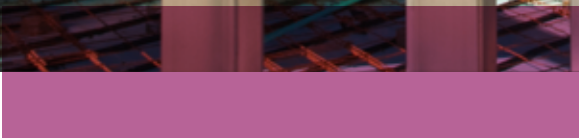


COMFORTBATT® Steel Stud

Exterior Wall Steel Stud Batt Insulation



Superior Steel Stud Wall Performance: Building Envelope Designed by ROCKWOOL (BEDR™)

Stone Wool Significantly Outperforms Standard Glass Fiber Batts

The ROCKWOOL Difference

ROCKWOOL COMFORTBATT® Steel Stud is a semi-rigid batt insulation designed specifically for exterior steel stud wall applications for residential and commercial construction.

ROCKWOOL COMFORTBATT® Steel Stud insulation provides significantly better thermal performance compared to standard glass fiber batts. This allows builders to achieve a thermal insulation value of R24 versus R19 - R21 for six-inch steel stud wall cavities, a significant improvement when considering total building envelope performance.

ROCKWOOL stone wool insulation is made from natural stone and contains up to 40% recycled content, which gives it unique characteristics that other insulations can't match. The higher density batts reduce airflow with the wall cavity, reducing convective losses. This translates into

Technical Information

Compliance and Performance

ASTM C665	Mineral Fiber Blanket Insulation	Type 1, Complies
ASTM E136	Determination for Non-Combustibility	Non-Combustible
ASTM E84	Surface Burning Characteristics	Flame Spread = 0 Smoke Developed = < 5



In the ROCKWOOL BEDR™ Wall system, COMFORTBATT® Steel Stud insulation allows builders to achieve a thermal value of R24 and offers superior acoustical performance in comparison to traditional steel stud wall cavities.

COMFORTBATT® Steel Stud Specifications

R-Value	Stud Spacing O.C.	Thickness	Width	Length
R10	16"	2.5"	16.25"	48"
R15	16"	3.5"	16.25"	48"
	24"	3.5"	24.25"	48"
R24	16"	6"	16.25"	48"
	24"	6"	24.25"	48"

Better Fit Equals Better Wall Performance

Studies show that wall assemblies with gaps and voids can result in 35% loss of the stated R-value.

ROCKWOOL COMFORTBATT® Steel Stud batts are higher density, making for simple precise cutting and a snug fit between steel studs.



FOAMULAR® & FOAMULAR® NGX™ 250

EXTRUDED POLYSTYRENE (XPS) RIGID FOAM INSULATION

Owens Corning® FOAMULAR® & FOAMULAR® NGX™ 250 Extruded Polystyrene (XPS) Insulation are closed-cell, moisture-resistant rigid foam boards well suited to meet the needs of a wide variety of building applications.¹ Both products are great for above-and below-grade residential and commercial applications such as perimeter/foundation, cavity wall, precast concrete, under slab, and other applications.

FOAMULAR® NGX™ 250 contains the additional benefit of being manufactured with a blowing agent formulation that delivers a 90% reduction to Global Warming Potential (100 year), including the complete elimination of HFC 134a.²

- 1 Not for use in flat or low slope roofing. For low slope roofing applications, use FOAMULAR® & FOAMULAR® NGX™ THERMAPINK® or FOAMULAR® & FOAMULAR® NGX™ 400/600/1000 Extruded Polystyrene (XPS) Rigid Foam Insulation.
- 2 Compared to FOAMULAR® 250 blowing agent formulation.

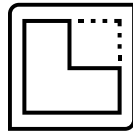
Features



SUPERIOR MOISTURE RESISTANCE



DURABLE



EASY TO CUT, FORM & FIT

Standards, Codes Compliance

- Meets ASTM C578 Type IV
- UL Classification Certificate U-197
- Code Evaluation Report UL ER8811-01
- ASTM E119 Fire Resistance Rated Wall Assemblies³
- Meets California Quality Standards; HUD UM #71a

³ Visit www.owenscorning.com for more details

Applications

- Under slabs
- Perimeter/Foundation walls
- Cavity walls
- Precast walls
- Weather-resistant barrier (when joints are sealed)

Physical Properties⁴

PROPERTY	TEST METHOD ⁵	VALUE
Thermal Resistance, ⁶ R-Value, hr·ft ² ·°F/Btu (RSI, °C·m ² /W) @ 75°F (24°C) mean temperature	ASTM C518	5.0 (0.88)
@ 40°F (4.4°C) mean temperature		5.4 (0.95)
@ 25°F (-3.9°C) mean temperature		5.6 (0.99)
Long-Term Thermal Resistance, LTTR-Value ⁷ , minimum hr·ft ² ·°F/Btu (RSI, °C·m ² /W) @ 75°F (24°C) mean temperature	CAN/ULC S770-03	5.0 (0.88)
Compressive Strength ⁷ , minimum psi (kPa)	ASTM D1621	25 (172)
Flexural Strength ⁸ , minimum psi (kPa)	ASTM C203	50 (345)
Water Absorption ⁹ , maximum % by volume	ASTM C272	0.3
Water Vapor Permeance ¹⁰ , maximum perm (ng/Pa·s·m ²)	ASTM E96	1.5 (86)
Dimensional Stability, maximum % linear change	ASTM D2126	2.0
Flame Spread ^{11, 12}	ASTM E84	10
Smoke Developed ^{11, 12}	ASTM E84	175
Oxygen Index ¹¹ , minimum % by volume	ASTM D2863	24
Service Temperature, maximum °F (°C)	-	165 (74)
Linear Coefficient of Thermal Expansion, in/in/°F (m/m/°C)	ASTM E228	3.5 x 10 ⁻⁵ (6.3 x 10 ⁻⁵)

- 4 Properties shown are representative values for 1" thick material, unless otherwise specified.
- 5 Modified as required to meet ASTM C578.
- 6 R means the resistance to heat flow, the higher the value, the greater the insulation power. This insulation must be installed properly to get the marked R-value. Follow the manufacturer's instructions carefully. If a manufacturer's fact sheet is not provided with the material shipment, request this and review it carefully. R-values vary depending on many factors, including the mean temperature at which the test is conducted and the age of the sample at the time of testing. The U.S. FTC requires the R-value of home insulation to be measured at 75 degrees F mean temperature. R-value claims should always be compare at the same mean temperature. Because rigid foam plastic insulation products are not all aged in accordance with the same standards, it is useful to publish comparison R-value data. The R-value for FOAMULAR® & FOAMULAR® NGX™ XPS Insulation is provided from testing at mean temperatures of: -4°C (25°F), 4.4°C (40°F), and 24°C (75°F) and aging techniques of 180-day real time aged (as mandated by ASTM C578) and accelerated aging "Long-Term Thermal Resistance" (LTTR) per CAN/ULC S770-03.
- 7 Values at yield or 10% deflection, whichever occurs first.
- 8 Value at yield or 5%, whichever occurs first.
- 9 Data ranges from 0.00 to value shown due to the level of precision of the test method.
- 10 Water vapor permeance decreases as thickness increases.
- 11 These laboratory tests are not intended to describe the hazards presented by this material under actual fire conditions.
- 12 Data from Underwriters Laboratories Inc.® classified. See Classification Certificate U-197.

Technical Information

- FOAMULAR® & FOAMULAR® NGX™ XPS insulation are non-structural materials and must be installed on framing that is independently braced and structurally adequate to meet required construction and service loading conditions.
- FOAMULAR® & FOAMULAR® NGX™ XPS insulation can be exposed to the exterior during normal construction cycles. During that time, some fading of color may begin due to UV exposure, and if exposed for extended periods of time, some degradation or “dusting” of the polystyrene surface may begin. It is best if the product is covered within 60 days to minimize degradation. Once covered, the deterioration stops, and damage is limited to the thin top surface layers of cells. Cells below are generally unharmed and still useful insulation.
- FOAMULAR® & FOAMULAR® NGX™ XPS insulation have a maximum service temperature of 165°F. Install only as much FOAMULAR® & FOAMULAR® NGX™ XPS insulation as can be covered in the same day. For horizontal applications, always turn the print side down so the black print does not show to the sun, which may at times act as a solar collector, raising the temperature of the foam under the print to an unacceptable level.
- Do not cover FOAMULAR® or FOAMULAR® NGX™ XPS insulation either stored (factory wrapped or unwrapped), or partially installed, with dark colored (non-white), or clear (non-opaque) coverings and leave it exposed to the sun. Examples of such coverings include but are not limited to filter fabrics, membranes, temporary tarps, clear polyethylene, etc. If improperly covered and exposed to the right combination of sun, time and temperature, FOAMULAR® and FOAMULAR® NGX™ XPS insulation deformation damage may occur rapidly. See Owens Corning publication “Heat Build Up Due to Solar Exposure Technical Bulletin” (Pub. No. 10015704) for more information.
- This product is combustible. A protective barrier or thermal barrier is required to separate this product from interior living or conditioned spaces as specified in the appropriate building code.
- All construction should be evaluated for the necessity to provide vapor retarders. See current ASHRAE Handbook of Fundamentals.

Certifications and Sustainable Features

- Certified by SCS Global Services to contain a minimum of 20% recycled content pre-consumer
- GREENGUARD Certified products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit ul.com/gg
- Environmental Product Declaration (EPD) has been certified by UL Environment
- Qualified as an ENERGY STAR® product, under the U.S. Environmental Protection Agency and the U.S. Department of Energy
- Utilizing FOAMULAR® & FOAMULAR® NGX™ XPS insulation can help builders achieve green building certifications including the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED®) certification



Environmental and Sustainability

Owens Corning is a worldwide leader in building material systems, insulation and composite solutions, delivering a broad range of high-quality products and services. Owens Corning is committed to driving sustainability by delivering solutions, transforming markets and enhancing lives. More information can be found at www.owenscorning.com.

FOAMULAR® is manufactured with a polystyrene resin and blend of HFC blowing agents that have a global warming potential (100 year) of less than 750.

FOAMULAR® NGX™ is manufactured with a polystyrene resin and a blend of HFO and HFC blowing agents that have a global warming potential (100 year) of less than 80.

Disclaimer of Liability

Technical information contained herein is furnished without charge or obligation and is given and accepted at recipient’s sole risk. Because conditions of use may vary and are beyond our control, Owens Corning makes no representation about and is not responsible or liable for the accuracy or reliability of data associated with particular uses of any product described herein. SCS Global Services provides independent verification of recycled content in building materials and verifies recycled content claims made by manufacturers. For more information, visit www.SCSglobalservices.com.

LEED® is a registered trademark of the U.S. Green Building Council.

Notes

Not for use in roofing. For roofing applications, use FOAMULAR® THERMAPINK® XPS insulation.

For additional information, refer to the Safe Use Instruction Sheet (SUIS) found in the SDS Database via <http://sds.owenscorning.com>.

Product and Packaging Data

MATERIAL		PACKAGING						
Extruded polystyrene closed-cell foam, ASTM C578 Type IV, 25 psi minimum		Shipped in poly-wrapped units with individually wrapped or banded bundles.						
THICKNESS (IN)	PRODUCT DIMENSIONS THICKNESS X WIDTH X LENGTH (IN)	PALLET (UNIT) DIMENSIONS (TYPICAL) WIDTH X LENGTH X HEIGHT (FT)	SQUARE FT. PER PALLET	BOARD FT. PER PALLET	BUNDLES PER PALLET	PIECES PER BUNDLE	PIECES PER PALLET	EDGES
¾	¾ x 24 x 96 (half unit)	4 x 8 x 4	1,920	1,536	4	30	120	Square Edge
	¾ x 48 x 96 (half unit)	4 x 8 x 4	1,920	1,536	2	30	60	Scored Square Edge
1	1 x 24 x 96	4 x 8 x 4	1,536	1,536	8	24	96	Tongue & Groove
	1 x 48 x 96	4 x 8 x 8	3,072	3,072	8	12	96	
	1 x 48 x 96 (half unit)	4 x 8 x 8	1,536	1,536	4	12	48	
	1 x 48 x 108	4 x 9 x 8	3,456	3,456	8	12	96	
1½	1.5 x 24 x 96	4 x 8 x 8	2,048	3,072	8	16	128	
	1.5 x 48 x 96	4 x 8 x 8	2,048	3,072	8	8	64	
2	2 x 24 x 96 (half unit)	4 x 8 x 4	768	1,536	4	12	48	
	2 x 24 x 108	4 x 9 x 8	1,728	3,456	8	12	96	
	2 x 48 x 96	4 x 8 x 8	1,536	3,072	8	6	48	
2½	2.5 x 24 x 96	4 x 8 x 8	1,152	2,880	8	9	72	
	2.5 x 48 x 96	4 x 8 x 8	1,152	2,880	4	9	36	
3	3 x 24 x 96	4 x 8 x 8	1,024	3,072	8	8	64	
	3 x 48 x 96	4 x 8 x 8	1,024	3,072	8	4	32	
4	4 x 24 x 96	4 x 8 x 8	768	3,072	8	6	48	
	4 x 48 x 96	4 x 8 x 8	768	3,072	8	3	24	

Available lengths and edge configurations vary by thickness. Other sizes may be available upon request. Consult your local Owens Corning representative for availability.

Limited Warranty

FOAMULAR® & FOAMULAR® NGX™ XPS insulation limited lifetime warranty maintains 90% of its R-value for the lifetime of the building and covers all ASTM C578 properties. See FOAMULAR® Extruded Polystyrene Insulation Lifetime Limited Warranty for complete details, limitations, and requirements.

OWENS CORNING FOAM INSULATION, LLC
ONE OWENS CORNING PARKWAY
TOLEDO, OHIO 43659 USA

1-800-GET-PINK®
www.owenscorning.com

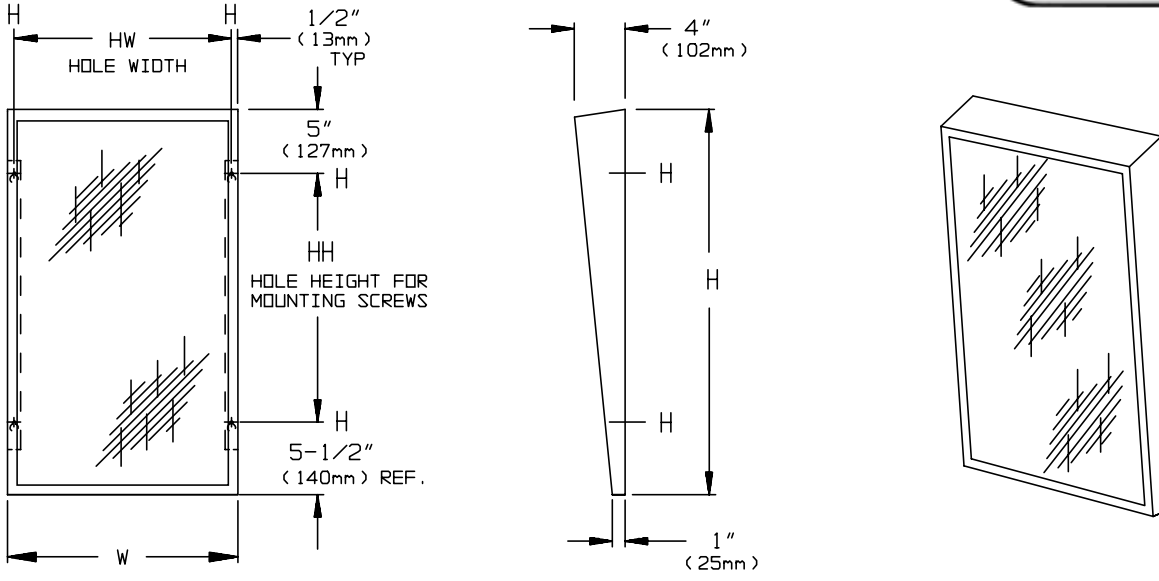


AMERICAN SPECIALTIES, INC.
441 Saw Mill River Road, Yonkers, NY 10701

MODEL No:	0535
ISSUED:	1-87
REVISED:	9-04

FIXED ANGLE TILT MIRROR

Distributed by
www.Ameraproducts.com
Phone: (800) 608-6568
Fax: (409) 840-5545
info@ameraproducts.com



SPECIFICATION

Fixed Angle Tilted Mirror shall be fabricated of alloy 18-8 stainless steel, type 304, 20 gauge. Face shall be one piece construction free of miters or spot welded seams. All exposed surfaces shall have N°4 satin finish and be protected during shipment by plastic PVC film easily removable after installation. Concealed tamper resistant locking devices shall be provided. Mirror shall be _____(INSERT GLAZING OPTION) and shall be warranted for 15 years against silver spoilage. Mirrors shall be supplied as standard with glazing option ' A '. For a complete description and other choices of glazing options, see the Mirror Glazing OPTIONS Chart.

Fixed Angle Tilted Mirror shall be Model N°0535-_____ (insert size code) - _____(insert glazing option) manufactured by American Specialties, Inc., Yonkers, NY 10701-4913.

INSTALLATION

Unit is surface mounted on wall or partition using four (4) N°10 self tapping screws (by others). Mounting holes through back are "keyhole" slots for hanging unit on pre-installed screws. Unit requires 5/8"(16mm) clearance at top to engage screws in keyhole slots. For compliance with ADA Accessibility Guidelines, bottom of reflecting surface should be installed 40" (1016mm) max. above finished floor.

AVAILABLE MODELS

MODEL NUMBER	DIMENSIONS			
	W	H	HW	HH
0535-1630-___	16" (406mm)	30"(762mm)	15" (381mm)	19-1/2"(495mm)
0535-1824-___	18" (457mm)	24"(610mm)	17" (432mm)	13-1/2"(343mm)
0535-1830-___	18" (457mm)	30"(762mm)	17" (432mm)	19-1/2"(495mm)
0535-1836-___	18" (457mm)	36"(914mm)	17" (432mm)	25-1/2"(648mm)
0535-2430-___	24" (610mm)	30"(762mm)	23" (584mm)	19-1/2"(495mm)
0535-2436-___	24" (610mm)	36"(914mm)	23" (584mm)	25-1/2"(648mm)

Accessory Specialties

AMERICAN DISPENSER

Desert Ray Products

WATROUS .INC.



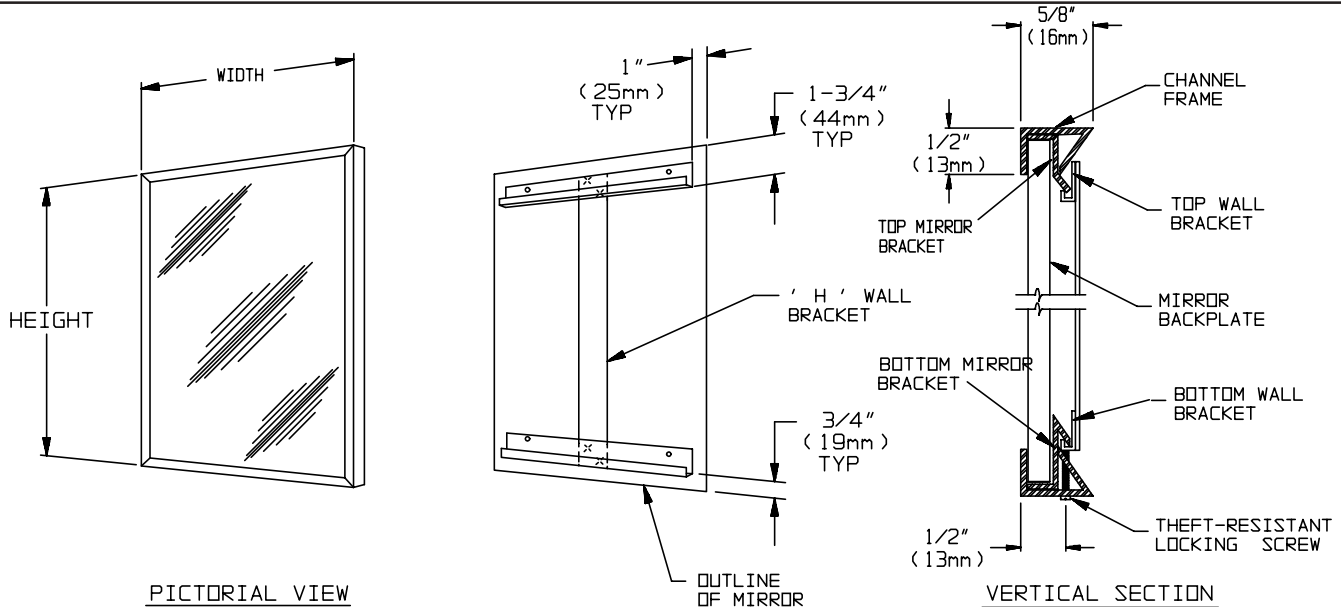
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info@ameraproducts.com

MODEL No: 0620

ISSUED: 1-87

REVISED: 4-06

CHANNEL FRAME MIRROR

**SPECIFICATION**

Channel Frame Mirror shall have frame fabricated of alloy 18-8 stainless steel, type 304, 20 gauge with mitered corners. Mirror glazing shall be ____ (insert glazing option) and shall be warranted for 15 years against silver spoilage. All edges of mirror shall be protected by friction and chafe absorbing fillers. Back of mirror shall be protected by full size shock-absorbing water-resistant filler and full size one piece 20 gauge corrosion protected steel. Top and bottom wall mounting brackets shall be fabricated of 20 gauge corrosion protected steel and shall be spot welded into "H" hanger. Mirror shall be secured to lower bracket with a Philips Pan Head locking screw.

Channel Frame Mirror shall be Model N^o 0620-__ (insert glazing option)-__ (note size, W x H) as manufactured by American Specialties, Inc., 441 Saw Mill River Road, Yonkers, New York 10701-4913

MATERIALS

Frame 18-8, type 304, 20 gauge (.036" <91mm> thick) stainless steel. Unitized all roll-formed one-piece construction. Exposed surfaces have N^o 4 satin finish. Edges and corners are burr free.

Glass: Standard glazing is N^o 1 quality, 1/4" (6.4mm) thick plate/float glass, silver coated and hermetically sealed with uniform copper plating, and warranted against silver spoilage for 15 years. Mirrors meet Federal Specification DD-M-411C, ASTM C1036-91.

Filler: Expanded polyethylene microcell foam sheet material, abrasion resistant and shock absorbing, water resistant, 1/8" inch (3.2mm) total layer thickness.

FABRICATION NOTE FOR SPECIFICATION

Mirrors larger than 21sq. Ft. (1.95m²) are fabricated in two (2) or more sections to provide installation and handling ease.

INSTALLATION

Install "H" wall brackets level and plumb per diagram location using **ONLY** N^o 8 or N^o 10 Pan Head screws (by others). Hang mirror on brackets and tighten locking screw (N^o 6-32F x 3/4" Philips Pan Head, supplied separately taped to mirror back) at bottom (note: this screw should be started prior to hanging mirror on wall bracket). For compliance with ADA Accessibility Guidelines, bottom edge of reflecting surface should be no higher than 40" (1016mm) above finished floor.

GLAZING OPTIONS

Units are supplied with 1/4" (6.4mm) thick plate glass. Other glazing options are available. For a complete description of any other available glazing, see the **MIRROR GLAZING OPTIONS** chart.

Accessory Specialties

AMERICAN DISPENSER

Desert Ray Products

WATROUS inc.

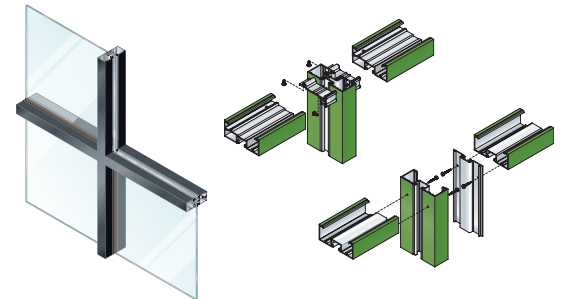
Standard Sizes for ASI 0620 Channel Frame Mirrors			
Part Number	Size: Width x Height	Part Number	Size: Width x Height
0620-1620	16" x 20"	0620-1830	18" x 30"
0620-1622	16" x 22"	0620-1836	18" x 36"
0620-1624	16" x 24"	0620-2424	24" x 24"
0620-1630	16" x 30"	0620-2436 **	24" x 36" **
0620-1824	18" x 24"		



SERIES 401 STOREFRONT FRAMING



Shear Block • Screw Spline • Can Receptor
 Series 401 is an economical 1-3/4" X 4-1/2" flush glaze system available in both shear block and screw spline fabrication methods. Series 401 Storefront can accommodate all standard 1 3/4" and 2" entrances as well as WV410 vents. Vertical mullions will accept steel reinforcement to enhance structural performance.



STRUCTURAL LOAD (ASTM E330) VISIT EFCOCORP.COM		WATER RESISTANCE (ASTM E547 & E331) SCREW SPLINE: 12 PSF SHEAR BLOCK: 10 PSF	
AIR INFILTRATION (ASTM E283) <0.06 CFM/FT ²		CRF (AAMA 1503) N/A	
U-FACTOR* (ANSI/NFRC 100/200) N/A		OITC* (ASTM E90 & E413) SCREW SPLINE: 26	
STC* (ASTM E90 & E413) SCREW SPLINE: 26			

STANDARD FEATURES

- Two fabrication / erection options (screw spline, shear block)
- Open back and shear block door frames with transom bars and rubber weather stripping
- The same glazing gasket used for exterior and interior
- Accommodates from 3/16" to 3/8" glazing
- 2-way corner mullions (90° & 135°)
- 3-way corner mullions (T-mullions)
- 0° - 15° and 15° - 30° variable mullions
- Various height intermediate horizontals and sills
- Accessory line of perimeter anchors, pocket fillers, and door adaptors, etc.
- **Anodized** and painted finishes available

* Performance dependent on glass selection. Please contact your EFCO sales rep for project specific performance.



8-04 Door Hardware - Closer

Surface mounted closer

4040XP Series

Overview

The 4040XP Series is LCN’s most popular door closer—and for good reason. This durable non-handed, surface-mounted heavy-duty closer, is designed for the most demanding high-use-and-abuse applications.

- ANSI/BHMA A156.4 Grade 1 rated
- Meets ADA reduced opening force requirements
- cUL listed and UL listed for self-closing doors without hold-open

The beauty of the 4040XP is that it goes way beyond the required standards. And in doing so, it has set the standard for reliability, longevity, and value.

- Stronger materials designed to go the distance.
- Proven production processes and technology, such as, forging steel and heat-treating certain components, that ensure a tougher, bolder construction.
- Abuse-cycle and temperature tests that mimics what door closers encounter in high-abuse environments.
- Well-marked adjustment valves and built-in preventative measures for adjusting too far and breaking the closer.
- 30-year limited warranty

Our relationship with you doesn’t end at the sale. LCN supports you throughout the life of your facility with all your technical and application needs. Bottom line, the 4040XP is a closer you can count on that’s built to last a lifetime—all while delivering remarkable value in a variety of applications.

Cylinder

4040XP-3071

Cast iron cylinder assembly

Handing

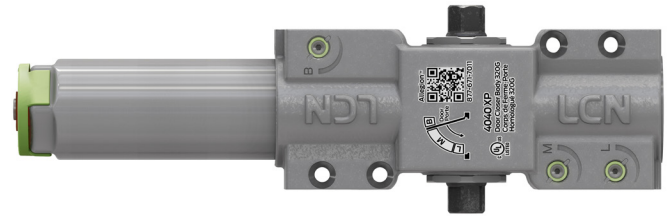
Non-handed

Sizing

Adjustable spring size 1–6, includes LCN Green Dial

Available cylinder options

DEL	Delayed action cylinder
-----	-------------------------



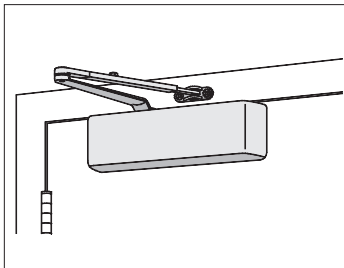
Adjustments

There are several design features that make installation or adjustment of the 4040XP easier and more intuitive.

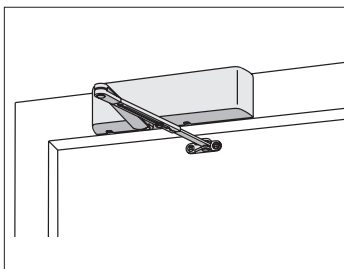
- **LCN Green Dial** provides a visual reference of the spring power setting, taking the guesswork out of spring power adjustments.
- **Additional adjustments** can be made to the back check, main, and latch regulation valves which are labeled for easy identification.
 - **Note:** Labels correspond to a diagram with door swing zones located on the closer body.
- **A patent-pending positive stop feature** on all regulation valves. The improved staking feature prevents the screw from being backed out and causing accidental damage to the product.
 - The patent-pending regulation valve indicators provide visual color indicators of how far a screw is backed out—the more visible the component, the faster the speed.
 - This makes adjustments simpler and more intuitive.
- **New QR code** that provides on-the-spot access to interactive installation and maintenance instructions and tech support.



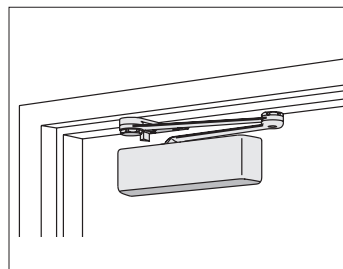
Mounting



Hinge (pull side)



Top jamb (push side)



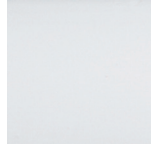
Parallel arm (push side)

Finishes

Powder coat finishes



622
Matte Black



689
Aluminum



690
Statuary Bronze



691
Light Bronze



693
Black



695
Dark Bronze



696
Brass

150+ additional custom colors available using the RAL numbering system

Metal plated finishes



632
Bright Brass



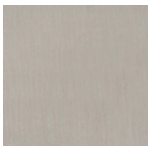
633
Satin Brass



639
Satin Bronze



616
Satin Bronze, Blackened



646
Satin Nickel



651
Bright Chrome



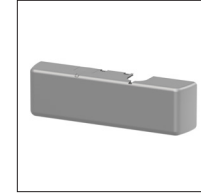
652
Satin Chrome

Available finish options

MTLPC	Brite metallic: Custom powder coat finish, which resembles that of 651 or 652 plated finish.
SRI	For installations where a higher level of protection against weather conditions, or the effects of a potentially corrosive atmosphere is required, LCN offers a special rust inhibiting (SRI) process. Ferrous metal components receive an SRI pretreatment and a standard powder coat finish of your choice, or a custom powder coat finish for a nominal additional cost. Closers treated with the SRI process exceed the 100 hour protection level available with standard LCN powder coated finishes.

Covers

Standard cover



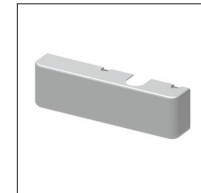
Front view



Back view

- 4040XP-72 plastic cover (PC)**
- Non-handed
 - Includes 4040XP-54 snap-on cover clip
 - Redesigned snap-fit cover with improved patent-pending retention fit

Optional cover



- 4040XP-72MC metal cover (MC)**
- Handed
 - Required for plated finishes and custom powder coat finishes
 - Optional

Arms



- 4040XP-3077
Regular Arm (REGARM)**
- Non-handed
 - Mounts pull side or top jamb with shallow reveal P4041 closer includes PA shoe, 4040XP-62PA required for parallel arm mounting



- 4040XP-3077L
Long Arm (LONG)**
- Non-handed
 - Includes long rod and shoe, 4040XP-79LR for top jamb mount
 - Optional



- 4040XP-3077ELR
Extra Long Arm (XLONG)**
- Non-handed
 - Includes extra long rod and shoe, 4040XP-79ELR for top jamb mount with deep reveal
 - Optional



- 4040XP-3049
Hold Open Arm (H)**
- Non-handed
 - Mounts pull side or top jamb with shallow reveal, hold open adjustable shoe
 - 4040XP closer includes 4040XP-62PA shoe required for parallel arm mounting
 - Optional



- 4040XP-3049L
Hold Open Long Arm (HLONG)**
- Non-handed
 - Includes long head and tube, 4040XP-3048L for top jamb mount
 - Optional



- 4040XP-3077EDA
Extra Duty Arm (EDA)**
- Non-handed
 - Features forged, solid steel main and forearm for potentially abusive installations
 - Optional



- 4040XP-3049EDA
Hold Open Extra Duty Arm (HEDA)**
- Handed
 - Parallel arm features forged, solid steel main and forearm for potentially abusive installations
 - Hold open function is adjusted at the shoe
 - Optional



- 4040XP-3077EDA/62G
Extra Duty Arm with 62G Thick Hub Shoe (EDAW62G)**
- Non-handed
 - Features forged, solid steel main and forearm for potentially abusive installations
 - 62G shoe provides additional blade stop clearance
 - Optional



- 4040XP-3049EDA/62G
Hold Open Extra Duty arm with 62G Thick Hub Shoe (HEDA62G)**
- Handed
 - Features forged, solid steel main and forearm for potentially abusive installations
 - 62G shoe provides additional blade stop clearance; hold open function is adjusted at the shoe
 - Optional



- 4040XP-3077CNS
Cush-n-Stop Arm (CUSH)**
- Non-handed
 - Features solid forged steel main arm and forearm with stop in soffit shoe.
 - Optional



- 4040XP-3049CNS
Hold Open Cush-n-Stop Arm (HCUSH)**
- Non-handed
 - Hold open function with templated stop/hold open points
 - Handle controls hold open function
 - Optional



- 4040XP-3077SCNS
Spring Cush-n-Stop Arm (SCUSH)**
- Non-handed
 - For potentially abusive applications features solid forged steel main arm and forearm with spring loaded stop in the soffit shoe
 - Optional

Arms



4040XP-3049SCNS
Spring Hold Open Cush-n-Stop
Arm (SHCUSH)

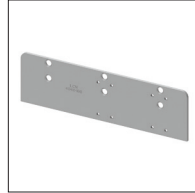
- Non-handed
- For potentially abusive applications features solid forged steel main arm and forearm with spring loaded stop in the soffit shoe
- Handle controls hold open function
- Optional

Installation accessories



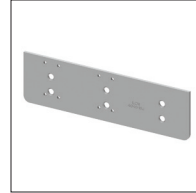
**4040XP-18
Plate**

- Required for hinge side mount where top rail is less than 3 3/4" (95 mm)
- Requires minimum 2" (51 mm) minimum top rail



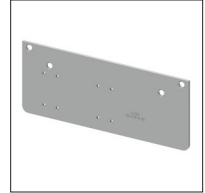
**4040XP-18G
Plate**

- Locates top jamb mounted closer flush with top of head frame face in flush ceiling condition
- Requires 1 3/4" (44 mm) minimum head frame



**4040XP-18TJ
Plate**

- Centers top jamb mounted closer vertically on head frame where face is less than 3 1/2" (89 mm). Plate requires 1 3/4" (44 mm) minimum head frame



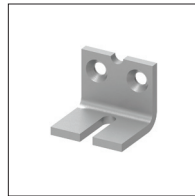
**4040XP-18PA
Plate**

- Required for parallel arm mounting where top rail is less than 5 1/2" (140 mm), measured from the stop
- Requires 2" (51 mm) minimum top rail



**4040XP-62PA
PA shoe**

- Required for parallel arm mounting



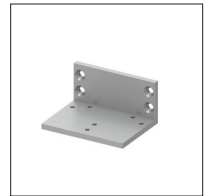
**4040XP-30
CUSH shoe support**

- Provides anchorage for fifth screw used with CUSH arms, where reveal is less than 3 1/16" (78 mm)
- Optional



**4040XP-61
Blade stop spacer**

- Required to lower parallel arm shoe to clear 1/2" (13 mm) blade stop
- Optional



**4040XP-419
PA flush panel adapter**

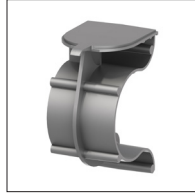
- Provides horizontal mounting surface for parallel arm shoe on single rabbeted or flush frame
- Optional

Installation accessories



4040XP-62A
Auxiliary shoe

- Requires a top rail of 7" (178 mm)
- Shoe replaces -62PA for parallel arm mounting of regular arm with overhead holder/stop
- Optional



4040XP-54
Snap-on cover clip

- Used to secure 4040XP-72 plastic cover to cylinder body

Fasteners

Self-reaming and tapping screws included standard

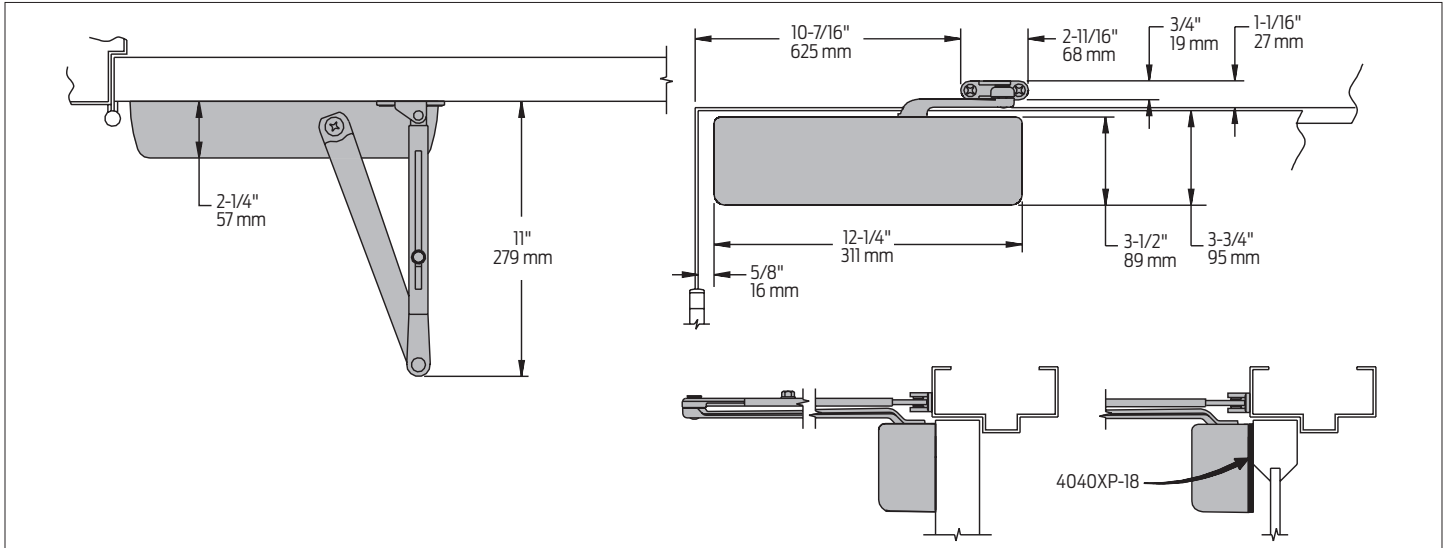
Fastener pack options

TBSRT	TB ¹ with self-reaming and tapping screws
WMS	Wood and machine screw
TBWMS	TB ¹ , wood and machine screw
TORX	TORX machine screw
TBTRX	TB ¹ and TORX machine screw

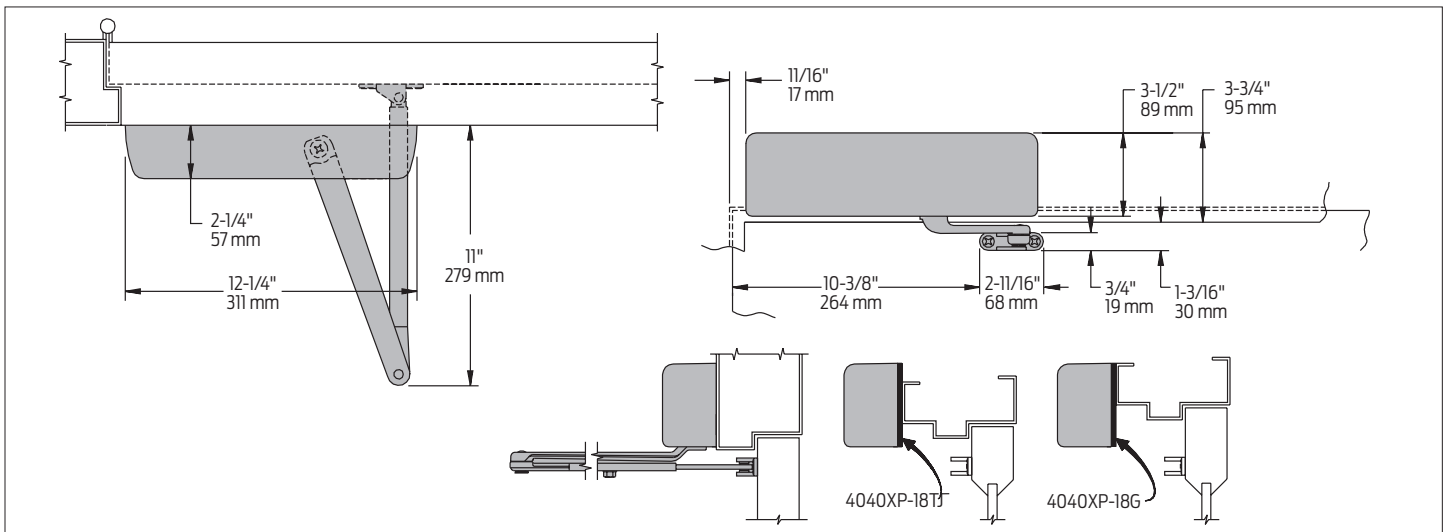
¹Specify door thickness if other than 1 3/4"

Dimensions and mounting

Hinge (pull) side mounting

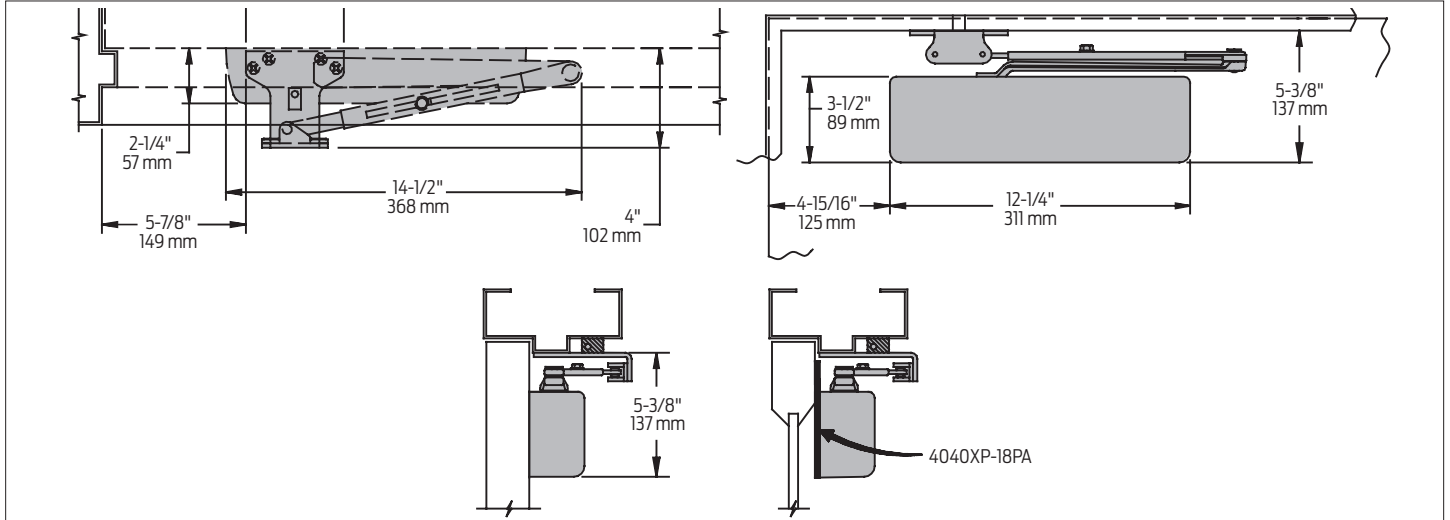


Top jamb (push side) mounting

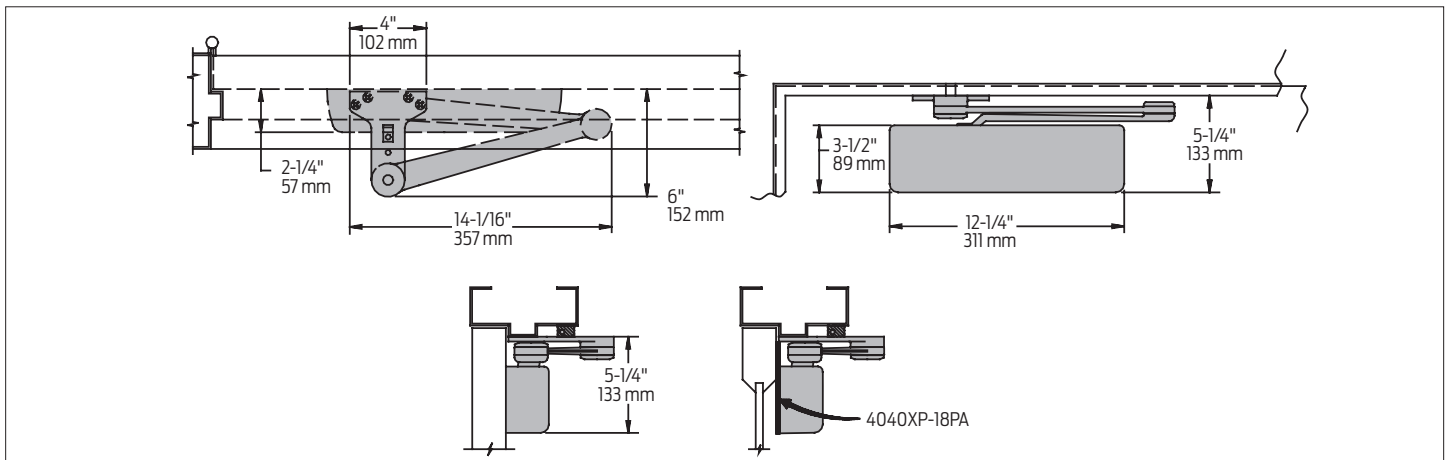


Dimensions and mounting

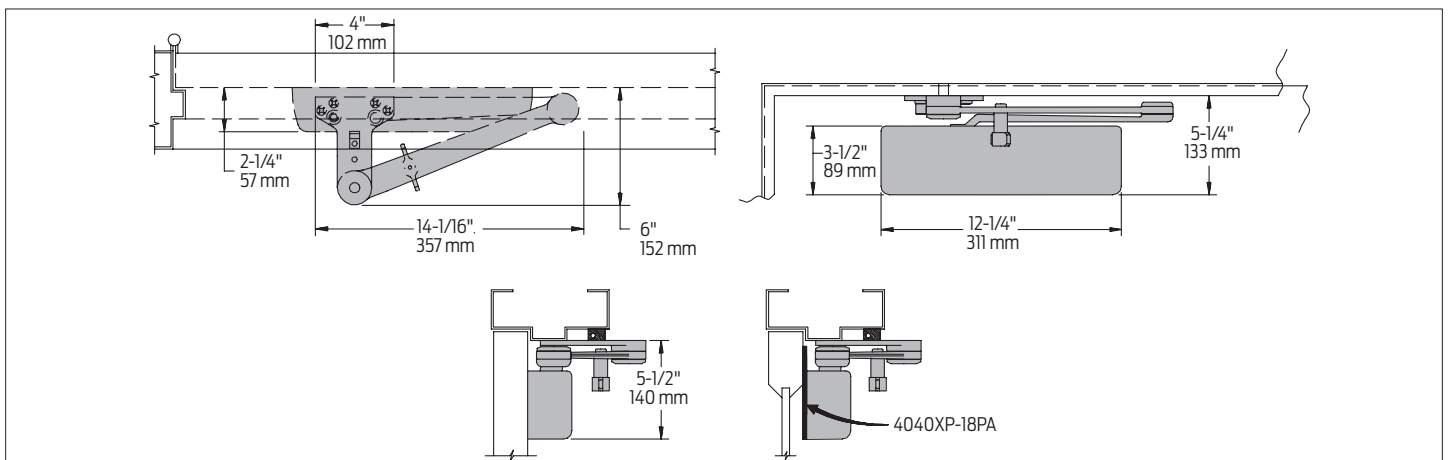
Parallel arm (push side) mounting



EDA mount



CUSH mount



Specifications

Accessibility	Available with less than 5.0 lbs. opening force on 36" door	Standard features	<ul style="list-style-type: none"> Full complement bearings with minimum 0.5" height to help withstand abuse All-weather Liquid X fluid for consistent performance through every season Non-PRV (pressure relief valve) design to minimize risk of property damage, injury, increased maintenance, and liability exposure Snap-on cover with patent-pending retention improvement to protect the products Powder coat finish that lasts longer than spray lacquer 30-year warranty
Certifications/ approvals	<ul style="list-style-type: none"> Grade 1 – ANSI A156.4 UL 10C Meets BAA – Buy American Act 		
Degree of operation	<p>Hinge (pull) side</p> <p>Max opening: 120°</p> <p>Hold open: 90–120°</p> <p>Top jamb (push side) mount</p> <p>Max opening: 120°</p> <p>Hold open: 85–120°</p> <p>Parallel arm with 62PA</p> <p>Max opening: 180°</p> <p>Hold open: 180°</p> <p>EDA</p> <p>Max opening: 180°</p> <p>Hold open: 180°</p> <p>Cush and spring cush</p> <p>Max opening: 110°</p> <p>Hold open: 110°</p>		<p>Ease of installation and adjustment</p> <ul style="list-style-type: none"> Tight tolerances in manufacturing for accuracy and precision LCN Green Dial to take the guesswork out of spring force adjustments Peel-n-stick template for quick and accurate installation Patent-pending positive stop to prevent the screw from being backed out Patent-pending regulation valve indicators for visual color indicators Independent speed adjustments for greater door control Graphic visuals and indicators to make adjustments faster, easier, and consistent QR code for on-the-spot access to interactive instructions and tech support <p>Flexibility</p> <ul style="list-style-type: none"> Universal non-handed design Full ranges of mounts Adjustable spring sizes 1–6
Environmental conditions	<ul style="list-style-type: none"> Approved for interior use Approved for exterior use (SRI coated only) LCN's standard all weather fluid performs to temperature ranges from 120°F (49°C) to -30°F (-35°C) LCN's powder coat finish surpasses 100 hours of salt spray which is over four times the ANSI standard for corrosion resistance. 		
Warranty	30 years		
Standard features	<p>Quality and durability</p> <ul style="list-style-type: none"> Cast iron cylinder for rugged performance Single-piece, heat-treated forged steel arms to withstand greater forces Heat-treated 1 1/2" diameter piston for extra hardness and strength Double heat-treated steel pinion 11/16" journal diameter for greater wear-resistance 		

8-05 - Door Exit & Pull
Hardware



VON DUPRIN®

98/99
Series

Exit devices



Nomenclature – how to order

Prefix	Device series/type		Trim/rating		Suffix/finish		Door width	Handing	Less bottom rod/cable	Trim options/finish	Lever style	Accessories	Other information
1	2	3	4	5	6	7	8	9	10	11	12	13	14
QEL	- 98	- 27	- L	- F	-	- 626	- 3'	- RHR	- LBR	- 996/626	- 299F/06	- SNB	- HM

Detail

1 Prefixes

None	Standard
AX	Accessible device
CD	Cylinder dogging - panic only
CDSI	Cylinder dogging with security indicator
CI	Cylinder dogging indicator
CD-CX	Chexit cylinder dogging
CX	Chexit
DI	Dogging indicator
E	Electric locking mortise/lever
EL	Electric latch retraction
ESL	Emergency secure lockdown
HDSI	Hex dogging with security indicator
HH	Hurrican device
LD	Less dogging
LX	Latch bolt monitoring
LX-LC	Latch bolt monitoring, low current
LX-RX	Latch bolt monitoring, request to exit
LX-RX-LC	Latch bolt monitoring, request to exit low current
PL	Pullman latch
PN	Pneumatic latch retraction
QEL	Quiet electric latch retraction
QM	Quiet mechanical
RX	Request to exit
RX2	Double request to exit
RX-AUX	Request to exit, auxiliary
RX-LC	Request to exit, low current
SD	Special dogging -panic only
SS	Signal switch
WP-RX	Waterproof request to exit
WS	Windstorm (FEMA rated) surface vertical rod device
XP	Heavy protection - rim

2 Device series

98	Series 98-smooth
99	Series 99-grooved

3 Device type

None	Rim device
27	Surface mounted vertical rod device
47	Concealed vertical rod device
47WDC	Concealed vertical rod wood door device
48	Concealed vertical rod device
49	Concealed vertical cable device
50WDC	Concealed vertical cable wood door device
52	Rim device with remote trim input (pool exit hardware)
57	Three-point latch device
75	Mortise lock device

4 Trim functions

EO	For AD or CO locks, order the panic as Exit Only (EO)
DT	Dummy trim
EO	Exit only
HL	Hospital pull trim
K	Knob
K-BE	Knob - blank escutcheon
K-DT	Knob, rigid - dummy trim
K-NL	Knob, rigid - night latch
L	Lever (classroom)
L-BE	Lever - blank escutcheon
L-DT	Lever, rigid - dummy trim
L-NL	Lever, rigid - night latch
NL	Night latch
NL-OP	Night latch cylinder assembly, optional pull
TL	Turn lever
TL-BE	Turn lever - blank escutcheon
TP	Thumbpiece
TP-BE	Thumbpiece - blank escutcheon

5 Rating

F	Fire exit hardware
Blank	Panic exit hardware

6 Suffix

-2	Double cylinder (rim and mortise only)
-2SI	Double cylinder with security indicator (rim only)
CON	Connectors
WH	Weep holes

7 Finish

605	Bright Brass
606	Satin Brass
612	Satin Bronze
619	Satin Nickel
622/711	Matte Black/Matte Black, Anodized
625	Bright Chrome
626	Satin Chrome
626AM	Satin Chrome, Antimicrobial
628	Aluminum, Anodized
630	Satin Stainless
630AM	Satin Stainless, Antimicrobial
643e	Aged Bronze
693	Black Paint
710	Dark Brown, Anodized

8 Door width

3'	Standard default	1 3/4"	Standard
4'		2 1/4"	Optional

2' Vertical only

9 Handing

LHR	Left hand reverse
RHR	Right hand reverse

10 Less bottom rod/cable

LBR	Less bottom rod
LBL	Less bottom latch
LBR-AFL	LBR with fire pin
LBL-AFL	LBL with fire pin

11 Trim options/finish

See trim options/finish for each device type

12 Lever style

06	Standard default (optional levers available)
-----------	--

13 Accessories

CYL	Cylinder
GBK	Glass bead kit
SEC	Security screws
SLM	SLM blocking
SNB	Sex bolts

14 Other information

Touchbar options

BRaille	Vision impaired touchpad, raised letter, and braille
PUSH	Touchbar trim embossed 'PUSH'
RSS	Red silk-screened lettered touchbar trim
KN	Knurled touchbar
SG	Safety glow

Miscellaneous

CE	CE labeled
LCP	Less cover plate
IOWDA	#IOWDA cover plate
RAT REL	Ratchet release assy

Door material

AL	Aluminum door
HM	Hollow metal
WD	Wood door
CP	Composite door
INS2	Insulclad - 1/2"
INS4	Insulclad - 1/4"
SC	Steelcraft, HH device only

Door application

D	Double egress
P	Pair of doors
S	Single door

Note: Not all options are listed. See the specific device type pages for complete options available.

Device types

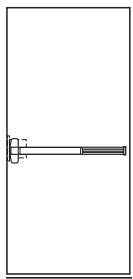
As the pioneer in the industry, Von Duprin continues to advance the industry through customer-centric innovation, which delivers solutions to the most challenging applications.

Backed by high quality standards, Von Duprin exit devices were among the first in the industry certified to ANSI/BHMA A156.3 (2014) Grade 1. Our exit devices are tested to the highest standards and proven in the field to perform under heavy use and abuse, giving you peace of mind both now and in the future.

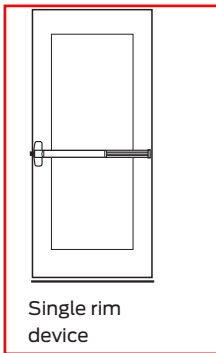
The versatile design can be easily upgraded to connect to a larger electronic ecosystem, empowering you to adapt with flexible solutions. You can configure numerous variations in the field without replacing your device and protecting your investment. This makes upgrades easy and cost effective.

Popular applications

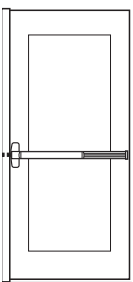
Single door applications



Single mortise lock device

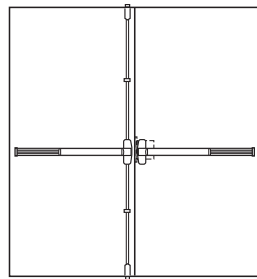


Single rim device

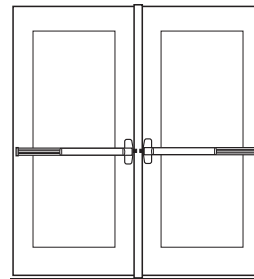


Single three-point latch device

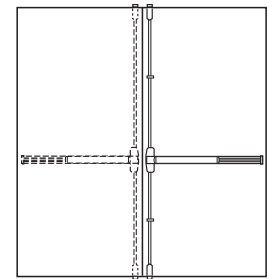
Double door applications



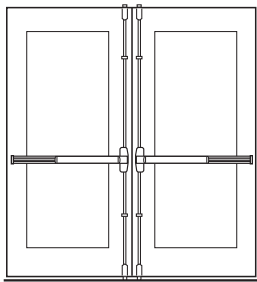
Mortise lock and surface mounted or concealed vertical cable/rod device combination—same direction



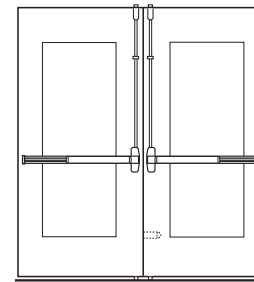
Two rim devices with mullion—same direction



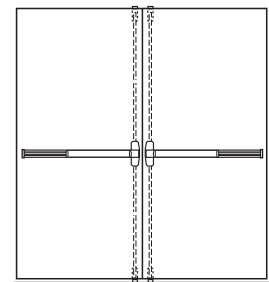
Two vertical rods—double egress
Two surface/concealed rods or cables



Two surface mounted vertical rod devices—same direction*



Two fire exit hardware vertical cables/rods with auxiliary fire latch-LBR option*



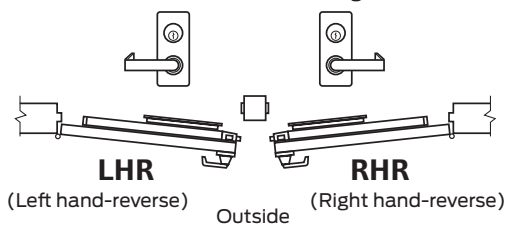
Two concealed vertical cables/rods*

* Do not use with overlapping astragals

Door handing

Left hand-reverse orientation

Right hand-reverse orientation



98/99 Rim exit device



98 and 99 rim exit devices for all types of single and double doors with mullion, UL listed for panic exit hardware. Devices are certified to ANSI/BHMA A156.3 2014, Grade 1. The 98 device has a smooth mechanism case and the 99 device has a grooved case. The rim device is non-handed except when the following device options are used: SD (special dogging), -2 (double cylinder) or SS (signal switch). Covers stock hollow metal doors with 86 or 161 cutouts on single doors (may cover cutouts on pairs – consult template).

Specifications

Device functions	Device ships EO/DT/NL; Field selectable; For TP, K or L remove NL drive screw from device	
Device lengths	3' 2'4" to 3' (711mm to 914mm)	Door size
	4' 2'10" to 4' (864mm to 1219mm)	Door size
Device centerline from finished floor	39 ¹³ / ₁₆ " (1011mm)	
	39 ¹¹ / ₁₆ " (1008mm) with mullion	
Center case	8" x 2 ³ / ₄ " x 2 ³ / ₈ " (203mm x 70mm x 60mm)	
Mechanism case	2 ¹ / ₄ " x 2 ¹ / ₄ " (57mm x 57mm)	
Projection	Pushbar neutral – 3 13/16" (97mm) Pushbar depressed – 3 1/16" (78mm)	
Latch bolt	Deadlocking, 3/4" (19mm) throw	
Finishes	605, 606, 612, 625, 626/626AM, 628, 710, 711 and 643e (619 and 630 available with 98 Series only)	
Fasteners and sex bolts (SNB)	Includes screw pack for 1 ³ / ₄ " (44mm) and 2 ¹ / ₄ " (57mm) thick metal or wood doors (Optional 425 SNB available, see page 64 for quantities)	

Features and options

Electrified options

- LX** Latch bolt monitor switch
- RX** Request to exit
- RX2** Double request to exit
- E** Electric locking and unlocking trim
- EL** Electric latch retraction
- ESL** Emergency secure lockdown
- QEL** Quiet electric latch retraction
- SS** Signal switch
- CX** Chexit delayed exit
- ALK** Alarm exit kit
- WP-RX** Waterproof request to exit
- CON** Allegion Connect

Mechanical options

- 2** Double cylinder
- 2SI** Double cylinder with security indicator
- AX** Accessible device
- GBK** Glass bead kit
- PN** Pneumatic latch retraction
- QM** Quiet mechanical
- SNB** Sex bolts
- SEC** Security screws
- WH** Weep holes
- XP** Extra protection

Dogging feature

Hex key dogging standard

Dogging options

- CD** Cylinder dogging
- CD-CX** Chexit cylinder dogging
- CDSI** Cylinder dogging with security indicator
- HDSI** Hex dogging with security indicator
- SD** Special center case dogging
- LD** Less dogging
- DI** Dogging indicator
- CI** Cylinder dogging indicator

Strikes

299 – Dull black

Accessories



299 Strike

Ships standard, optional strikes available.



Hex key dogging

Comes standard on 98/99 rim exit devices.

Trim options

996 trim



Trim description					
Nomenclature	996EO	996L*	996L-NL*	996L-BE*	996L-DT
Trim function	Exit only plate	Lever	Lever-night latch	Lever-blank escutcheon	Lever-dummy trim
Function description	Exit only plate	Key locks and unlocks	Key retracts latch bolt	Always operable, no cylinder	Pull when dogged
ANSI function	01	08	03	14	02

Device compatibility					
98/99 Rim/Rim-F	■	■	■	■	■
XP98/XP99 Rim/Rim-F	■	■	■	■	■
98/9927/27-F	■	■	■	■	■
98/9947/47-F	■	■	■	■	■
98/9947WDC/WDC-F	■	■	■	■	■
98/9948/48-F	■	■	■	■	■
98/9949/49-F	■	■	■	■	■
98/9950WDC/50WDC-F	■	■	■	■	■
98/9952†	†	†	†	†	†
98/9957/57-F	■	■	■	■	■
98/9975/75-F	■	■	■	■	■

Dimensions					
Escutcheon plate size	2 3/4" x 10 3/4" x 27/32" (70 x 273 x 21mm)				
Pull center to center	—	—	—	—	—
Projection	—	2 7/8" (73mm)	2 7/8" (73mm)	2 7/8" (73mm)	2 7/8" (73mm)

Handing					
—	Handed/reversible	Handed/reversible	Handed/reversible	Handed/reversible	Handed/reversible

Cylinder type					
Rim or vertical device	—	Rim	Rim	—	—
Mortise lock device	—	1 1/4" mortise	1 1/4" mortise	—	—

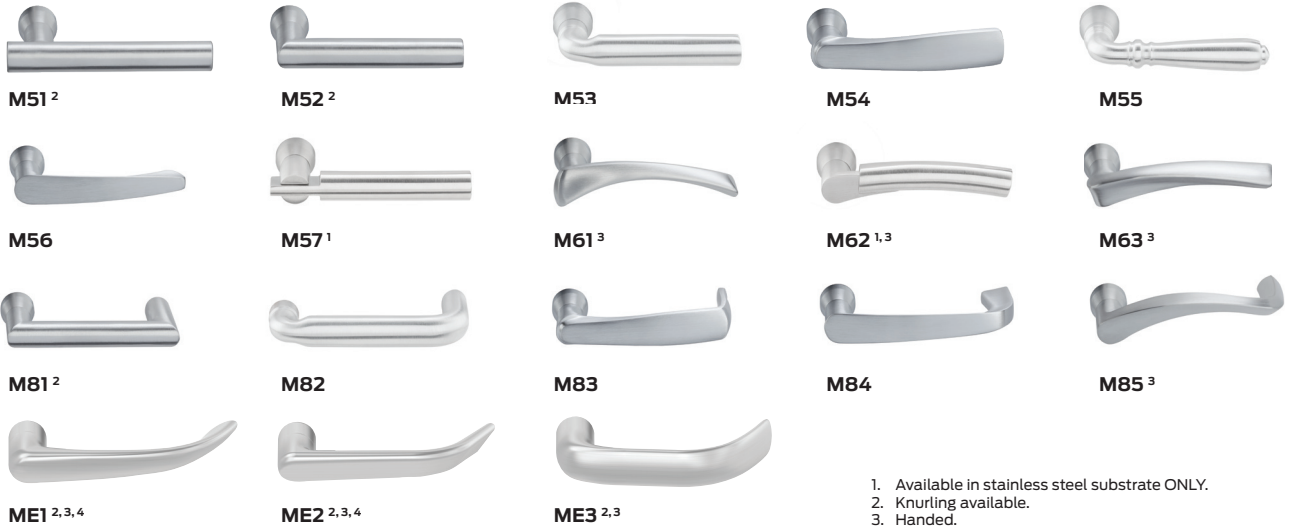
* Specify R/V if used for rim and vertical devices, M for mortise device. Example, 996L-R/V or 996L-M.

† Default trim is 252L /L-BE. Must be ordered as EO when paired with other trims (ordered separately).

Additional information

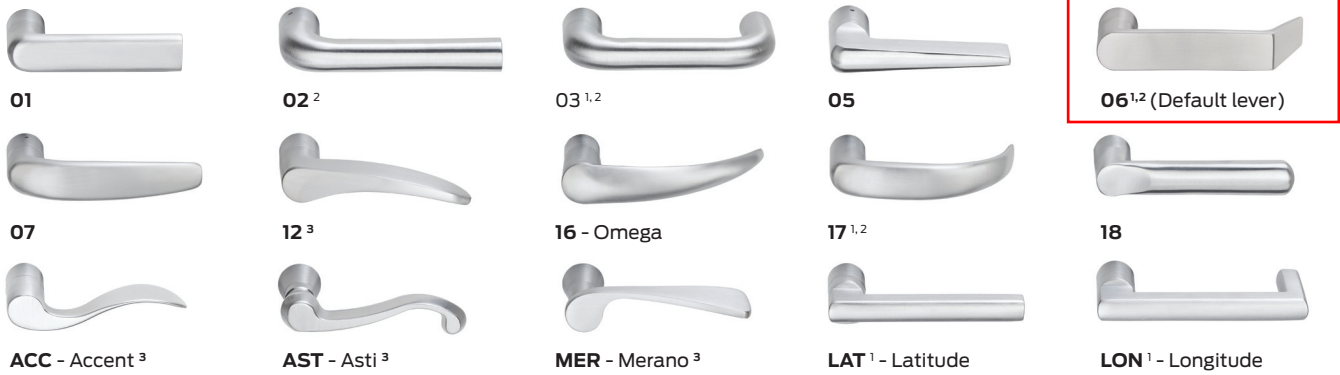
Lever styles and finishes

Decorative levers



- 1. Available in stainless steel substrate ONLY.
- 2. Knurling available.
- 3. Handed.
- 4. Designed with Gensler as product design consultant.

Standard levers



- 1. Available in Stainless Steel - specify SS when ordering.
- 2. Knurling available.
- 3. Handed.

Finish options*						
Color	Bright Brass	Satin Brass	Satin Bronze	Satin Nickel	Matte Black/Anodized	Bright Chrome
ANSI/BHMA number	605	606	612	619	622/711	625
Finish options*						
Color	Satin Chrome	Aluminum, anodized	Satin Stainless	Aged Bronze	Black Paint	Dark Brown, Anodized
ANSI/BHMA number	626/626AM†	628	630/630AM†	643e	693	710

***FINISH TO MATCH EXISTING, VERIFY ON SITE**

* Durable powder coated finishes available at special request. Please contact factory.
 † AM = Antimicrobial

Introduction
How to order
Device types
Trim options
Mechanical options
Electrified options
Accessories
Additional information



Continuous Hinges

Aluminum Continuous Geared Hinges

by BEST



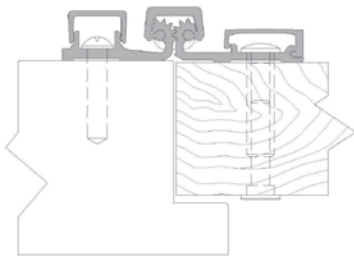
Trusted experts. Proven reliability. Simply BEST.

664HD- Heavy Duty Full Surface

for 1/16" door inset



- Distributes door weight and stress along the full length of door and frame
- For use on 1-3/4" doors only
- 1/16" door inset
- Ideal for retrofit applications
- No misaligned pivot points of individual hinges
- Clear aluminum, dark bronze and black anodized finishes
- Supports doors up to 450 lbs
- 48" door width maximum
- Hinge covered by limited lifetime warranty for the life of the building
- Approved for use on metal swinging type fire doors rated up to and including 90 minutes (Order "FR" option for 3 hour rating)
- Approved for use on wood swinging type fire doors rated up to and including 60 minutes (Order "FR" option for 90 minute rating)



Hinges can be furnished as follows:

- Hospital Tips (HTCAP) *ligature resistant
- Fire Studs (FR)
- Dutch door prep (DD)
- School option (SO)
- Custom length (specify length on order)

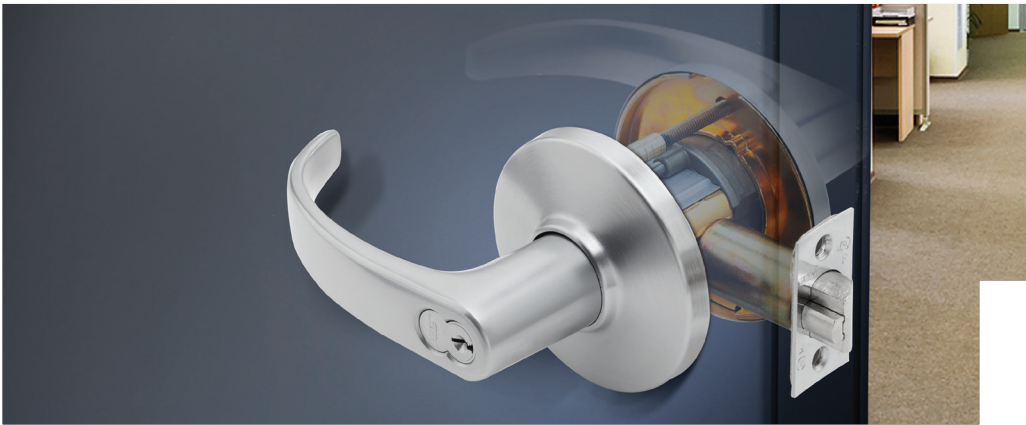
How to Order

Series	Option	Option Description	Size (Inches)	Finish
664HD	HTCAP	Hospital Tips (HTCAP) *ligature resistant	79	AL
	FR	Fire Studs (FR)	83	DB
	DD	Dutch door prep (DD)	85	BK
	SO	School option (SO)	95	
			Custom length (specify length on order)	120
Additional fastener options must be ordered separately				

*Fasteners included: 12-24 x 3/4" undercut self-drilling, thread-forming tek machine screws for frame and 1/4-20 sex bolts and shoulder bolts for door.

** Hinge comes standard with all tek screws. To order wood screws, please indicate "Half Tek / Half Wood" or "All Wood" at time of order.

8-07- Interior Door Handle



**9K Series Cylindrical Lock
by BEST**



**The premium lock
for quality, performance, and security.**

Building on BEST's legacy of innovation, the 9K series cylindrical lock combines top-quality materials and exceptional craftsmanship into a tough, dependable, long-lasting security solution. We designed the 9K series to be low maintenance, easy to install, durable, and secure. And our range of available styles and finishes ensures that the 9K delivers design aesthetics to match a wide variety of applications.

Designed to deliver exceptional results in more applications.

When you need simple, safe and dependable protection, there's no better choice than the 9K Series from BEST. The 9K is one of the toughest heavy-duty cylindrical locks on the market.

- **Exceeds Grade 1 security** by over 50 times – tested to over 50 million activations.
- **Pre-assembled heavy-duty chassis** for quick and easy installation
- **Hardened steel thru-bolt studs** to deliver maximum lever torque resistance
- **Cast construction lock hub**, designed to protect the lock's critical components from every day use and abuse
- **Intruder function option** to secure classroom doors quickly from the inside during an emergency
- **Low profile rose design** offers a simple, sleek aesthetic style



The BEST 9K is dependable and delivers superior security in countless environments. And with easy core interchangeability and a broad selection of functions, styles and finishes, is ideal for retrofit and new construction alike.

BEST 9K sets the standard for premium-quality, heavy-duty lock solutions.

Superior materials, design, and strength.

We designed the 9K series to deliver exceptional results in more applications. With durability that exceeds ANSI Grade 1 requirements and options to accommodate a host of potential requirements, the BEST 9K series ensures premium performance.

9K Series Cylindrical Lock Specifications	
Certifications	ANSI/BHMA A156.2 Series—Grade 1 ANSI A117.1 Accessibility Code (ADA compliant) UL/cUL listed (3 hour) for single or double swinging doors Florida Building Code and Miami Dade County (WS option) compliant for hurricane resistance California State Fire Marshal (California Title 24) compliant California State Fire Marshal compliant for fire door This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code BAA & TAA compliant Illinois Accessibility Standard compliant
Product Specifications	Latch: solid stainless steel 9/16" throw; front 2 1/4" and 1 1/8" beveled Lever handles: plated zinc alloy Trim: brass or bronze Strike: ANSI 2 3/4" standard; ANSI S3 4 7/8", ANSI S3 7/8" flat, and 7/8" flat strike (STK) available Chassis: zinc alloy and corrosion-treated steel; 2 1/16" diameter Door thickness: available for 1 3/4" or 2 1/4" doors; spacers available for 1 3/8" door Door prep: 2 1/8" diameter cross bore Backset: 2 3/4" standard; 3 3/4" and 5" available
Keying	6-pin non-IC brass cylinder 6- or 7-pin SFIC option available Keyway options: LFIC: SCHRC-Schlage, Non-IC: COR-Corbin-Russwin, MED-Medeco, SAR-Sargent, SCH-Schlage, YAL-Yale
Lock Functions	Single Keyed: Entrance – AB (F109) Storeroom – D (F86) Service Station – E (F92) Classroom – R (F84) Dormitory – T (F90) Special – A, B, DZ, EA, RZ, XD, XR, YD, YR UA Hotel (SPN-standard) – H, HJ (F93) Double Keyed: Corridor – C (F88) Storeroom – G (F91) Intruder – IN with interior indicator rose standard (F110) Communicating – S (F80) Institutional – W Special – DR, RD Keyless: Passage – N (F75), NX (F89) Exit – Y Privacy – L (F76) Special – LL, M, O, Z Single dummy trim – IDT Double dummy trim – 2DT
All Finishes	605: Bright Brass 606: Satin Brass 611: Bright Bronze 612: Satin Bronze 613: Oil-rubbed Bronze 618: Bright Nickel 619: Satin Nickel 622: Flat Black 625: Bright Chrome 626: Satin Chrome 690: Dark Bronze Coated UltraShield™ antimicrobial coating available
Warranties	Ten-year mechanical Three-year finish (613 carries no finish warranty)

Features

BEST 9K

- **Proven reliability.** We tested BEST 9K locks to over 50 million cycles, proving that the series exceeds ANSI Grade 1 requirements by over fifty times. Design features like a seamless, one piece hardened steel alloy outside sleeve protect functionality and ensure more reliable performance throughout the product's lifespan.
- **Long-term durability.** Our low maintenance design with solid zinc hubs protect critical components from daily wear and tear for longer product life and lower overall cost of ownership.
- **Easy retrofit.** The 9K is easy to retrofit to other door preps and competitor key systems.
- **Quick and easy installation.** The 9K's pre-assembled design and simple instructions make installing the lock intuitive. Rose locking pin allows for quick door thickness adjustment.
- **Simple to rekey.** With easy core interchangeability, BEST 9K locks make rekeying simple.
- **Superior security.** Manufactured with top-quality materials and designed for ease of use and attack resistance, the 9K series delivers security you can trust. The 9K's vandal resistant lever includes a lost motion design allowing the lever to move 45°-60° without engaging the retractor assembly.
- **Premium aesthetics.** A low profile rose design and wide variety of trims and finishes give the BEST 9K a streamlined look compatible with modern architectural trends and appropriate for any design aesthetic.

Featured Finishes



BA-0250 12/21

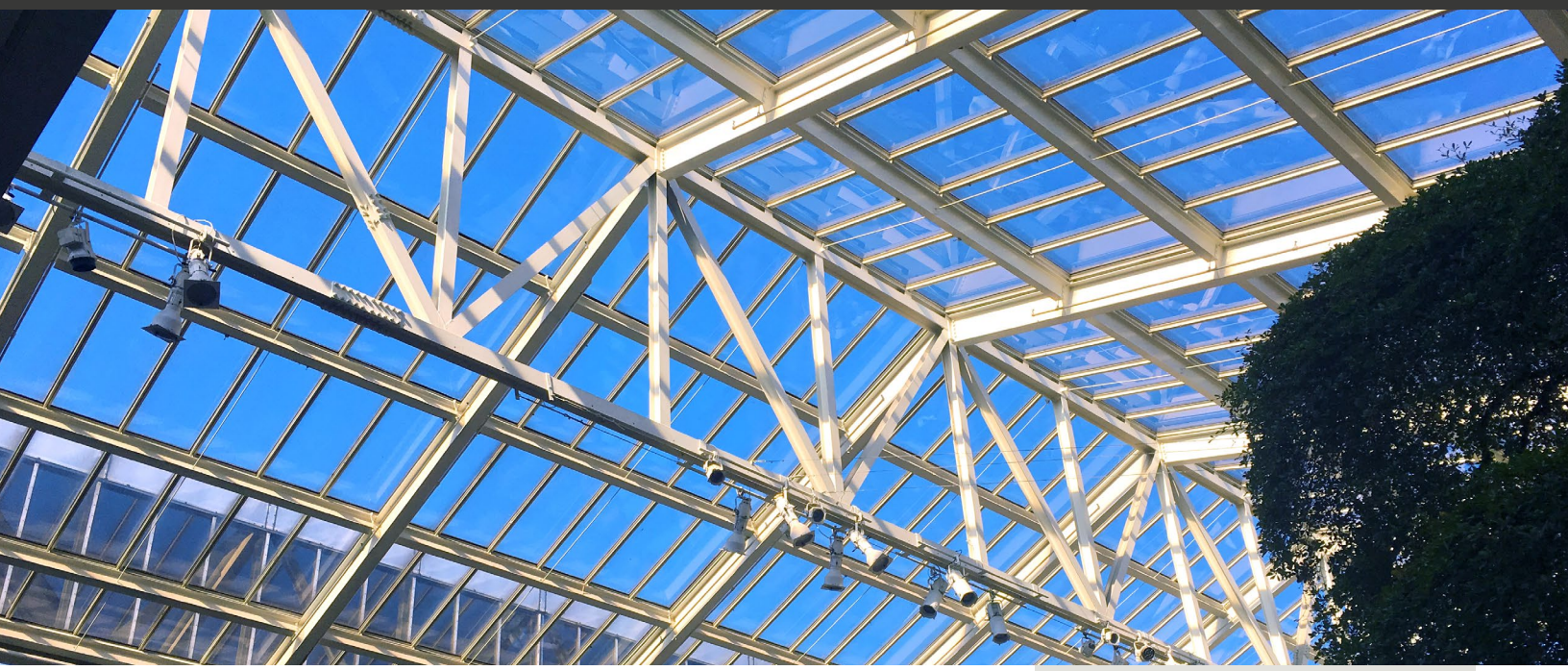
For questions about ordering and to be sure you get the right configuration for your needs, [contact your BEST dormakaba sales representative](#).
6161 East 75th Street, Indianapolis, IN 46250 USA | [855-365-2407](tel:855-365-2407) | bestaccess.com

CUSTOM STRUCTURAL PINNACLE SERIES

Metal-Framed Structural Skylights for Commercial Daylighting Projects

VELUX®

Commercial



The sky is the limit with the Pinnacle Series structural skylight system. Completely customizable, this metal-framed solution is perfect for large scale skylights that are as unique and memorable as the buildings they embellish.

Features and Benefits:



MATCH STOREFRONT FINISH

- Custom configured and engineered for large spans up to 40 feet wide with unlimited lengths
- Available in custom finishes, including **anodized** and paint coatings
- Supports glass and polycarbonate glazing with multiple rafter sizes
- Leak-resistant construction with continuous sill enclosure and weep holes to route condensation and effectively guard against water intrusion
- Beautiful inside and out with hidden fasteners for a sleek, clean design
- Built to last with Santoprene gasket system
- Fits a multitude of angles with pivoting hip and ridge design for a flush-to-frame assembly
- Shipped with pre-gasketed extrusions and pre-fabricated components for faster field assembly
- Five-year warranty on workmanship and glazing and up to 20-year coverage on finish


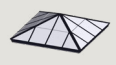

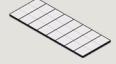
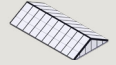
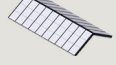
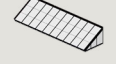
Code Compliance:

- Air/Water/Structural testing (ASTM E283,E330, E331)
- Miami-Dade Large and Small Missile NOA
- Florida Product Approved (HVHZ)
- NFRC tested and rated
- Meets IECC/IBC/IRC/FBC/Title 24 requirements for energy and building code compliance
- Blast Resistant

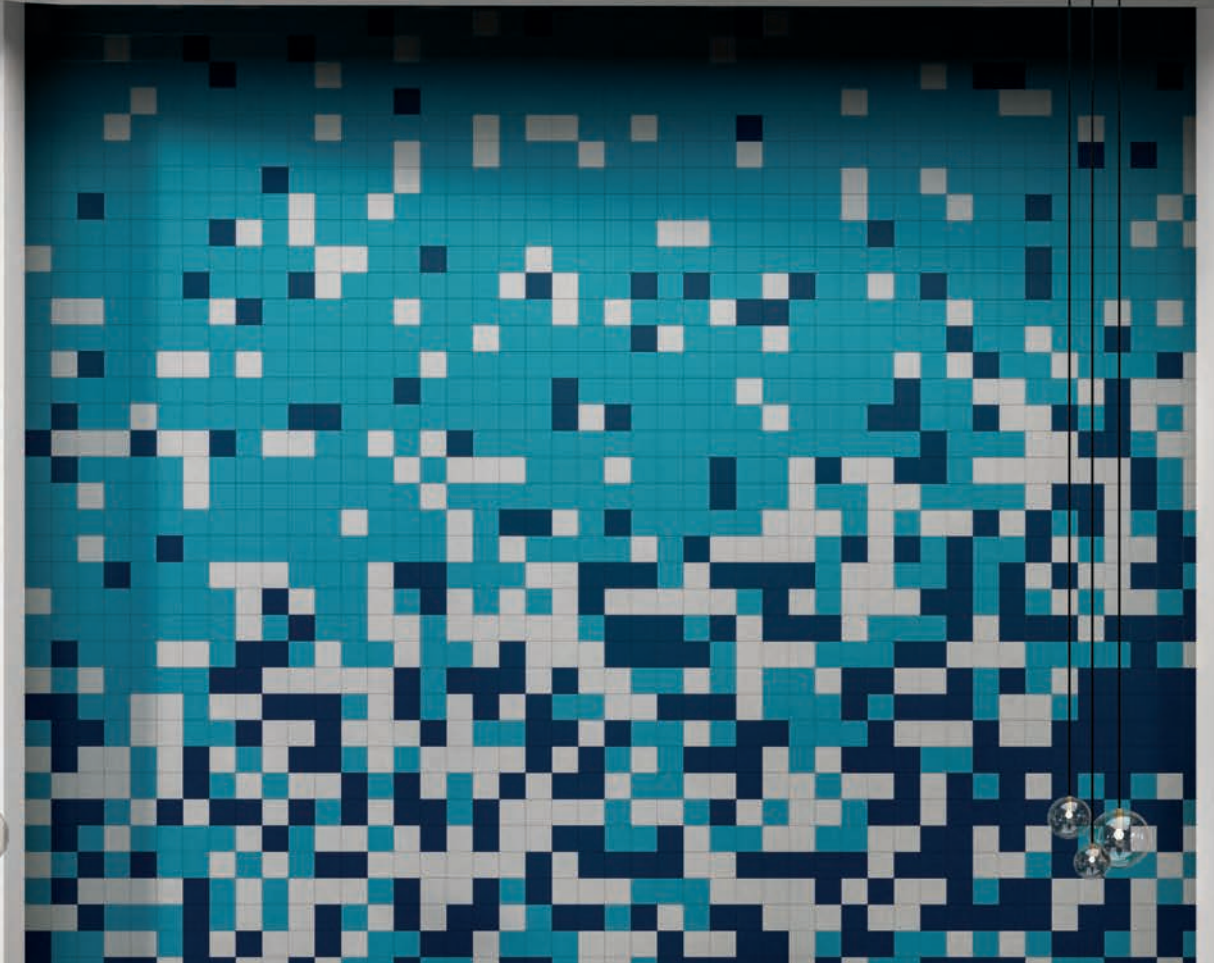
Ideal Applications:

 Retail & Shopping Malls	 Hotels & Conference Centers
 Education	 Healthcare
 Offices	 & Many More

Configurations:

 Octagonal	 Pyramid
 Extended Pyramid	 Single Pitch
 Double Pitch	 Structural Ridge
 Lean-To	

9-01 - Bathroom
Wall and Cove Tile



WALL

WALL

CLASSIC

COLOR WHEEL™ COLLECTION – GLAZED CERAMIC



 **dalTile**[®]
IMAGINE WHAT'S POSSIBLE™

WALL

CLASSIC

COLOR WHEEL™ COLLECTION – GLAZED CERAMIC

A Spectacular Spectrum

The element of color is visually represented in Color Wheel™. This vibrant collection offers a wide spectrum of colorful selections from bright and pigmented hues to neutral and earthy tones. A favorite of artists and designers, Color Wheel provides the perfect palette to inspire the imagination.

• COLOR SCHEME

- Eighteen rich semi-gloss colorful accents
- Plus, twelve coordinating neutral tones in semi-gloss and matte finishes

• ARTISTIC INSPIRATIONS

- Stylish shapes in classic size options
- With endless design opportunities, this collection is a perfect fit for residential and commercial applications

WALL

USAGE



FLOOR



WALL



COUNTERTOP



SHOWER FLOOR



EXTERIOR FLOOR



STEPWISE™



TRU-EDGE™



MADE IN THE U.S.A.



LARGE FORMAT



MOSAIC/DECO



ENCAUSTIC



TERRAZZO



PAVER



CUSTOMIZE



FLEXFIT™



CG
GLAZED CERAMIC



LOW HIGH

SPECIAL FEATURES

SEE CHARTS FOR FULL PRODUCT DETAILS

Cover photo features Color Wheel™ Classic Ocean Blue, Galaxy, & Desert Grey 6 x 6 on the wall with Emerson Wood™ Brazilian Walnut 8 x 48 on the floor. Above photo features Color Wheel™ Classic Artic White & Navy on the walls.

SIZES:



FINISHES: MATTE | SEMI-GLOSS

SEMI-GLOSS

WHITE 0100 (1)	ARCTIC WHITE 0190 (1)	BISCUIT K175 (1)	ALMOND 0135 (1)	URBAN PUTTY 0161 (2)	ARCHITECTURAL GRAY 0109 (2)
ELEMENTAL TAN 0166 (2)	ARTISAN BROWN 0144 (2)	DESERT GRAY X114 (1)	SUEDE GRAY 0182 (2)	CHALKBOARD 0180 (2)	BLACK K111 (2)

MATTE

MATTE ARCTIC WHITE 0790 (1)	MATTE BISCUIT K775 (1)	MATTE ALMOND X735 (1)	MATTE URBAN PUTTY 0761 (2)	MATTE ARCHITECTURAL GRAY 0709 (2)	
MATTE ELEMENTAL TAN 0766 (2)	MATTE ARTISAN BROWN 0744 (2)	MATTE DESERT GRAY X714 (1)	MATTE SUEDE GRAY 0782 (2)	MATTE CHALKBOARD 0780 (2)	MATTE BLACK K711 (2)

ACCENT*

CORNSILK 0160 (3)	MUSTARD 1012 (3)	SUNFLOWER DH50 (3)	ORANGE BURST 1097 (3)	CURRANT SH17 (3)	PLUM CRAZY 1178 (3)
SPA 0148 (3)	GARDEN SPOT 0141 (3)	KEY LIME 1098 (3)	ELECTRIC BLUE 1194 (3)	COBALT DM14 (3)†	WOOD VIOLET 1467 (3)
WATERFALL 0169 (3)	EMERALD 0115 (3)	OCEAN BLUE 1049 (3)	SEA BREEZE 1174 (3)	GALAXY 1469 (3)	NAVY K189 (3)

* Accent available in Semi-Gloss finish only. † Subject to crazing; black grout not recommended
(1), (2) and (3) indicate price groups. (1) being the least expensive.



STAINPROOF



DENTPROOF



SCRATCH-RESISTANT*
*Applicable to products with Matte and Textured Finishes



FIRE-RESISTANT*
*Not Applicable to Mesh-Mounted Mosaics




CLIMATEPRO™




SIMPLICLEAN™

TRIM

TRIM		Thickness	Pieces/ Carton
 1/2 x 12 / S-1/212J Jolly	(1/2" x 11-15/16") (1.29 cm x 30.36 cm)	1/4" 7.23 mm	12
 A-106 / 1 x 6 Quarter Round	(1" x 6") (2.43 cm x 15.16 cm)	1/4" 6.30 mm	152
 AC-106 / 1 x 6 Quarter Round Corner	(1" x 6") (2.43 cm x 15.16 cm)	1/4" 7.23 mm	120
SURFACE BULLNOSE			
 S-4269 / 2 x 6 Bullnose	(2" x 6") (5.15 cm x 15.31 cm)	5/16" 7.90 mm	100
 SN-4269 / 2 x 2 Bullnose Corner	(2" x 2") (5.15 cm x 5.15 cm)	5/16" 7.90 mm	25
 S-4669 / 6 x 6 Bullnose	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm	50
 SCRL-4669 / 6 x 6 Bullnose Corner	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm	50
 S-4449 / 4 x 4 Bullnose	(4-1/4" x 4-1/4") (10.90 cm x 10.90 cm)	5/16" 7.90 mm	100
 SCRL-4449 / 4 x 4 Bullnose Corner	(4-1/4" x 4-1/4") (10.90 cm x 10.90 cm)	5/16" 7.90 mm	100
 S-4369MOD / 3 x 6 Bullnose (on 6" side)	(3" x 6") (7.65 cm x 15.31 cm)	5/16" 7.90 mm	100
 S-4639MOD / 3 x 6 Bullnose (on 3" side)	(3" x 6") (7.65 cm x 15.31 cm)	5/16" 7.90 mm	100
 SCR-4369M / 3 x 6 Bullnose Corner Right	(3" x 6") (7.65 cm x 15.31 cm)	5/16" 7.90 mm	100
 SCL-4369M / 3 x 6 Bullnose Corner Left	(3" x 6") (7.65 cm x 15.31 cm)	5/16" 7.90 mm	100
RADIUS BULLNOSE			
 A-4200 / 2 x 6 Bullnose	(2" x 6") (5.28 cm x 15.20 cm)	5/16" 7.90 mm	100
 AN-4200 / 2 x 2 Bullnose Corner	(2" x 2") (5.28 cm x 5.28 cm)	5/16" 7.90 mm	20
FLAT TOP COVE BASE *			
 A-3601 / 6 x 6 Cove Base	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm	44
 SCR-3601 / 6 x 6 Cove Corner Right	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm	20
 SCL-3601 / 6 x 6 Cove Corner Left	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm	20
 A-3401 / 4 x 4 Cove Base	(4-1/4" x 4-1/4") (10.90 cm x 10.90 cm)	5/16" 7.90 mm	84
 SCR-3401 / 4 x 4 Cove Corner Right	(4-1/4" x 4-1/4") (10.90 cm x 10.90 cm)	5/16" 7.90 mm	30
 SCL-3401 / 4 x 4 Cove Corner Left	(4-1/4" x 4-1/4") (10.90 cm x 10.90 cm)	5/16" 7.90 mm	30
 A-3361MOD / 3 x 6 Cove Base	(3" x 6") (7.65 cm x 15.31 cm)	5/16" 7.90 mm	36
 SCR-3361M / 3 x 6 Cove Base Corner Right	(3" x 6") (7.65 cm x 15.31 cm)	5/16" 7.90 mm	36
 SCL-3361M / 3 x 6 Cove Base Corner Left	(3" x 6") (7.65 cm x 15.31 cm)	5/16" 7.90 mm	36
SANITARY COVE BASE *			
 S-3619T / 6 x 6 Cove Base	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm	40
 SCR-3619T / 6 x 6 Cove Base Corner Right	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm	20

TRIM (CON'T)

		Thickness	Pieces/ Carton
 SCL-3619T / 6 x 6 Cove Base Corner Left	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm	20
 S-3419T / 4 x 6 Cove Base	(4-1/4" x 6") (10.90 cm x 15.31 cm)	5/16" 7.90 mm	60
 SCR-3419T / 4 x 6 Cove Base Corner Right	(4-1/4" x 6") (10.90 cm x 15.29 cm)	5/16" 7.90 mm	20
 SCL-3419T / 4 x 6 Cove Base Corner Left	(4-1/4" x 6") (10.90 cm x 15.31 cm)	5/16" 7.90 mm	20
SANITARY COVE BASE - Slim Foot Design *			
 S-3619TN / 6 x 6 Cove Base	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm	40
 SC-3619TN / 1 x 6 Cove Base Corner	(1" x 6") (2.43 cm x 15.16 cm)	5/16" 7.90 mm	60





* Available in Group 1 & 2 Colors. Group 3 Colors are Made-to-Order.

* Available in Group 1 Colors. Group 2 & 3 Colors are Made-to-Order.

TRIM USAGE

Wall Tile	66	44	36MOD	36MODBEV
Jolly	S1/212J	S1/212J	S1/212J	S1/212J
Quarter Round	A106	A106	A106	A106
Quarter Round Corner	AC106	AC106	AC106	AC106
SURFACE BULLNOSE				
Bullnose	S4669	S4449	S4369MOD & S4639MOD	
Corner	SCRL4669	SCRL4449	SCR4369M & SCL4369M	
Bullnose	S4269	S4269	S4269	
Corner	SN4269	SN4269	SN4269	SN4269
RADIUS BULLNOSE				
Bullnose	A4200	A4200	A4200	
Corner	AN4200	AN4200	AN4200	
FLAT TOP COVE BASE				
Cove Base	A3601	A3401	A3361MOD	A3361MOD
Cove Base Corner	SCR3601 & SCL3601	SCR3401 & SCL3401	SCR3361M & SCL3361M	SCR3361M & SCL3361M
	Best Match			

SIZES

			Thickness	Sq. Ft./ Carton	Pieces/ Carton
	6 x 6 Wall Tile	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm	12.50	50
	4 x 4 Wall Tile	(4-1/4" x 4-1/4") (10.90 cm x 10.90 cm)	5/16" 7.90 mm	12.50	100
	3 x 6 Wall Tile	(3" x 6") (7.65 cm x 15.31 cm)	5/16" 7.90 mm	12.50	100
	3 x 6 † Bevel Wall Tile	(3" x 6") (7.65 cm x 15.31 cm)	3/8" 9.40 mm	10.40	80

† Bevel is available in Group 1 colors only. Other colors available through the ColorMatch™ Special Order program.

APPLICATIONS

	Target DCOF wet	Suitable
Dry & Level – Interior Floor	N/A	
Wet & Level – Interior Floor	≥ 0.42	
Shower Floors (Residential or Light Commercial)	≥ 0.42	
Exterior Floor Applications (including pool decking & other wet areas with minimal footwear)	≥ 0.60	
Ramps & Inclines	≥ 0.65	
Walls/Backsplashes	N/A	✓
Countertops	N/A	✓*
Pool Linings	N/A	✓


A DCOF value of ≥0.42 is the standard for tiles specified for level interior spaces expected to be walked upon when wet, as stated in ANSI A137.1-A326.3. For more information about DCOF and the DCOF AcuTest™, visit daltile.com/DCOF.

APPLICATION NOTES:

Suitable for exterior applications in non-freezing climates, when proper installation methods are followed.

* Matte finishes only. No Bevel Tile. Darker colors may show scratches.

INSTALLATION

Grout Joint Recommendation	Shade Variation
Wall: 1/16"	 Low (V1)

PERFORMANCE CHARACTERISTICS

	ASTM#	Result
Water Absorption	C373	< 20.0%
Breaking Strength	C648	120-230 lbs
Scratch Hardness	MOHS	4.0-6.0
Chemical Resistance	C650	Resistant
Abrasion Resistance	C1027	N/A

For additional information on test results, visit us at: daltile.com/information/TestResults.

NOTES

Since there are variations in all fired ceramic and natural products, tile and trim supplied for your particular installation may not match samples. Final confirmation should be made from actual tiles and trim prior to installation. Manufactured in accordance with ANSI A137.1 standards.

For additional information refer to "Factors to Consider" at: daltile.com/Factors.

LRV & MUNSELL

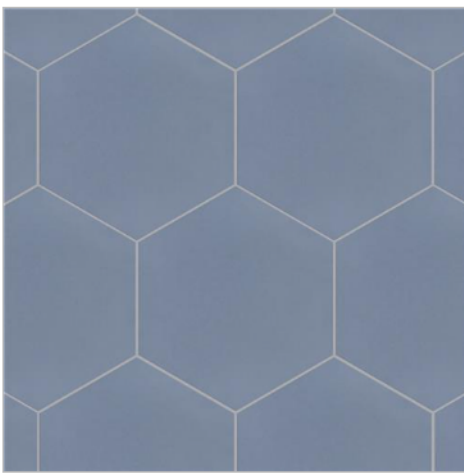
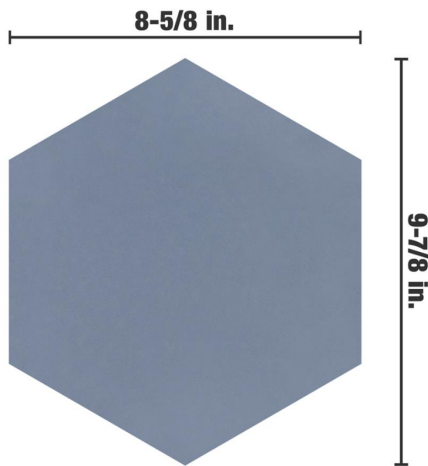
Color #	LRV	Munsell	Illuminate-OBS
SEMI-GLOSS			
0100	83.9	2.6Y 9.2/0.5	F02-02 (CWF)
0190	83.9	7.0Y 9.2/0.2	F02-02 (CWF)
K175	75.9	5.2Y 8.8/0.9	F02-02 (CWF)
0135	68.0	2.9Y 8.4/1.2	F02-02 (CWF)
0161	48.0	1.7Y 7.3/1.5	F02-02 (CWF)
0166	26.8	1.1Y 5.7/1.6	F02-02 (CWF)
0144	14.5	5.9YR 4.3/1.3	F02-02 (CWF)
0109	37.9	6.0Y 6.6/1.0	F02-02 (CWF)
X114	43.7	1.4GY 7.0/0.3	F02-02 (CWF)
0182	22.6	1.9B 5.3/0.1	F02-02 (CWF)
0180	11.4	1.3B 3.9/0.4	F02-02 (CWF)
K111	5.0	10.0B 2.6/0.1	F02-02 (CWF)
MATTE			
0790	83.4	4.9Y 9.2/0.2	F02-02 (CWF)
K775	75.9	5.2Y 8.8/0.9	F02-02 (CWF)
X735	70.9	3.5Y 8.6/1.2	F02-02 (CWF)
0761	48.1	2.5Y 7.3/1.5	F02-02 (CWF)
0766	26.8	0.2Y 5.7/1.7	F02-02 (CWF)
0744	13.9	7.6YR 4.3/1.3	F02-02 (CWF)
0709	36.9	5.6Y 6.5/1.0	F02-02 (CWF)
X714	43.9	3.6GY 7.0/0.4	F02-02 (CWF)
0782	22.3	9.8G 5.3/0.1	F02-02 (CWF)
0780	11.1	0.6B 3.9/0.4	F02-02 (CWF)
K711	5.8	3.3PB 2.8/0.1	F02-02 (CWF)
ACCENT			
K189	5.9	5.0PB 2.9/1.2	F02-02 (CWF)
1012	48.1	9.7YR 7.2/6.9	F02-02 (CWF)
1049	18.0	1.9B 5.0/4.5	F02-02 (CWF)
1097	26.4	10.1R 5.6/10.2	F02-02 (CWF)
0115	11.7	3.3G 4.1/4.9	F02-02 (CWF)
1174	9.1	5.8PB 3.6/5.6	F02-02 (CWF)
1178	6.8	5.9RP 3.1/2.0	F02-02 (CWF)
SH17	14.0	5.1R 4.4/11.1	F02-02 (CWF)
0141	24.7	3.0GY 5.5/2.1	F02-02 (CWF)
0148	48.3	3.7BG 7.4/1.3	F02-02 (CWF)
0160	73.3	3.3Y 8.7/3.3	F02-02 (CWF)
0169	40.4	9.7B 6.9/2.6	F02-02 (CWF)
1469	9.3	4.5PB 3.6/2.7	F02-02 (CWF)
DH50	70.6	4.7Y 8.4/8.8	F02-02 (CWF)
DM14	4.7	9.9PB 2.5/4.4	F02-02 (CWF)
1098	50.9	2.6GY 7.4/5.2	F02-02 (CWF)
1194	19.0	0.3PB 5.2/6.7	F02-02 (CWF)
1467	16.6	7.0P 4.6/2.2	F02-02 (CWF)

 **POST-CONSUMER
RECYCLED MATERIALS**

 **PRE-CONSUMER
RECYCLED MATERIALS**

 **MADE IN THE U.S.A.**

All or select items within this series meet the requirements for these qualifications. For more information, visit daltile.com.



**Textile Basic Hex color Ducados 8-5/8"x9-7/8"
Porcelain F/W Tile**

Lending a unique touch of color, our Textile Basic Hex Ducados 8-5/8 in. x 9-7/8 in. Porcelain Floor and Wall Tile instantly elevates spaces through a refreshing dose of vivid geometric design. The pale denim blue glaze is uniformly applied to create a striking matte surface that offers eye-catching beauty. Given the versatility of its format, this hexagon tile is unique yet simplistic enough to integrate into any design, ranging from traditional style renovations to modern home projects. Its impervious, frost resistant and durable features make this an ideal tile for residential indoor and outdoor use, including backsplashes, bathrooms, kitchens and patios. This tile is a perfect choice on its own or paired with other products in the Textile Collection.

Tile is the better choice for your space. This tile is made from natural ingredients, making it a healthy choice as it is free from allergens, VOCs, formaldehyde and PVC.

Product Number: FCD10DUTX

Availability: 4150/EA

Specifications

Customer Reviews

Related Products

Customers Also Bought

TILE MATERIAL	Porcelain
POLISH/SHEEN	Low Sheen
PORCELAIN ENAMEL INSTITUTE RATING	3
Mohs Hardness Scale Rating	6
SUGGESTED GROUT COLOR	#381 Bright White
OUTDOOR USE: 1=Yes 0=No	1
Safe for Pool Usage	0
TILE DEPTH (IN)/SHEET DEPTH (IN)	0.41
DYNAMIC COEFFICIENT OF FRICTION	0.450
COLOR FAMILY	Grays
TILE USE	Floor and Wall
Somertile Sq. Ft. Per UOM	11.50
Somertile Unit of Measure	Case
Somertile Pieces Per UOM	25
COUNTRY OF ORIGIN	Spain

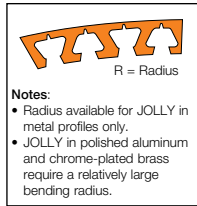
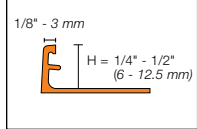
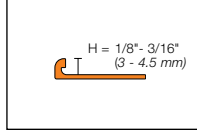
All ceramic and natural stone tile within coordinating series may be produced at different times which can cause variation in color and caliber which is authentic to tile.



9-03 - Bathroom Wall Tile Wainscoting Top Trim

PROFILES FOR WALLS

Product Item Numbers



2.3 Schluter®-JOLLY

H = mm - in.	Item No.					
	Chrome-plated solid brass (MC)	Polished chrome anodized aluminum (ACG)	Brushed chrome anodized aluminum (ACGB)	Satin nickel anodized aluminum (AT)	Polished nickel anodized aluminum (ATG)	Brushed nickel anodized aluminum (ATGB)
6 - 1/4	MC 60	A 60 ACG	A 60 ACGB	A 60 AT	A 60 ATG	A 60 ATGB
8 - 5/16	MC 80	A 80 ACG	A 80 ACGB	A 80 AT	A 80 ATG	A 80 ATGB
10 - 3/8	MC 100	A 100 ACG	A 100 ACGB	A 100 AT	A 100 ATG	A 100 ATGB
12.5 - 1/2	MC 125	A 125 ACG	A 125 ACGB	A 125 AT	A 125 ATG	A 125 ATGB

H = mm - in.	Item No.					
	Satin copper anodized aluminum (AK)	Polished copper anodized aluminum (AKG)	Brushed copper anodized aluminum (AKGB)	Brushed antique bronze anodized aluminum (ABGB)	Satin brass anodized aluminum (AM)	Polished brass anodized aluminum (AMG)
6 - 1/4	A 60 AK	A 60 AKG	A 60 AKGB	A 60 ABGB	A 60 AM	A 60 AMG
8 - 5/16	A 80 AK	A 80 AKG	A 80 AKGB	A 80 ABGB	A 80 AM	A 80 AMG
10 - 3/8	A 100 AK	A 100 AKG	A 100 AKGB	A 100 ABGB	A 100 AM	A 100 AMG
12.5 - 1/2	A 125 AK	A 125 AKG	A 125 AKGB	A 125 ABGB	A 125 AM	A 125 AMG

H = mm - in.	Item No.		
	Brushed brass anodized aluminum (AMGB)	Bright black anodized aluminum (AGSG)	Brushed graphite anodized aluminum (AGRB)
4.5 - 3/16	-	A 45 AGSG	-
6 - 1/4	A 60 AMGB	A 60 AGSG	A 60 AGRB
8 - 5/16	A 80 AMGB	A 80 AGSG	A 80 AGRB
10 - 3/8	A 100 AMGB	A 100 AGSG	A 100 AGRB
12.5 - 1/2	A 125 AMGB	A 125 AGSG	A 125 AGRB

Note: Additional finishes are available for this product. The design configuration of JOLLY is identical to that of SCHIENE (see Floor Profiles). However, their materials and finishes do vary. SCHIENE, in all materials and finishes, is suitable for floor applications, as well as wall and countertop applications. JOLLY is suited primarily for walls and countertops. However, JOLLY in AM, AMGB, AK, AKGB, AT, ATGB, ABGB and ACGB is also suitable for floors and may be used in such applications to increase design options.

2.3 Schluter®-JOLLY

H = mm - in.	Item No.	
	Color-coated aluminum (AC)	PVC (P)
3 - 1/8	A 30 <i>color*</i>	-
4.5 - 3/16	A 45 <i>color*</i>	<i>color*</i> 45
6 - 1/4	A 60 <i>color*</i>	<i>color*</i> 60
8 - 5/16	A 80 <i>color*</i>	<i>color*</i> 80
10 - 3/8	A 100 <i>color*</i>	<i>color*</i> 100
11 - 7/16	A 110 <i>color*</i>	<i>color*</i> 110
12.5 - 1/2	A 125 <i>color*</i>	<i>color*</i> 125

Length supplied: 8' 2-1/2" — 2.5 m

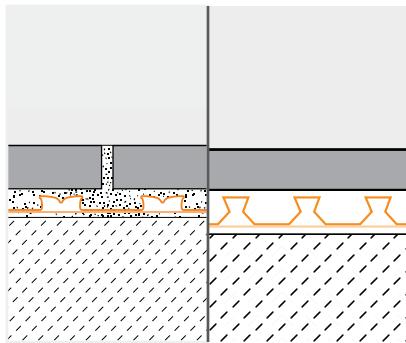
*Color Codes



* To complete the item number, add the **color** code (e.g., G 45).
 †: RB (Red Brown) is only available in color-coated aluminum in sizes 80, 100, and 125.



Schluter®-DITRA Installation Handbook 2022



The Universal Underlayment for Ceramic and Stone Tile

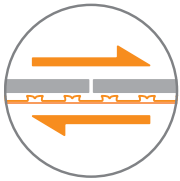


Schluter®-DITRA

Specifically designed as an underlayment for ceramic and stone tile

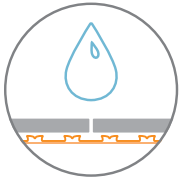
Ceramic and stone tiles are durable, easy to maintain, and hygienic, representing the ideal surface coverings. However, today's lightweight construction methods can make the installation of hard surface coverings particularly challenging. In order to protect the integrity of the tile assembly, an underlayment that performs multiple functions is required.

Schluter®-DITRA is specifically designed to allow the installation of ceramic and stone tile over any even and load-bearing substrate. The integration of DITRA's uncoupling, waterproofing, load-distribution, and vapor management functions makes consistent results viable.



Uncoupling

Tile has been successfully installed for thousands of years by incorporating an uncoupling layer, or forgiving shear interface, within the tile assembly. **DITRA** provides uncoupling through its open rib structure, which allows for in-plane movement that effectively neutralizes the differential movement stresses between the substrate and the tile, thus eliminating the major cause of cracking and delaminating of the tiled surface.



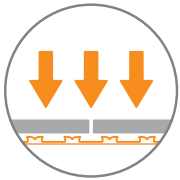
Waterproofing

DITRA provides reliable waterproofing. Its polyethylene composition protects the substrate from moisture penetration, which is particularly important in today's building environment where most substrates are moisture sensitive.



Vapor Management

The distinguishing feature of **DITRA** is the existence of free space created by the configured channels on the underside of the matting. The free space provides a route for excess moisture and vapor to escape from the substrate that could otherwise cause damage to the tile layer above. Thus, DITRA effectively manages moisture beneath the tile covering.



Support/Load Distribution

When placed on a solid foundation, columns or pillars can support tremendous loads. The same physical principle applies to **DITRA** installations. Column-like mortar structures are formed in the cutback cavities of the matting. Loads are transferred from the tile covering through these column-like mortar structures to the substrate. Since DITRA is virtually incompressible within the tile assembly, the advantages of uncoupling are achieved without sacrificing point load distribution capabilities. The ability of DITRA installations to support and distribute heavy loads while preserving the integrity of the tiled surface has been verified through extensive laboratory and field testing, including applications exposed to vehicular traffic.

NEW DITRA Features & Benefits



EASY CUT

Cutting grooves provide a guide for straight and precise cuts.



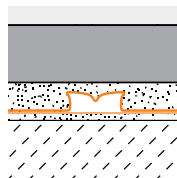
EASY FILL

Air release vents at the corners allow for faster filling of the membrane with fewer trowel passes.



Increased Membrane Flexibility

Enhances workability and reduces membrane memory - lays perfectly flat.



Enhanced Undercut Design

For an even stronger anchoring of the tile.

CONCRETE

Every substrate presents unique challenges

There are various challenges associated with the installation of hard surface coverings on concrete substrates.

To begin, the coefficient of thermal expansion of concrete is close to twice that of ceramic tile. Additionally, tile contractors are often expected to install tile over young concrete (concrete cured less than 28 days). However, rigid surface coverings installed over young concrete are susceptible to damage as a result of shrinkage during curing. Pre-stressed/post-tensioned concrete slabs are also commonplace in today's construction environment. Although pre-stressing is used to help control deflections in concrete structures, these slabs are still subject to deformations caused by changes in moisture, temperature, and loading. Many concrete slabs on or below grade are subject to moisture migration, which can be problematic. Furthermore, these structures experience the same deformations as stated above.



The uncoupling function of **Schluter®-DITRA** protects the ceramic or stone tile covering by neutralizing the differential movement stresses between the concrete substrate and the tile, thus eliminating the major cause of cracking and delaminating of the tiled surface.



The **DITRA** membrane's waterproofing ability not only protects the substrate from moisture and harmful substances, it also slows the drying of fresh concrete, which reduces the chances of cracking and curling of the slab.



The free space beneath the **DITRA** matting provides a route for any residual moisture in the concrete slab to escape. This allows the installation of DITRA and the tile covering as soon as the slab can be walked upon. Vapor management is also essential for slabs subject to moisture migration.



Since **DITRA** is virtually incompressible within the tile assembly, the advantages of uncoupling are achieved without sacrificing point load distribution capabilities. This allows DITRA to be installed in commercial and industrial applications exposed to heavy vehicular traffic, provided the type, format, and thickness of the tile is appropriate for the application.

By addressing all of the challenges associated with today's fast construction methods, **DITRA** provides a durable installation system for ceramic and stone tile over concrete substrates.

Floors, Interior - Ceramic or Stone Tile

D-C-TS-22

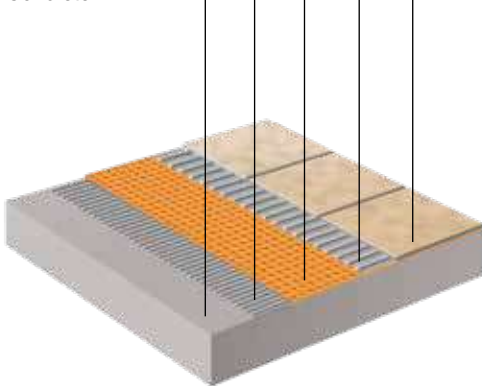
Ceramic, porcelain or stone tile

SET, ALL-SET, FAST-SET,
or unmodified thin-set mortar

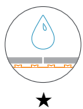
DITRA or **DITRA-XL**
uncoupling membrane

SET, ALL-SET, FAST-SET,
or unmodified thin-set mortar

Concrete



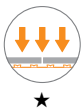
★★★



★



★★★



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Concrete subfloor

Areas of Application

- over any structurally sound and even concrete subfloor
- young concrete (concrete cured less than 28 days)
- on or below grade concrete subject to moisture migration
- post-tensioned or pre-stressed concrete
- cracked concrete

Limitations

- minimum 2" x 2" (50 mm x 50 mm) tile
- concrete slabs subject to moisture migration must have all seams in DITRA and DITRA-XL sealed with Schluter®-KERDI-BAND using Schluter SET®, Schluter ALL-SET®, Schluter FAST-SET®, or unmodified thin-set mortar
- any cracks in concrete subfloor must exhibit in-plane movement only; thin-set tile assemblies, including those incorporating DITRA or DITRA-XL, cannot accommodate differential vertical displacement

Requirements

- slab to be structurally sound
- slab to be free of waxy or oily films and curing compounds (when present, mechanical scarifying is necessary)
- the installation of DITRA or DITRA-XL and tile can begin as soon as the slab can be walked upon
- slab to be free of standing water

Substrate Preparation

- any leveling or sloping of the slab or assembly must be done prior to installing DITRA and DITRA-XL

Movement Joints

- DITRA and DITRA-XL do not eliminate the need for movement joints, including perimeter joints, within the tiled surface. Movement joints must be installed in accordance with industry standards and norms; see page 15 of this Handbook, TCNA EJ171, and TTMAC 301 MJ
- concrete floors may incorporate various movement joints; see page 16 of this Handbook for guidelines on how to treat the different types of joints (control/contraction joints, expansion joints, etc.)

Setting and Grouting Materials

- unmodified thin-set mortar – ANSI A118.1
- grout – ANSI A118.3, A118.6, A118.7, A118.8

Setting and Grouting Specifications

- tile – ANSI A108.5
- grout – ANSI A108.6, A108.9, A108.10

Other Considerations

- where a waterproof floor is required, all DITRA and DITRA-XL seams and floor/wall transitions must be sealed with Schluter®-KERDI-BAND using Schluter SET®, Schluter ALL-SET®, Schluter FAST-SET®, or unmodified thin-set mortar; see page 14
- certain moisture-sensitive stones, e.g., green marble, or resin-backed tiles may require special setting materials. Consult stone supplier and Schluter®-Systems for more information

D-C-GP-22

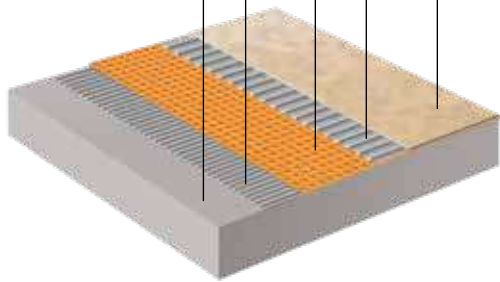
Gauged Porcelain Tiles and Tile Panels
(7/32" [5.5 mm] and thicker)

ALL-SET

DITRA or DITRA-XL uncoupling
membrane

ALL-SET

Concrete or gypsum
concrete over
concrete



Areas of Application

- Over any structurally sound and even concrete subfloor
- Over gypsum concrete underlayment placed over structurally sound concrete subfloors
- Young concrete (concrete cured less than 28 days)
- On or below grade concrete subject to moisture migration
- Post-tensioned or pre-stressed concrete
- Cracked concrete
- Interior dry or wet areas

Limitations

- Minimum thickness of gauged porcelain tiles and tile panels 7/32" (5.5 mm)
- DITRA and DITRA-XL membranes only
- Recommended installations in normal commercial and light institutional areas such as public spaces of restaurants and hospitals. Commercial kitchen applications are not approved.
- DITRA and DITRA-XL membranes and gauged porcelain tile panels must be installed with Schluter ALL-SET®
- Concrete subfloors and gypsum concrete underlayment over concrete subfloors only; no wood subfloors
- Concrete slabs subject to moisture migration must have all seams in DITRA and DITRA-XL sealed with Schluter®-KERDI-BAND
- Any cracks in concrete subfloor must exhibit in-plane movement only; thin-set tile assemblies, including those incorporating DITRA or DITRA-XL cannot accommodate differential vertical displacement

Requirements

- Slab to be structurally sound
- Slab to be free of waxy or oily films and curing compounds (when present, mechanical scarifying is necessary)
- The installation of DITRA or DITRA-XL and tile can begin as soon as the slab can be walked upon
- Slab to be free of standing water
- Gypsum – where radiant heat tubes are laid over the subfloor, gypsum poured to a height that is 3/4" (19 mm) above the tops of the tubes is required before DITRA and DITRA-XL
- Residual moisture in gypsum screed, 2.0% (percentage by volume) or less before installing DITRA or DITRA-XL
- Installation must conform to this

Handbook and ANSI A108.19, including, but not limited to, requirements for mortar coverage, movement joints, grout joint size, and lippage

Substrate Preparation

- Any leveling or sloping of the slab or assembly must be done prior to installing DITRA or DITRA-XL
- Gypsum – follow manufacturer's directions

Movement Joints

- DITRA and DITRA-XL do not eliminate the need for movement joints, including perimeter movement joints, within the tile surface. Movement joints must be installed in accordance with industry standards and norms; see page 15 of this Handbook, TCNA EJ171, and TTMAC 301 MJ
- Concrete floors may incorporate various movement joints; see page 16 of this Handbook for guidelines on how to treat the different types of joints (control/contraction joints, expansion joints, etc.)

Materials Specifications

- Gauged porcelain tile and tile panels – ANSI A137.3
- Grout – ANSI A118.3, A118.7

Setting and Grouting Specifications

- Tile – ANSI A108.19
- Grout – ANSI A108.6, A108.10

Other Considerations

- Since DITRA and DITRA-XL must bond to the gypsum concrete, follow gypsum manufacturer's recommendations regarding primers and/or special surface preparation before installing DITRA and DITRA-XL
- Where a waterproof floor is required, all DITRA and DITRA-XL seams and floor/wall transitions must be sealed with KERDI-BAND; see waterproofing details (D-WP) on page 14 of this Handbook for more information