certified Products Directory. Oldcastle BuildingEnvelope™ Canadian insulating glass products are listed in the IGMA Certified Products Directory.

Condensation on Interior Glass Surfaces

Condensation on building interior glass surfaces (the #4 surface of an IG unit) is a common

wintertime complaint in much of North America. Condensation not only reduces visibility, it also leads to severe damage of the surrounding construction from this moisture. Condensation occurs on interior glass surfaces when the surface temperatures fall below the dew-point temperature of the room. The relative humidity in a room at which condensation will occur on the glass surface depends on the interior glass surface temperature, which in turn depends on all the factors affecting heat flow through the glass. These factors include the inside and outside air temperatures and airflows adjacent to the glass surfaces, and the IG unit thermal transmittance (U-Value). Because Low-E glass improves (lowers) the IG unit U-Value, using Low-E glass will increase the unit's interior glass surface temperature. Thus an additional benefit of using Low-E glass is that it permits a higher relative humidity in a room before condensation will occur. This can improve occupant comfort and performance in the winter months.



Insulating Glass

Characteristics (continued)

Vision-Spandrel Color Match

Spandrel glass can be designed to contrast or harmonize with the vision glass. *A wide range of colors and glass products are available to do this, as discussed in the Spandrel Tab section of this binder.* The best match for a vision IG unit is a spandrel IG unit using the same exterior glass (normally a tinted or reflective glass) and a spandrel glass as the interior lite, with the coating on the #4 surface on an IG unit.

It should be understood that the degree of color and visual similarity of a building's vision and spandrel glass will vary greatly, depending on the

time of day, sky conditions, the vision area lighting and interior shading conditions (drapes, miniblinds, etc.), as well as on the color, reflectance and light transmittance of the glass.

Assuming the vision and spandrel IG units have the same exterior lite, the visual difference between them will be less noticeable under the following conditions:

- the more reflective the exterior lite is
- the lower the light transmittance of the exterior lite is
- the brighter the sky conditions

Additional Important Information

Specifications

A sample Section 08 81 00 Specification for North America can be found in the last section of this binder titled: Sample Architectural Glass Specifications.

Contact Us

For any additional information, including details, technical data, specifications, technical assistance and samples, call 1-866-OLDCASTLE (653-2278).

Visit Us on the Web

Log on to www.oldcastlebe.com for project photos, product colors, general inquiries and project assistance.

To view performance data on a wide range of glass make-ups, or to build your own product specification, log on to www.oldcastlebe.com and choose GlasSelect®.



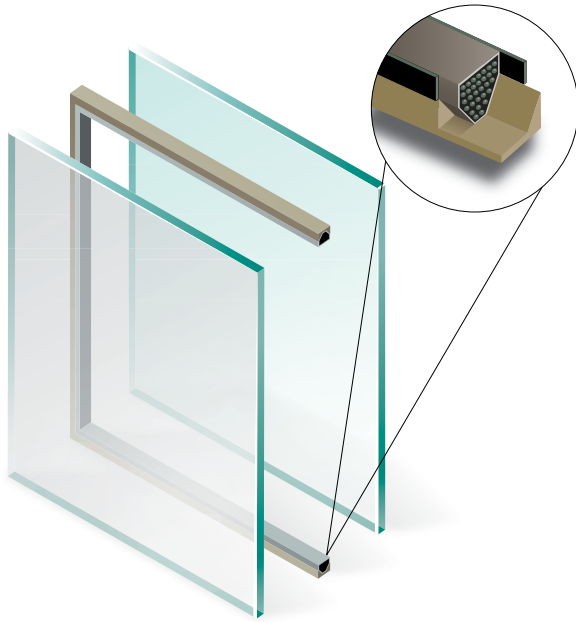
**Orlando Utilities
Commission**
Orlando, Florida
Architect: Baker Barrios
Architects

insulating glass (IG Units)



Oldcastle BuildingEnvelope™

Engineering your creativity™



Our IG units are sealed combinations of two or more lites of glass separated by a dry airspace. IG units improve the thermal performance of windows, thus significantly reducing heating and air-conditioning costs. IG units also reduce interior condensation in cold climates, and increase comfort near windows, thus maximizing the usable interior space.

Insulating Glass Applications

Insulating glass (IG) units are used in a wide range of applications including:

- Commercial/Residential Fixed and Operable windows
- Curtain Walls
- Storefronts
- Sloped/Overhead Glazing
- Non-vision (Spandrel) Locations



IMAX® Theatre
Davenport, Iowa
Architect: Gere Dismar Architects

20D, 35D & 50D Doors

Narrow, Medium and Wide Stile Standard Entrance Systems



ENTRANCE SYSTEM

Product Description

Entrance systems by YKK AP offer an abundance of design options. VersaJamb®, our unique reinforced tubular door frame, allows for side-lite glazing without shear clips while maintaining the structural integrity of transom frames.

Door corners are mechanically joined and welded to ensure that they are more than capable of withstanding today's most demanding conditions. Standard hardware options include the Smart Series Push/Pull and touch bar exit devices. Custom entrances are available with options for one inch glazing, mid rails, high bottom rails and will accommodate most custom hardware.

Product Options & Features

- Tested and manufactured well above standard grade and performance levels
- Complete Design Freedom via varied rail and stile widths
- Door Corners are mechanically joined and welded together
- Lifetime warranty on all entrance variations
- Integrates seamlessly with a variety of our YKK AP products



YKK
ap

Quality
inspires®



20D 35D & 50D

SYSTEM SPECIFICATIONS

System Stile	Glazing & Config	Glass	Air Infiltration (Single Acting Butt Hinges or Offset Pivots)	Structural Uniform Load	Structural Performance
2-1/8" Narrow 3-1/2" Medium 5" Wide	Outside & Center	1" IGU with Low-E (C.O.G. U-factor: 0.29)	Single Doors: 0.50 CFM/FT ² Paired Doors: 1.00 CFM/FT ² @ 6.24 PSF (299 Pa)	20D Single/Pair: 35 psf 35D Single/Pair: 50 psf 50D Single/Pair: 60 psf	Door corner structural strength shall be tested per YKK AP's dual moment test procedure and certified by an independent testing lab to ensure corner integrity and weld compliance. Certified test procedures and results are available upon request.
Testing Standards			ASTM E 283	ASTM E 330	N/A

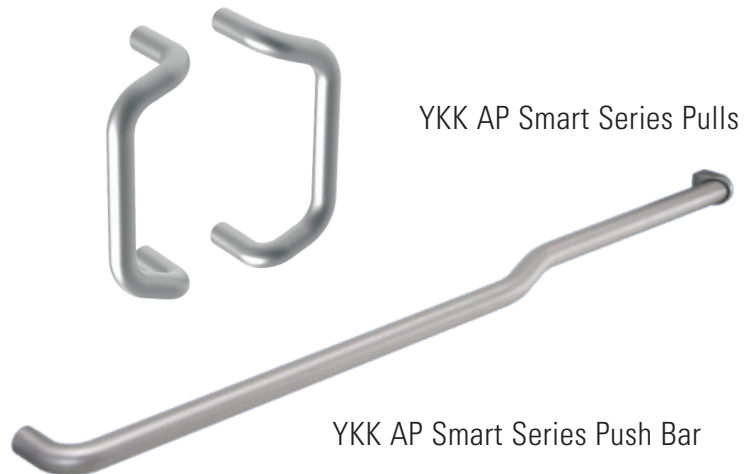
Available Finishes

Factory Anodized (AAMA 612) and Organic Paints (AAMA 2604 & AAMA 2605)

SMART SERIES DEVICES

Smart Series Push/Pull

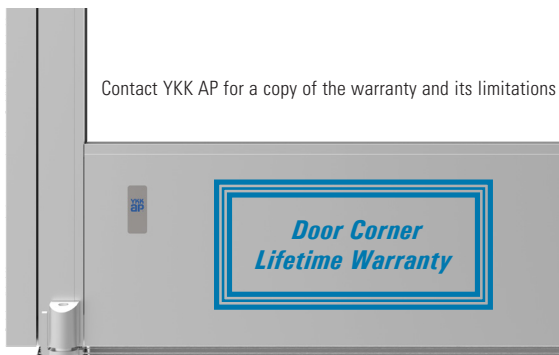
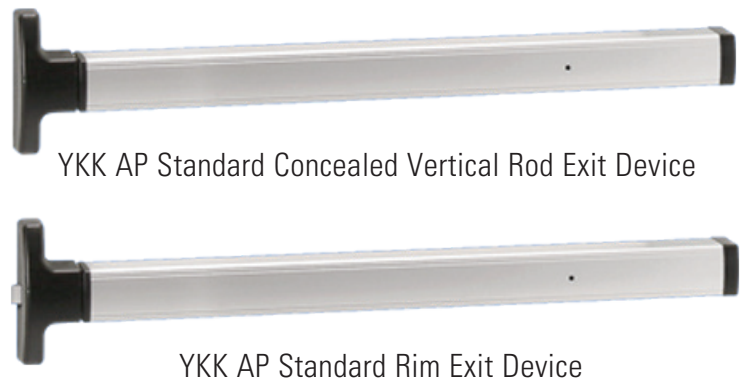
YKK AP's Smart Series one inch diameter Push/Pull provides maximum flexibility and occupant safety. The pull handle is open to permit access to the lock cylinder and is slightly angled to provide a uniquely modern look. The Smart Push starts at the locking stile similar to a typical one inch diameter push bar, but then has an ergonomic "S-Bend" toward the locking stile to bring the bar closer to the door where it is captured by a patented end cap. This innovative push bar easily accommodates custom width openings while subtly informing a pedestrian which side of the door to push on when exiting a building.



STANDARD DEVICES

YKK AP Exit Devices

The modern and economical YKK AP standard touch bar exit devices are ideally suited for all applications that require emergency egress. The devices are ANSI Grade 1, carry the UL label and are approved for Life Safety. Both the rim and concealed vertical rod devices feature single point dogging and are available with electric actuation.



Stock Entrances

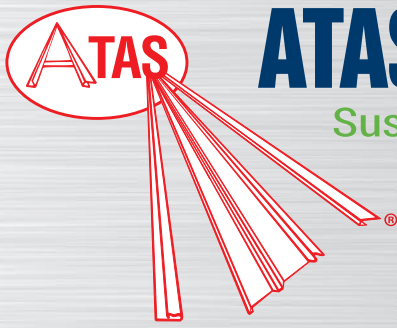
- 20D Narrow Stile 3'-0" and 3'-6" x 7'-0" Singles
- 20D Narrow Stile 6'-0" x 7'-0" Pairs
- Offset Pivot, Butt Hung and Center Pivot
- MS Lock and CVR Exit Device (Offset Pivot only)

Custom Entrances

- 20D, 35D, and 50D
- Doors up to 8'-0" Tall
- Standard and Custom Hardware

Additional information including CAD details, CSI specifications, Test Reports and Installation instructions are available online at:

www.ykkap.com/commercial/product/entrances/20d35d50d/



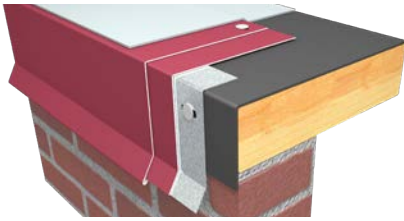
ATAS International, Inc.

Sustainable Building Envelope Technology



ES-1 TESTED
PERIMETER EDGE

FASCIA & COPING



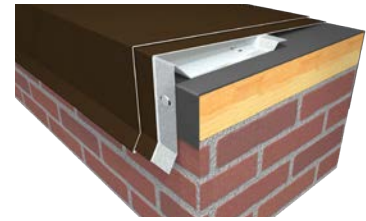
Drip Edge Fascia

ATAS' Drip Edge system includes a continuous 22 ga steel cleat with roof flange for easier installation and proper location, and is pre-punched with slotted fastener holes. The Drip Edge, which has a standard 90° roof flange or with requested roof slope, is offered in a wide variety of materials, gauges and colors. ATAS' Drip Edge is provided in 12'-0" lengths, with interior splice plates, and required ring shank nails for a quick and easy installation. ATAS' Drip Edge has been tested per ES-1 as required by International Building Code for low-slope perimeter edge systems.



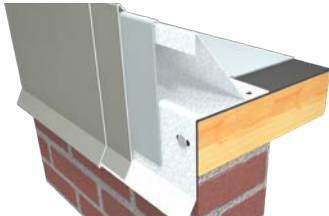
Gravel Stop Fascia

ATAS' Gravel Stop system includes a continuous 22 ga steel cleat with roof flange for easier installation and proper location, and is pre-punched with slotted fastener holes. The Gravel Stop is offered in a wide variety of materials, gauges and colors. ATAS Gravel Stop is provided in 12'-0" lengths, with interior splice plates and required ring shank nails for a quick and easy installation. ATAS Gravel Stop has been tested per ES-1 as required by International Building Code for low-slope perimeter edge systems.



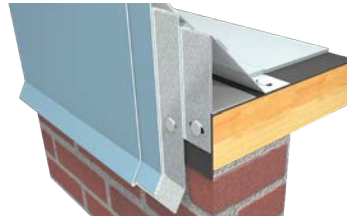
Continuous Cleat Coping

ATAS' Continuous Cleat Coping is an economical system that has been tested per ES-1 as required by International Building Code for low-slope perimeter edge systems. The system includes a continuous 22 ga front cleat that is pre-punched with slotted fastener holes, has a cant to build in slope, and a roof flange for easy installation. The coping cap is offered in a wide variety of materials, gauges and colors in 12'-0" lengths pre-punched with slotted holes to allow for thermal movement, and interior splice plates, nails and screws provide for a complete coping system.



Edge-Lok 2 Fascia

Edge-Lok 2 is a two-piece fascia system designed for EPDM, PVC and other flexible single-ply membrane roof systems. It includes a continuous 24 ga steel spring cleat that is pre-punched with slotted fastener holes for quick and proper installation, and a snap-on cover that is available in a wide variety of materials, gauges and colors. ATAS' Gravel Stop is provided in 12'-0" lengths, with interior splice plates, and required ring shank nails. Edge-Lok 2 has a 20-year 120 mph windstorm warranty, and has been tested per ES-1 as required by International Building Code for low-slope perimeter edge systems.



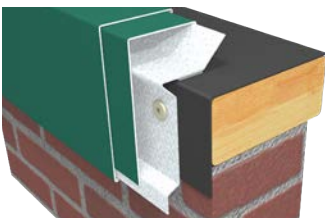
Edge-Lok 3 Fascia

Edge-Lok 3 is a three-piece fascia system designed for Modified and BUR roof systems, but is also suited for heavy or stiff single-ply membrane systems. It includes a continuous 22 ga steel cleat and 24 ga steel cant that are pre-punched with slotted fastener holes for proper installation, and a snap-on cover that is available in a wide variety of materials, gauges and colors. Edge-Lok 3 is provided in 12'-0" lengths, with interior splice plates, and required nails to complete the system. The three-piece design accommodates thick roof membranes while still allowing for thermal movement of both the fascia and roof systems. Edge-Lok 3 has a 20-year 120 mph windstorm warranty, and has been tested per ES-1 as required by International Building Code for low-slope perimeter edge systems.



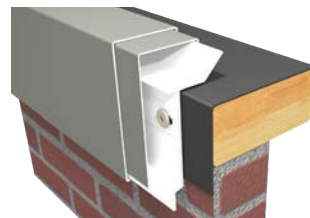
Rapid-Lok Coping

Rapid-Lok Coping is an easy to install snap-on system with no exposed fasteners. The system includes the coping cover offered in a wide variety of materials, gauges and colors in 12'-0" lengths; heavy 20 ga chairs; guttered internal splices that eliminate the need for caulks or tapes at the joints; and all the nails and screws required for a complete and quick installation. Rapid-Lok Coping has a 20-year 120 mph windstorm warranty, and has been tested per ES-1 as required by International Building Code for low-slope perimeter edge systems.



Rapid-Lok Fascia

Rapid-Lok is ATAS' best fascia system designed to quickly install on all single-ply membrane roof systems without the need for strip-in plies or heat welding. It features a heavy 20 ga continuous retainer that is pre-punched with slotted fastener holes, and a snap-on cover that is available in a wide variety of materials, gauges and colors. Rapid-Lok is provided in 12'-0" lengths, with interior splice plates, and quick drive screws. Rapid-Lok has a 30-year 150 mph windstorm warranty, and has been tested per ES-1 as required by International Building Code for low-slope perimeter edge systems.



Rapid-Lok Extruded Fascia

Rapid-Lok Extruded provides all the versatility, performance, and installation ease of Rapid-Lok with the added benefit of a continuous extruded aluminum retainer. The extruded aluminum retainer is offered in three standard sizes all pre-punched with slotted holes for the provided screws. The snap-on cover is available in a wide variety of materials, gauges and colors in 12'-0" lengths, with interior splice plates. Rapid-Lok Extruded has a 30-year 150 mph windstorm warranty, and has been tested per ES-1 as required by International Building Code for low-slope perimeter edge systems.

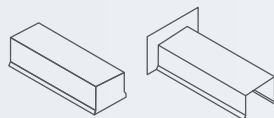


Rapid-Lok Ultra Coping

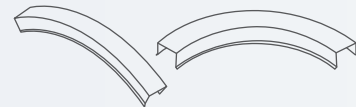
Rapid-Lok Ultra Coping is designed for the highest wind performance and longevity. The system includes continuous extruded aluminum cleats at the face and back, and a snap-on coping cap offered in a wide variety of materials, gauges and colors in 12'-0" lengths. The system has guttered internal splices that eliminate the need for caulks or tapes at the joints, and includes the screws required for a complete high performing installation. Rapid-Lok Ultra Coping has a 30-year 150 mph windstorm warranty, and has been tested per ES-1 as required by International Building Code for low-slope perimeter edge systems.

Did You Know?

ATAS offers a complete line of Perimeter Edge Accessories



End Closures & End Terms



Convex, Concave, & Vaulted Copings

WATER CONTROL AND SUPPLEMENTAL EDGE SYSTEMS



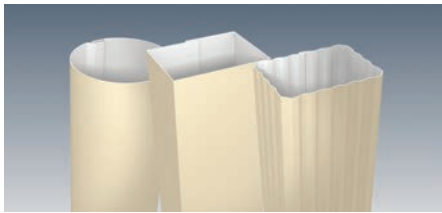
Commercial Gutter

ATAS' Commercial Gutters are fabricated in several styles and sized to meet your project's needs. Available in a wide variety of materials, gauges and colors the gutter is supplied in standard 12'-0" lengths, and custom lengths up to 40'-0" to minimize joints. The internal gutter straps are easy to install and provide a clean exterior appearance. Optional external brackets, color matched to the gutter, are also available.



Ultra HP Gutter

Ultra HP Gutter has been designed to resist high winds and tested per ANSI/SPRI GD-1 to prove it performs. Ultra HP Gutter is available in several styles and sizes all of which feature ATAS' HP (High Performance) gutter bracket and strap for superior wind resistance. Available in a wide variety of materials, gauges and colors the Ultra HP Gutter is supplied in standard 12'-0" lengths, and custom lengths up to 40'-0" to minimize joints.



Downspout

ATAS' downspouts are offered in several sizes to meet your water control needs, and are available in a wide variety of materials, gauges and colors to enhance the appearance of your project. Downspout straps, collector boxes, outlet tubes, and elbows are available for a complete professional installation.

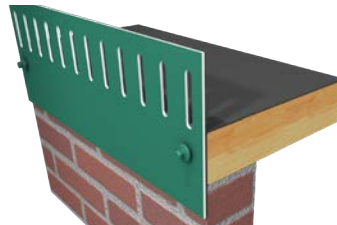


Scuppers and Collector Boxes

ATAS' Scuppers and Collector Boxes are made to order in either standard or custom design to meet your project's needs. The components are blanked and formed using CNC equipment for precise uniform pieces that are then riveted and sealed for quick economical scuppers and collector boxes, or factory welded and post-painted for a smooth clean appearance.



Flow-Through Gravel Stop



Drain Bar

Flow-Through Gravel Stop and Drain Bar

ATAS' Flow-Through Gravel Stops and Drain Bars provide a method to terminate the roof, and allow water to flow over the edge, while retaining gravel or stone ballast on the roof. Most commonly used at a gutter or low roof transitions, Flow-Through Gravel Stop and Drain Bar is furnished in 12'-0" lengths of mill or pre-finished aluminum (other architectural metals available upon request) that is perforated or slotted for proper water flow and gravel or ballast retention.



Fascia Extender

Fascia Extenders provide for additional coverage or a more bold appearance, when they are installed under and below the face of a fascia or coping. ATAS' Fascia Extender includes a continuous 22 ga steel cleat pre-punched with slotted fastener holes, and a pre-punched cover offered in a wide variety of materials, gauges and colors. They are provided in 12'-0" lengths, with interior splice plates, and ring shank nails for a complete installation.

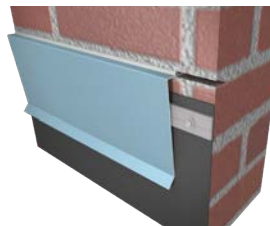


Ledge Cap

Ledge Caps cover the top of brick ledges or other projections, and can be flashed to the wall or under the face of a coping or fascia above. ATAS' Ledge Cap includes a continuous 22 ga steel cleat pre-punched with slotted fastener holes, and a pre-punched cover offered in a wide variety of materials, gauges and colors. They are provided in 12'-0" lengths, with interior splice plates, and ring shank nails for a complete installation.



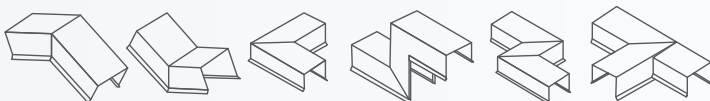
2-piece Counter Flashing



1-piece Counter Flashing

Counter Flashing

ATAS offers two styles of Counter Flashing; a 2-piece system with receiver and snap-in skirt, or an economical 1-piece system. Both the 2-piece and 1-piece counter flashings are available as surface mount, reglet, or through wall. Counter Flashing is provided in 12'-0" lengths, pre-punched for fasteners, and is available in a range of materials, gauges and colors.



Miters for peaks, valleys, inside and outside corners, steps, transitions, and more



Job-Specific Fabrications

In addition to our full line of stock standard items, ATAS International offers a wide range of custom fabrication capabilities to fit any project's needs. Radiused sections and accessories including miters, T-miters, end caps, and end closures are available for all perimeter edge products. Options include fabricated and sealed or welded and 70% PVDF painted to match. Available in over 30 70% PVDF stock colors, our products come equipped with industry expertise and technical support, including design and development assistance, product specification guidance, and installation support.

Color Chart

STOCK COLORS (70% PVDF FINISH)



Black (02)



Forest Green (11)



Chocolate Brown (04)



Sierra Tan (09)



Regal Blue (18)



Classic Bronze (01)



Teal (19)



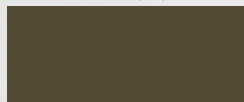
Boysenberry (25)



Rawhide (15)



Slate Blue (21)



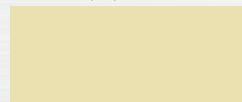
Medium Bronze (03)



Hemlock Green (30)



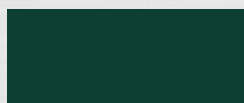
Redwood (07)



Concord Cream (05)



Rocky Grey (16)



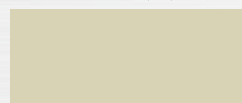
Hartford Green (27)



Patina Green (12)



Mission Red (08)



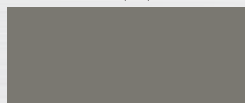
Almond (36)



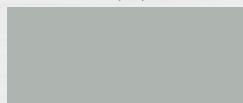
Siam Blue (14)



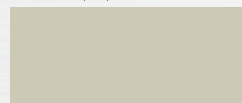
Charcoal Grey (62)



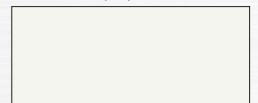
Slate Grey (20)



Dove Grey (13)

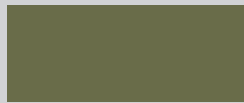


Sandstone (06)

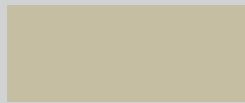


Bone White (26)

PREMIUM (70% PVDF FINISH)



Antique Patina (24)



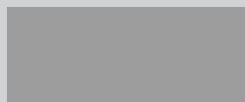
Champagne (31)



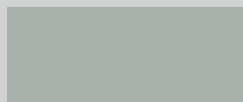
Brite Red (17)



Coppertone (23)



Silversmith (28)

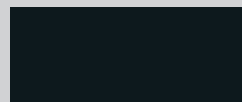


Titanium (35)

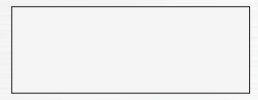
PREMIUM (ANODIZED)



Clear Satin Anodized (70)



Dark Bronze Anodized (71)



Ascot White (10)



Acrylic Coated Galvalume® (97)

For current SRI values and agency listings, or to order color chips, please refer to our online color chart: www.atas.com/colors



ATAS International, Inc.

Allentown, PA | Mesa, AZ

800.468.1441 | www.atas.com | info@atas.com

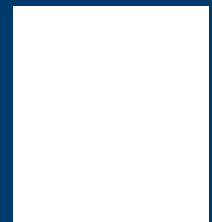
© 2018 ATAS International, Inc.

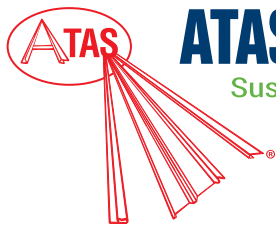
Contact ATAS for more information. ATAS reserves the right to modify, eliminate and/or change its products without prior notification.

LRD1218 LAT765



ATAS' professional staff is able to assist in the design or provide shop drawings for your project. Final choice of materials and installation is the responsibility of the owner, architect and/or the owner's agent. ATAS International, Inc. cannot be held responsible for the ultimate selection or the installation of those materials. Due to slight stress in metal materials and substrates to which perimeter edge metal systems are applied, installed covers may exhibit a perceived waviness in the flat areas of the panel. Commonly the period and amplitude of the waviness is dependent upon the continuous flat width of the panel. This condition is beyond the control of ATAS and consequently this perceived waviness or "oil canning" of the product is not a valid reason for rejection of materials. (Refer to ASTM E 1514, ASTM E 1637 and Metal Construction Association Technical Bulletin 1060 for further clarification). ATAS reserves the right to modify, eliminate and/or change its products without prior notification. ATAS cannot be held responsible for errors in line drawings and typesetting. Inquire for availability. Colors are as close to the actual colors as modern printing allows. Exact color chips on request; this is a requirement for all premium colors. If you have requirements or preference for colors or finishes other than shown, contact ATAS. Color availability varies by material, gauge and profile. ATAS is not responsible for colors selected from this chart. Contact ATAS for more information.





1. PRODUCT NAME

ATAS Scupper

2. MANUFACTURER

ATAS INTERNATIONAL, INC.

Website: www.atas.com

Email: info@atas.com

Corporate Headquarters:

Allentown, PA 18106

Phone: (800) 468-1441

Western Facility:

Mesa, AZ 85204

Phone: (480) 558-7210

3. PRODUCT DESCRIPTION

Basic Uses:

ATAS Scupper is used for both new construction and re-roofing. It provides for an opening in parapet wall for water to flow through, either as the primary drainage point or for emergency over flow.

Composition and Materials:

Standard Offerings: ATAS Scupper is brake formed from 0.040, 0.050, 0.063 aluminum, and 24, 22 gauge metallic coated steel.

Special Offerings: 16, 20 oz. copper; 24, 22 gauge stainless steel; and 1.0 mm zinc.

Sizes and Profiles:

ATAS Scuppers are square or rectangular tubes with a 3" flange at the face. Standard sizes are: 6" – 24" width x 3" – 12" height x 6" – 24" deep. Custom sizes are available.

Color and Finish:

Offered in 70% PVDF finish, as well as Clear Satin or Dark Bronze anodized aluminum; choose from over 35 stock colors or custom colors. Request a color chart or samples for additional details.

4. TECHNICAL DATA

70% PVDF based finishes tested by paint supplier for:

- Dry Film Thickness: ASTM D 1005, ASTM D 1400, ASTM D 4138 or ASTM D 5796
- Specular Gloss: ASTM D 523
- Pencil Hardness: ASTM D 3363
- T-Bend Flexibility: ASTM D 4145
- Mandrel Bend Flexibility: ASTM D 522
- Impact Resistance: ASTM D 2794
- Adhesion: ASTM D 3359
- Water Immersion Resistance: ASTM D 870
- Abrasion Resistance: ASTM D 968
- Acid Resistance: ASTM D 1308

- Acid Rain Resistance (Kesternich): ASTM G 87 or DIN 50018
- Salt Spray: ASTM B 117
- Cyclic Salt Spray: ASTM D 5894
- Humidity Resistance: ASTM D 2247
- Accelerated Weathering: ASTM D 822 and ASTM G 155, ASTM G 151 or ASTM G 153
- Color Retention, Florida Exposure: ASTM D 2244
- Chalking Resistance: ASTM D 4214
- Cleveland Condensing Cabinet: ASTM D 4585
- Cure Test, MEK Resistance: ASTM D 5402
- Alkali Resistance, Sodium Hydroxide: ASTM D 1308, Procedure 7.2
- Organic Coatings meet AAMA 2605 when applied to aluminum.
- Galvanized Steel: ASTM A 653
- 55% Al-Zn alloy coated Steel: ASTM A 792
- Aluminum: ASTM B 209
- Copper: ASTM B 370
- Coil Coating: ASTM A 755

5. INSTALLATION

ATAS Scupper is installed in wall openings and flashed in place. Installation instructions are available through ATAS. Visit www.atas.com for more information.

6. AVAILABILITY AND COST

Availability:

ATAS Scupper is readily available through ATAS product distributors. A complete line of related components is available to complete the water control system. Flat sheet and/or coil stock in matching color is also available for fabrication of other items by the installing contractor.

Cost:

Contact ATAS product representatives or distributors for current pricing.

7. WARRANTY

Products coated with a fluoropolymer, 70% PVDF finish carry a limited warranty against chalking and fading.

8. MAINTENANCE

ATAS Scupper materials require minimal maintenance. Surface residue is easily removed by conventional cleaning methods. For painted products, minor scratches should be touched up with matching paint, available from the manufacturer. ATAS Scupper should be inspected regularly to ensure it remains properly flashed and is not blocked.

9. TECHNICAL SERVICES

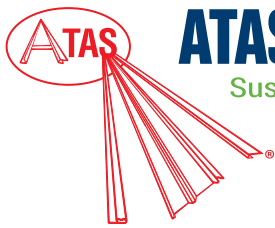
Complete technical information and literature are available at www.atas.com. ATAS will assist with design ideas and shop drawings.

10. FILING SYSTEM

- www.atas.com
- Additional product information is available from the manufacturer upon request

ATAS International, Inc., has the ability to customize Perimeter Edge Systems per specific projects. Please contact the factory to discuss options for your project.





1. PRODUCT NAME

ATAS Collector Box

2. MANUFACTURER

ATAS INTERNATIONAL, INC.

Website: www.atas.com

Email: info@atas.com

Corporate Headquarters:

Allentown, PA 18106

Phone: (800) 468-1441

Western Facility:

Mesa, AZ 85204

Phone: (480) 558-7210

3. PRODUCT DESCRIPTION

Basic Uses:

ATAS Collector Box is used for both new construction and re-roofing. It collects water from a gutter or Scupper and directs it to a downspout.

Composition and Materials:

Standard Offerings: ATAS Collector Box is brake formed from 0.040, 0.050, 0.063 aluminum, and 24, 22 gauge metallic coated steel.

Special Offerings: 16, 20 oz. copper; 24, 22 gauge stainless steel; and 1.0 mm zinc.

Sizes and Profiles:

ATAS Collector Boxe has a rectangular top section with a lower section tapering to an outlet tube. Face of the top section has an overflow opening. Standard sizes are: 12" x 12" x 8" and 18" x 18" x 12". Custom sizes and configurations are available.

Color and Finish:

Offered in 70% PVDF finish, as well as Clear or Dark Bronze anodized aluminum; choose from over 35 stock colors or custom colors. Request a color chart or samples for additional details.

4. TECHNICAL DATA

70% PVDF based finishes tested by paint supplier for:

- Dry Film Thickness: ASTM D 1005, ASTM D 1400, ASTM D 4138 or ASTM D 5796
- Specular Gloss: ASTM D 523
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- Impact Resistance: ASTM D 2794
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- Water Immersion Resistance: ASTM D 870
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- Acid Resistance: ASTM D 1308
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- Cyclic Salt Spray: ASTM D 5894
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- Accelerated Weathering: ASTM D 822 and ASTM G 155, ASTM G 151 or ASTM G 153
- Color Retention, Florida Exposure: ASTM D 2244
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- Cure Test, MEK Resistance: ASTM D 5402
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- Organic Coatings meet AAMA 2605 when applied to aluminum.
- Galvanized Steel: ASTM A 653
- 55% Al-Zn alloy coated Steel: ASTM A 792
- Aluminum: ASTM B 209
- Copper: ASTM B 370
- Coil Coating: ASTM A 755

5. INSTALLATION

ATAS Collector Box is installed on walls below scuppers or gutter outlets. Installation instructions are available through ATAS. Visit www.atas.com for more information.

6. AVAILABILITY AND COST

Availability:

ATAS Collector Box is readily available through ATAS product distributors. A complete line of related components is available to complete the water control system. Flat sheet and/or coil stock in matching color is also available for fabrication of other items by the installing contractor.

Cost:

Contact ATAS product representatives or distributors for current pricing.

7. WARRANTY

Products coated with a fluoropolymer, 70% PVDF finish carry a limited warranty against chalking and fading.

8. MAINTENANCE

ATAS Collector Box materials require minimal maintenance. Surface residue is easily removed by conventional cleaning methods. For painted products, minor scratches should be touched up with matching paint, available from the manufacturer. ATAS Collector Box should be inspected regularly to ensure it remains securely attached to the wall, and is not blocked.

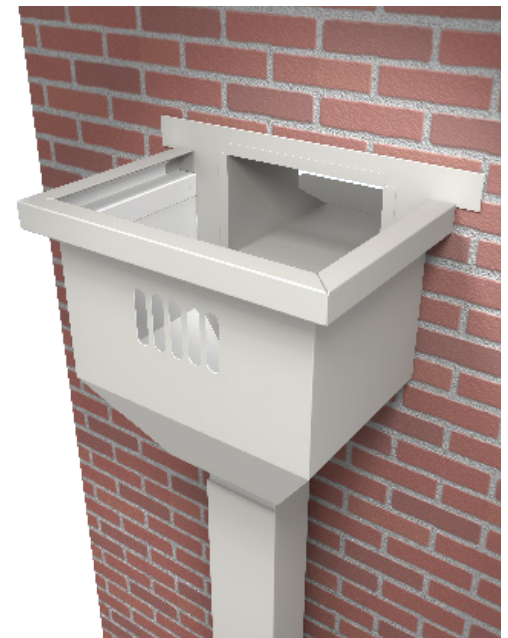
9. TECHNICAL SERVICES

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10. FILING SYSTEM

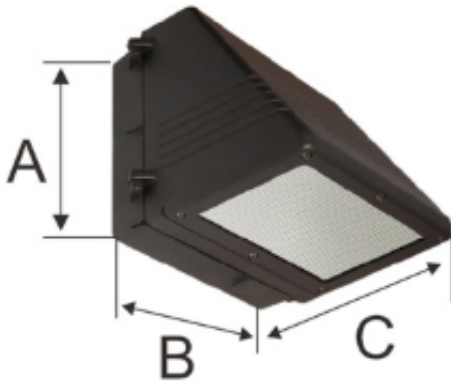
- www.atas.com
- Additional product information is available from the manufacturer upon request

ATAS International, Inc., has the ability to customize Perimeter Edge Systems per specific projects. Please contact the factory to discuss options for your project.



Wall Pack Lights

Dimension



	MM	INCH
A	235	9.25
B	360	14.17
C	300	11.8

Specifications - 100W Full Cut-off LED Wall Pack Lights

Model	LSFWP-100W
Wattage	100W
Luminous Flux	11500 Lumen
Light Source	Philips SMD 3030
LED QTY	N/A
Driver Power	UL Approved
Dimension	9.25*14.17*11.8 in
Equivalent	400W metal halide / HID wall pack Equivalent
CCT	3000K 4000K 5000K 5700K 6500K
Input Voltage	100-277VAC and 347-480VAC
Power Factor	>0.95
Cap Type	Base Options:US,Europe,UK,Australia plug
optical lens	N/A
Construction	High pressure die-casting aluminum external
Installation Method	Wall installation
IP Rating	IP65
CRI	>80
Working Tempe / Humidity	-45 to + 50 Deg C / @Ta=25 Deg C
Warranty	5 year Warranty
Rated Lifespan	50,000+ hours
Certified	ETL cETL TUV CE RoHS SAA FCC PLC DLC Ctick certified

LED Wall Pack Light

Full Cut-off Wall Pack



Model #	Rated Power(W)	Luminous Flux (lm)	Weight (kg)	Replacement
LSSWP-30W	30W	3000Lm	1.34	105W HID/Metal Halide
LSSWP-40W(Same as DLC NO.)	40W	4800Lm	2.96	150-175W HID/Metal Halide
LSSWP-60W(Same as DLC NO.)	60W	7200Lm	3.04	200-250W HID/Metal Halide
LSSWP-75W(Same as DLC NO.)	75W	9000Lm	3.14	300W HID/Metal Halide
LSSWP-100W(Same as DLC NO.)	100W	12500Lm	3.90	400W HID/Metal Halide