

MUNDUSTM Glass Patch Fitting

Guide Specification

The **MUNDUS** patch fitting from **dormakaba** combines adjustability and unparalleled capacity with sleek design. While remaining dimensionally similar to current patch fittings, **MUNDUS** offers zero-point and flush adjustability after the door is installed, simplifying an often-labor-intensive process. Using standard glass fabrication, **MUNDUS** provides pivot point adjustment, enhancing flexibility in top, bottom, transom, and sidelite fittings for a perfect installation. Adjustment for variance in glass thickness eliminated multiple gaskets for a snug fit every time.

The **MUNDUS** fittings support glass weights and thicknesses beyond any patch fitting currently available. **MUNDUS Comfort** provides fittings for 3/8” through ½” glass door assemblies, weighing up to 330 lbs. **MUNDUS Premium** offers additional weight capacity up to 440 lbs. and glass thicknesses from 9/16” through 7/8”, including tempered laminated glass.

True to form for a **dormakaba** product, **MUNDUS** provides outstanding quality. MUNDUS Comfort and Premium have undergone endurance testing of hundreds of thousands of operating cycles. These fittings will provide outstanding appearance, adjustability, and durability despite a heavy load and traffic demands - embodying design and function in perfect transparency.

**dormakaba** interior glass products and solutions help create balance between function and aesthetics in the interior architecture of office units and professional practices. They provide spatial efficiency, transparency, smooth transitions between spaces, comfort and flexibility.

We recommend you consult with your **dormakaba** representative, who can be contacted through dormakaba USA, Inc.; (800) 523-8483; email: specifications@dormakaba.com; website: [www.dorma.com](http://www.dorma.com).

**dormakaba** products appear in the following CSI MasterFormat specification sections:

dormakaba INTERIOR GLASS SYSTEMS

08 17 53 Interior Glass Door Assemblies: VISUR; MUTO / Synchro; RS120 / Synchro; DRS120; RSP80; TENSOR

08 41 26 All-Glass Entrances and Storefronts: Rail Fittings; Patch Fittings; Dri-Fit rails

10 22 15 Fixed Glass Panel Partitions: PURE; PURE Enclose; Prive; Fusion

10 22 39 Folding Partitions, Glass: FSW G, C

10 22 43 Sliding Partitions, Glass: HSW DRS, ES, MR; HSW ISO, FT; HSW GP, R

dormakaba ENTRANCE SYSTEMS

08 42 29 Automatic Entrances, Swinging: ED100/ED250; ED400; ED400-IG; ED700

08 42 29 Automatic Entrances, Folding: ED1200

08 42 29 Automatic Entrances, Sliding: ESA100/ESA100T; SA200/ESA200T; ESA300/ESA300T; ESA400; ESA500

08 42 29 Automatic Sliding Interior Entrances: MAGNEO

08 42 43 ICU/CCU Entrances: ICU300 / 300T; ICU1200

CRANE REVOLVING DOORS

08 42 33 Revolving Door Entrances: 1000 Series; 2000 Series; 3000 Series; 4000 Series; KTC Series

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SECTION 08 41 26 – INTERIOR ALL-GLASS ENTRANCES

GENERAL

* + - 1. SUMMARY
				1. Section includes swinging, double-acting [exterior] [and] [interior] all-glass door assemblies with concealed closers, patch fittings, and top and bottom pivots.
			2. REFERENCE STANDARDS

Specifier: If retaining References article, edit the list below to include only those references in the edited section.

* + - * 1. American Architectural Manufacturers Association (AAMA): [www.aama.org](http://www.aama.org):

AAMA 611 Voluntary Specification for Anodized Architectural Aluminum

* + - * 1. ASTM International (ASTM): [www.astm.org](http://www.astm.org):

ASTM C1048 Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass

* + - * 1. Builders Hardware Manufacturers Association (BHMA): [www.buildershardware.com](http://www.buildershardware.com):

ANSI/BHMA A156 Series

* + - * 1. Code of Federal Regulations

16 CFR 1201 Safety Standard for Architectural Glazing Materials

* + - * 1. International Code Council (ICC): [www.iccsafe.org](http://www.iccsafe.org):

ICC A117.1 Accessible and Usable Buildings and Facilities (ANSI)

* + - * 1. Safety Glazing Certification Council (SGCC): [www.sgcc.org](http://www.sgcc.org):

Certified Products Directory.

* + - * 1. U.S. Architectural & Transportation Barriers Compliance Board: [www.access-board.gov](http://www.access-board.gov):

Americans with Disabilities Act (ADA) and Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities

* + - 1. ADMINISTRATIVE REQUIREMENTS
				1. Coordination:

Coordinate installation of interior glass door assemblies with installation of floor and wall opening construction to comply with tolerance requirements of recessed components.

Coordinate installation of anchors and blocking indicated on approved all-glass entrance shop drawings.

* + - 1. ACTION SUBMITTALS
				1. Product Data: For each all-glass entrance component, including:

Glass panels.

Door hardware and accessories.

* + - * 1. Shop Drawings: For interior glass door assemblies.

Include plans, elevations, sections, and details of layout and installation. Use glass panel type designations where specified.

Locations and requirements for recesses and attachments to other work.

Door hardware locations, mounting heights, and installation requirements.

* + - * 1. Samples for Verification: For each exposed component including hardware, for each color and finish selected, of size indicated below:

Glass: 6 inches (150 mm) square, showing exposed-edge finish[ and tint].

Hardware: One of each type of exposed door hardware items.

* + - 1. INFORMATIONAL SUBMITTALS
				1. Qualification Data: For qualified installer.
				2. Warranty: Sample of unexecuted manufacturer warranty.
			2. CLOSEOUT SUBMITTALS
				1. Maintenance Data: For interior glass door assemblies, to include in maintenance manuals.
			3. QUALITY ASSURANCE
				1. Manufacturer/Installer Qualifications: Glass door manufacturer and experienced installer shall be engaged in heavy tempered glass door manufacturing and installation for at least fine (5) years and be equipped and trained for installation of interior glass door assemblies required for this Project with record of successful completion of not less than five projects of similar scope.
				2. Delivery, Storage, and Handling: Protect the door and glazing materials during delivery, storage, and handling to comply with manufacturer’s directions and as required to prevent damage to the glass and hardware.
				3. Safety Glazing Standard: 3/8", 1/2", 9/16”, 5/8”, 11/16”, 3/4", 13/16”, 7/8” tempered glass must meet standards specified in ANSI Z97.1 CPSC 16 CFR 1201, ASTM C 1036, and ASTM C 1048.
			4. WARRANTY
				1. Special Manufacturer's Warranty: Standard form in which manufacturer agrees to repair or replace components of interior glass door assemblies that demonstrate deterioration or faulty operation due to defects in materials or workmanship under normal use within warranty period specified. Manufacturing defects are defined as any mechanical failure of hardware which prevents the proper operation of the doors and appropriate installation.

Warranty Period: [2] years date of Substantial Completion.

Specifier: For high frequency use openings, consider retaining "Continuing Maintenance Service" Paragraph below; consult dormakaba representative for recommendations.

* + - * 1. Continuing MaintenanceService: Provide proposal to Owner for maintenance of patch fitting interior glass door assemblies by competent employees of assembly Installer. Manufacturer's standard continuing maintenance agreement, commencing one year from date assembly is placed into service. Include the following:

Site Visits: Provide not less than one site visit per year to perform required tasks under this Service.

Verify attachment and support of interior glass door assemblies. Adjust support and alignment as required to bring assembly into manufacturer's recommended clearance tolerances and to provide smooth operation for door panels and hardware.

Continuing Maintenance Period: [10] years from date of substantial completion.

Part 2 - PRODUCTS

* 1. MANUFACTURERS
		+ - 1. Basis of Design Product: Provide glass door assemblies manufactured with MUNDUS by **dormakaba**; (800) 523-8483; email: specifications@dormakaba.com; website: [www.dorma.com](http://www.dorma.com/), [or comparable products of other manufacturer approved by Architect in accordance with Instructions to Bidders and Division 01 General Requirements].
				2. Other Manufacturers: Upon compliance with all the criteria specified in this section, other manufacturers wishing to bid products similar to the product specified herein must submit to the architect 10 days prior to bidding complete data in support of compliance and a list of three (3) past installations of products similar to those listed.

Specifier: Retain option in "Basis of Design Product" Paragraph for evaluating substitutions when required for project.

* + - * 1. Source Limitations: Provide interior glass door assemblies through one source from a single manufacturer.

Specifier: Select one or more of the glass types from list below as required for project. If more than one glass type is required, retain the optional drawing designations and indicate locations of each type on Drawings. Consult dormakaba representative for availability of additional glass panel options.

MUNDUS Premium hardware supports door glass panels of up to 440 lb (200 kg) with a maximum width of 51” (1300mm).

MUNDUS Comfort hardware supports door glass panels of up to 330 lb (150 kg) with a maximum width of 48” (1200mm).

2.2 GLASS PANELS

* + - * 1. Glass Panels, General:

Provide glass panels that comply with 16 CFR 1201, Category II requirements for safety glazing. Permanently mark glazing with certification label of the SGCC.

Provide glass panels with exposed edges machine ground and flat polished.

Provide holes and cutouts in glass to receive hardware, fittings, and accessories prior to tempering glass. Do not cut, drill, or make other alterations to glass after tempering.

Fully temper glass using horizontal (roller-hearth) process, and fabricate so that when glass is installed, roll-wave distortion is parallel with bottom edge of door or lite.

* + - * 1. Fully Tempered Clear Float Glass [GL#\_\_]: ASTM C1048, Kind FT, Condition A, Type I, Class 1, Quality-Q3; thickness [3/8 inch (9.5 mm)] [1/2 inch (12.7 mm)] [5/8 inch (15.9 mm)] [3/4 inch (19.0 mm)].
				2. Fully Tempered Tinted Float Glass [GL#\_\_]: ASTM C1048, Kind FT, Condition A, Type I, Class 2, Quality-Q3; thickness [3/8 inch (9.5 mm)] [1/2 inch (12.7 mm)] [5/8 inch (15.9 mm)] [3/4 inch (19.0 mm)].
				3. Fully Tempered Ultraclear (Low-Iron) Float Glass [GL#\_\_]: ASTM C 1048, Kind FT, Condition A, Type I, Class 1, Quality-Q3, with visible light transmission of not less than 91 percent; thickness [3/8 inch (9.5 mm)] [1/2 inch (12.7 mm)] [5/8 inch (15.9 mm)] [3/4 inch (19.0 mm)].
				4. Fully Tempered Laminated Glass [GL#\_\_]: ASTM C 1172, Two layers, Kind FT, Condition A, Type I, Class 1, Quality-Q3; thickness .236 inches (6 mm) minimum bonded to an interlayer of .060 inches (1.5mm) thickness minimum.

Specifier: Specifier: For tempered glass, MUNDUS Premium or MUNDUS Comfort (5/16”-1/2”) may be used. For tempered laminated glass, MUNDUS Premium may only be used.

Consult dormakaba representative for more information on the variety of textured and art glass and custom glass treatments that are available.

2.3 ALL GLASS ENTRANCE ASSEMBLIES

* + - * 1. Accessibility Standard: Comply with applicable provisions in ADA-ABA Accessibility Guidelines for Buildings and Facilities] [and] [ICC A117.1] [requirements of authorities having jurisdiction].

Specifier: Retain applicable options below as required for Project.

* + - * 1. All-Glass Entrance Assembly Configurations: [Exterior] [Interior] tempered-glass frameless entrance assembly, with perimeter fittings, patch fitting mountings and supports, door pivots [, closers] [, locks] [, and] [accessories].

Manual-Swinging, All-Glass Entrance Doors:

Patch fittings at head and sill on pivot side [, and for lock at sill of swing side] [, and for lock and strike].

Single Door: Size as scheduled [, single-action] [, double-action].

Double Door: Size as scheduled [, single-action] [, double-action].

Door Supports: [Adjacent glass panels] [Building structure indicated on Drawings] [Metal frame specified in another section].

[Sidelights] [, and] [Transoms] [, and Fins]: Glass panels of material and thickness specified, of size indicated on Drawings, held within [dry gasket glazing channel] [glazing U channels] [rail] perimeter fittings.

All-Glass Storefronts: Glass panels of material and thickness specified, of size indicated on Drawings, held within [dry gasket glazing channel] [glazing U channel] [rail] perimeter fittings and fastened to each other with patch fittings.

* 1. PATCH FITTINGS

Specifier: Retain option for safety clamping fittings in "Patch Fittings, General" Paragraph below when required to secure free-hanging glass units. Verify requirements with dormakaba representative.

* + - * 1. Patch Fittings: Top and bottom patch fittings are 2" x 6-1/2" and are made up of 3 components: base fitting, insert and cover. The base fitting is cast aluminum with adjustable connecting screws, snap on covers (aluminum anodized, stainless steel, and glass as finish requires), with frame, and adjustable inserts are a combination of aluminum and hardened steel. PT numbers (part numbers for ordering all 3 components as a single complete unit) are available (see hardware). Fiber Gasket is used to obtain maximum coefficient of friction between glass and aluminum assembly, with the addition of a 2-part epoxy and corresponding gasket for laminated glass and doors over 330 lbs. Both the top and bottom patch fittings have inserts to accommodate the pivot/closer mechanisms.
				2. Basis-of-Design Product: Provide **[MUNDUS Premium] [MUNDUS Comfort]** Center Hung interior patch fittings.
				3. Patch Fittings:

Clip-on Cover Material and Finish:

Aluminum, [clear anodized] [dark bronze color anodized] [black color anodized] [aluminum color anodized] [stainless steel color anodized] [satin brass color anodized].

Aluminum, [Brass-clad aluminum] [Bronze-clad aluminum] [Stainless-steel-clad aluminum].

Aluminum, powder coated, <match Architect's custom color> <insert color>.

Stainless steel, [satin] [polished].

Glass [black]

* + - * 1. Materials:

Aluminum: ASTM B 221 (ASTM B 221M), with strength and durability characteristics of not less than Alloy 6063-T5.

Stainless-Steel Cladding: ASTM A 666, Type 304.

Glass

Specifier: Retain applicable door hardware components in "Door Hardware and Fittings" Article. Show location of door hardware components on Drawings.

dormakaba offers a wide array of applicable door hardware options for interior glass door assemblies. Consult dormakaba representative for additional options, including electronic access controls.

* 1. DOOR HARDWARE AND FITTINGS
		+ - 1. General: Heavy-duty entrance door hardware units in sizes, quantities, and types recommended by manufacturer for all-glass entrance systems indicated. For exposed parts, match metal and finish of patch fittings.
				2. Concealed Transom Closers and Bottom Pivots: Center hung. Provide housings, bottom arms, top walking beam pivots, auxiliary stop, mounting plates, and accessories.

Basis of Design: **dormakaba, RTS88 Series.**

Swing: Single or double acting as indicated on Drawings[, with positive dead stop] [and hold-open].

Hold Open: [105 degree] [90 degree].

Opening Force: Comply with interior door operating force of authorities having jurisdiction for [accessibility requirements] [and] [egress doors].

Specifier: Typically specify dormakaba BTS75 Floor Closer, which is suitable for thin slab applications, and is equipped with a fixed hold-open function; it is suitable for doors weighing up to 260 lb. BTS80 Floor Closer is available for heavy doors and is equipped with an adjustable hold-open function; it is suitable for doors weighing up to 660 lb. Note that BTS80 may not meet ADA-stipulated 5 lb. opening force requirements if applicable.

* + - * 1. Concealed Floor Closers and Top Pivots: Center hung; BHMA A156.4, Grade 1. Provide housings, bottom insert, top pivots, mounting plates, and accessories.

Basis of Design: **dormakaba,** [**BTS75**][**BTS80**] **Series**.

Swing: Single or double acting as indicated on Drawings.

Hold Open: [Fixed] [Adjustable].

Opening Force: Comply with interior door operating force of authorities having jurisdiction for [accessibility requirements] [and] [egress doors] .

* + - * 1. Concealed Low-Energy In-Floor Door Operator and Top Pivots: [Center] [Offset] hung; BHMA A156.19. Provide housings, bottom insert, top pivots, mounting plates, and accessories.

Basis of Design: **dormakaba, ED400-IG Series**.

Swing: Single acting as indicated on Drawings.

Hold Open: [Fixed] [Adjustable].

Operation: Power opening and power-assisted spring closing. Provide time delay for door to remain open before initiating closing cycle as required by BHMA A156.19. When not in automatic mode, door operator shall function as manual door closer, with or without electrical power.

Opening Force if Power Fails: Not more than 15 lbf (67 N) required to release latch if provided, not more than 30 lbf (133 N) required to manually set door in motion, and not more than 15 lbf (67 N) required to fully open door.

Accessible Interior Doors: Not more than 5 lbf (22 N) to push or pull door to fully open position.

Activation Device: [Push-plate switch] [Push-button switch] [Key switch] [on each side of door] to activate door operator.

* + - * 1. Exit Devices: BHMA A156.3 and UL 305.

Basis of Design: **dormakaba, DG1000**.

Function: Operation by push-pull when inside operator is locked down (dogged).

Latching: [Fixed strike] [Electric strike for access control], located at door head.

Pull: One side; design as selected by Architect from manufacturer's standard designs.

* + - * 1. Pulls and Handles: [One-sided] [Back-to-back].

Basis of Design: **dormakaba, TG 138 Ladder Pulls or TG Decorative Pulls**

Unit Length: [As indicated on Drawings] [As selected by Architect from manufacturer's standard or custom options].

Specifier: Verify compliance of locking ladder pulls with project accessibility requirements, if applicable.

* + - * 1. Locking Ladder Pull: Pair of tubular lockable pull handles with thumb turns, Grade 316L stainless steel, accommodating key cylinder, with [floor-recessed deadbolt] [and] [head-mounted deadbolt].

Basis of Design: **dormakaba, TG138 Locking Ladder Pulls**.

Unit Length: [49 inch (1245 mm)], [60 inch (1524 mm)], [72 inch (1829 mm)], [84 inch (2134 mm)], [\_\_ inch (\_\_ mm)] <insert custom length>.

* + - * 1. Mechanical Locks and Latches:

Single-Door and Active-Leaf Locksets: Manufacturer’s standard patch dead-bolt locksets.

Specifier: dormakaba lockset below utilizes Euro profile key cylinder.

Mortise lock and housing:

1. Basis of Design: **dormakaba, CLM9000 Series** <insert function, lever, and cylinder information>.

AR-20 bottom patch fitting dead bolt operated by key outside and thumb-turn inside and engaging a dust proof strike.

Inactive-Leaf Locksets: Manufacturer’s standard hook-bolt locksets.

AR-20 bottom patch fitting dead bolt engaging a dust proof strike operated by key outside and thumb turn inside.

Lock and Latch Housings: Patch mounting to glass panel door, with matching strike mounted in housing on adjacent glass panel.

Basis of Design: **dormakaba, Studio or Office Locksets** <insert lever, cylinder information>.

Specifier: Select one of three "Lock Cylinder" paragraphs below.

* + - * 1. Lock Cylinders: Manufacturer's standard cylinders for lock housing type specified.
				2. Lock Cylinders: Tumbler type, constructed from brass or bronze, stainless steel, or nickel silver; BHMA A156.5, Grade 1, permanent removable cores; with face finish matching lockset[, keyed to master key system].
				3. Lock Cylinders: As specified in Section 08 71 00 "Door Hardware."
	1. Fabrication
		+ - 1. General: Fabricate all-glass door assemblies in sizes, profiles, and configurations shown on Drawings.
				2. Provide holes and cutouts in glass to receive hardware, fittings, and accessories prior to tempering glass. Do not cut, drill, or make other alterations to glass after tempering.

Fully temper glass using horizontal (roller-hearth) process, and fabricate so that when glass is installed, roll-wave distortion is parallel with bottom edge of door or lite.

PART 3 - EXECUTION

* 1. EXAMINATION
		+ - 1. Examine door opening to determine if work is within all-glass entrance manufacturer's required tolerances and ready to receive work, including those for size, plumb and squareness. Whenever possible, take field measurements prior to approving shop drawings to ensure proper fitting of the door panels. Examine top support, and anchorages for structural adequacy. Report any conditions which may adversely affect the installation or performance of the door systems to the architect. Proceed with installation once conditions affecting installation and performance meet manufacturer's requirements.

3.2 DOOR INSTALLATION

* + - * 1. General: Comply with printed recommendations of door manufacturer. Adjust the hardware to obtain proper door and sidelite clearances in accordance with manufacturer’s instructions and shop drawings.
				2. Install interior glass door assemblies after other finishing operations have been completed. Coordinate installation of recesses hardware with installation of adjacent finishes.
				3. Secure pivots and panels to building structure using manufacturer's recommended fasteners suitable for application.
				4. Attach glass panels to patch plates and adjust panels to level, plumb, and true to line, with uniform clearances as recommended in writing by manufacturer.
	1. ADJUSTING
		+ - 1. Adjust doors and hardware to produce smooth operation and uniform fit.
				2. Replace damaged glass panels and accessories.
	2. CLEANING
		+ - 1. Clean glass panels in accordance with glass manufacturer's written instructions. Do not use cleaning agents or methods not approved by glass manufacturer.
				2. Clean exposed metal surfaces to factory new appearance.

END OF SECTION

**Additional Specifiers Notes**

Substitution Reviews: When reviewing substitution requests for other products for compliance with this specification, dormakaba recommends particular attention to the following issues:

Site lines and concealed operating mechanisms: Design details of dormakaba's interior glass door assemblies are what give them the visual appeal that caused them to be selected as a basis of design.

Door Hardware Options: Our position as an international leader in decorative door hardware allows dormakaba to offer a complete array of coordinated hardware options and finishes for interior glass door assemblies .

Coordination: Make sure you coordinate the following:

Elevations indicating details of special decorative glass elements

Door hardware locations and mounting details

Details of jamb and perimeter conditions

Details of opening finishes in relation to patch fittings

**MUNDUS Product Overview**

**MUNDUS Premium**

Manufactured by dormakaba IGS for tempered and tempered laminated glass assemblies

Fittings produced to ISO 9001

Fittings tested to 1,000,000 cycles

Maximum door weight of 440 lbs.

Maximum door width of 51”

Designed for 9/16”-7/8” (14-22mm) tempered glass assemblies and tempered laminated glass assemblies using epoxy.

Designed for a standard pivot point of 2-3/4” with adjustment from 2-1/16” to 2-7/8”

Designed to allow for flush alignment of the door via adjustment of the z-axis

Designed to allow for zero-point adjustment of the door within the patch fitting

Designed for door adjustment following installation

Designed to allow all adjustments by using just two screws per fitting

Supports single or double action with glass or ceiling mounted stops.

**MUNDUS Comfort**

Manufactured by dormakaba IGS for tempered glass assemblies

Fittings produced to ISO 9001

Fittings tested to 500,000 cycles

Maximum door weight of 330 lbs.

Maximum door width of 48”

Designed for 5/16”-1/2” (8-12.7mm) tempered glass assemblies

Designed for a standard pivot point of 2-3/4” with adjustment from 2-1/16” to 2-7/8”

Designed to allow for flush alignment of the door via adjustment of the z-axis

Designed to allow for zero-point adjustment of the door within the patch fitting

Designed for door adjustment following installation

Designed to allow all adjustments by using just two screws per fitting

Supports single or double action with glass or ceiling mounted stops.

MUNDUS Premium or Comfort Cover Material/Finish:

1/16” (2mm) thick, solid cover (in stainless steel or aluminum) with contrasting support frame, removable

Finishes:

Satin Stainless Steel 630

Polished Stainless Steel 629

Clear Anodized Aluminum 628

Black Bronze Anodized 710

Black Anodized 711

Satin Brass 728

Black Glass 880 - 1/8” (3mm) thick, tempered glass with colored ceramic back

Custom Anodized, Clad, or Coated Finish 199/299/399

For doors higher than 96” use a full pull (3 fixing pts).