

DUR-O-WAL

MASONRY PRODUCT CATALOG



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DUR-O-WAL has been manufacturing and supplying quality products to the masonry construction industry for over 65 years. As an innovator in designing new and improved products for masonry construction, we have been responsible for state-of-the-art systems for moisture control, seismic applications, masonry connection and masonry repair. Years of experience in engineering, manufacturing and serving the masonry industry have provided us with a thorough understanding of the needs of masonry construction professionals everywhere. DUR-O-WAL maintains ongoing product-testing and quality control to insure that every product meets the highest industry standards. Our knowledge of the engineering of masonry structural performance gives you the confidence to say...

DUR-O-WAL can truly "Do It All".

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BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530-05/ASCE 5-05/TMS 402-05) and SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1-05/ASCE 6-05/TMS 602-05)

The above Code and Specifications states the following: Joint reinforcement, wall ties and anchors shall be stainless steel or protected from corrosion by a hot-dipped galvanized coating or epoxy when used in masonry that is exposed to organic matter or weather and interior walls exposed to a mean relative humidity exceeding 75%. All other joint reinforcement, wall ties, anchors and inserts shall be mill galvanized, hot dipped galvanized or stainless steel. Anchor Bolts, steel plates and bars not exposed to earth, weather nor exposed to a mean relative humidity exceeding 75%, need not be coated.

CORROSION PROTECTION

Corrosion (rusting) of masonry joint reinforcement, ties and anchors will ultimately lead to product failure with resulting damage to the masonry structure. To assist the user in selecting the proper corrosion protection, Dur-O-Wal offers the following comments:

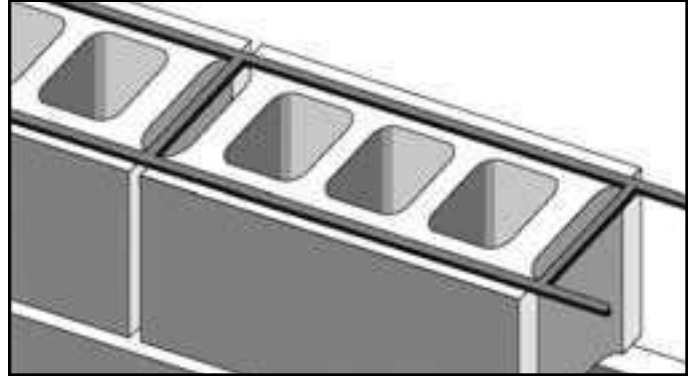
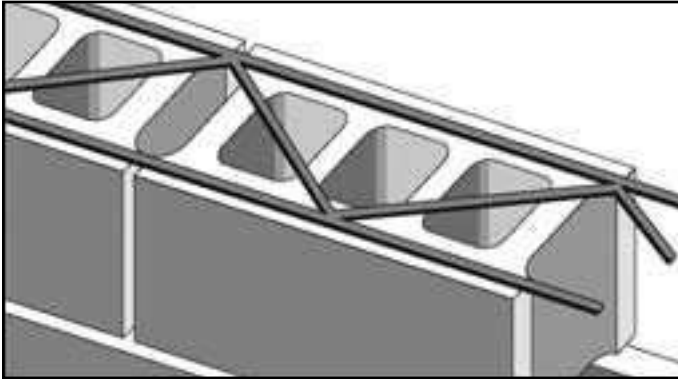
- Products manufactured from stainless steel offer the greatest level of corrosion resistance. Dur-O-Wal recommends stainless steel products for use in light-colored masonry construction and where maximum corrosion resistance for joint reinforcement, ties and anchors is required.
- Hot Dip Galvanized (HDG) provides a thick zinc coating that is applied after fabrication to assure that welds and exposed (cut) edges are coated. Usually specified when joint reinforcement, ties and/or anchors are to be embedded in masonry exposed to earth, weather conditions and/or areas of high humidity.
- Mill Galvanized provides a thin zinc coating that is applied to the steel before product fabrication. Mill galvanizing provides a balance between economy and corrosion resistance. Welds and exposed edges are not protected with zinc. Mill galvanized products are normally specified for joint reinforcement, ties and/or anchors used in interior masonry construction that is not exposed to high relative humidity conditions, but never in Glass Block Masonry.
- Dur-O-Wal does not recommend the use of joint reinforcement, ties and anchors manufactured from brite basic wire or plain (uncoated) carbon steel sheet metal as such products are not protected from corrosion and will corrode while stored in a warehouse, in transit or in storage at a jobsite. Consider the use of plain steel only when field welding would make galvanized ties and anchors impractical or when parts are to be galvanized after fabrication.
- Most building codes do not require anchor bolts, steel plates or bars not exposed to earth weather conditions or high humidity to have corrosion protection.
- Epoxy coating is not recommended by Dur-O-Wal for corrosion protection due to “holidays” that develop during the coating process and the potential for subsequent corrosion that may result from them.
- For extended life and corrosion protection, restoration anchors are fabricated with brass sleeves, brass extension cones, stainless steel inner rods and stainless steel or HDG bolts and washers.
- Please see individual product descriptions for specific material and finish information.

DUR-O-WAL MATERIAL, PRODUCT AND CORROSION PROTECTION SPECIFICATIONS

MATERIAL	ASTM STANDARD SPECIFICATIONS
Brass	ASTM B-16/B16M-05
Bolts and Anchor Bolts	A307-04 Grade A
Masonry Joint Reinforcement	A951-02 and UBC Standard 2106.1.1
PVC Control Joints	D2287-99 (2000)
Rubber Control Joints	D2000-05
Sheet Metal, Carbon Steel	A1008/A1008M-05b, A109/A109M-03 and A1011A-03
Sheet Metal, Hot Dipped Galvanized	A153/A153M-05 (1.50 oz/ft ² - 458 g/m ²)
Sheet Metal, Mill Galvanized	A653/A653M-05a (0.60 oz/ft ² - 183 g/m ²)
Sheet Metal, Stainless Steel	A167-99 (2004) - Type 304
Steel Plate, Carbon Steel	A36/A36M-05
Wire, Carbon Steel	A82/A82M-05a
Wire, Hot Dipped Galvanized	A153/A153M-05 (1.50 oz/ft ² - 458 g/m ²)
Wire, Mill Galvanized	A641/A641M-03 (0.10 oz/ft ² - 30 g/m ²)
Wire, Stainless Steel	A580/A580M-98 (2004) - Type 304

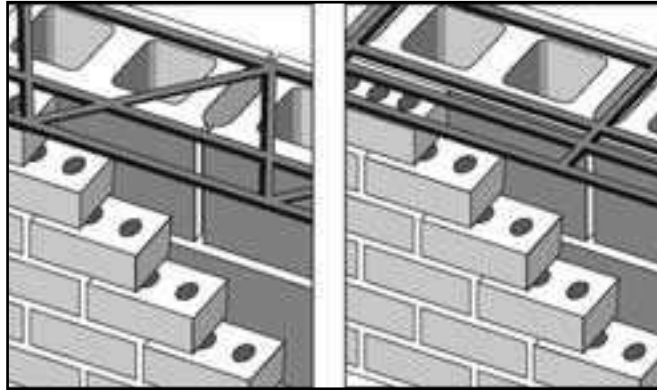
Wire-Class Coated
 Class 1 A641 (0.35 oz/ft² - 106 g/m²)
 Class 2 A641 (0.90 oz/ft² - 275 g/m²)

Single Wythe Systems



DUR-O-WAL SINGLE WYTHE SYSTEMS DA3100 TRUSS AND DA3200 LADUR

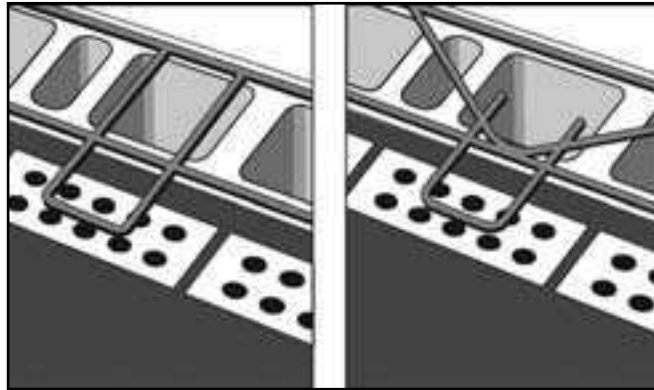
- Function:** Prefabricated reinforcement designed for embedment in the horizontal mortar joints of masonry walls in either DA3100 Truss or DA3200 Ladur types
- Basic Uses:**
- To control shrinkage cracking
 - To bond intersection walls
 - To provide principal steel in engineered masonry walls
 - To reinforce stack bond masonry
- Dimensions:**
- Out-to-out spacing of deformed side rods is approximately 2 inches (50mm) less than the nominal thickness of the wythe or wall in which the reinforcement is to be placed
 - Truss is provided in 10 feet (3050mm) lengths with Cross Rods welded 16 inches (400mm) on center
 - Ladur is provided in 10 feet 8 inch lengths (3250mm) with Cross Rods welded 16 inches (400mm) on center [15 inches (380mm) on center is available in 10 feet (3050mm) lengths]
- Wire Gages:**
- Standard Weight 9 gage (3.7mm) Side Rods and 9 gage (3.7mm) Cross Rods
 - Extra Heavy Weight 3/16 inch (5mm) Side rod and 9 gage (3.7mm) Cross Rods
 - Super Heavy Weight 3/16 inch (5mm) Side rods and 3/16 inch (0.187 or 5mm) Cross Rods
- Finishes:**
- Brite Basic, Mill Galvanized, Class Coated Hot Dip Galvanized and Stainless Steel
 - DUR-O-WAL recommends Mill Galvanized for Interior applications, (not glass block)
 - DUR-O-WAL recommends Hot Dip Galvanized for all Exterior applications, including glass block masonry and where Mean Relative Humidity exceeds 75%
 - Always check local building codes for requirements
- Advantages:** Tests show continuous reinforcement improves masonry wall performance by providing
- Crack control
 - Greater elasticity
 - Butt-welded, single plane construction
 - High bond with the deformed side rods
 - Better resistance to rain penetration
 - Increased horizontal flexural strength
- Special Notes:** Prefabricated Corners and Tees are available and measure 32 inches (810mm) x 32 inches (810mm)



DUR-O-WAL MULTI-WYTHE NON-ADJUSTABLE SYSTEMS DA3100TR TRUSS TRIROD, DA3100DSR TRUSS DOUBLE SIDE ROD, DA3200TR LADUR TRIROD AND DA3200DSR LADUR DOUBLE SIDE ROD

- Function:** Prefabricated reinforcement designed for embedment in the horizontal mortar joints of masonry walls in either DA3100 Truss or DA3200 Ladur types
- Basic Uses:**
- To control shrinkage cracking
 - To bond intersection walls
 - To provide principal steel in engineered masonry walls
 - To reinforce stack bond masonry
 - Ties multiwythe masonry walls
 - Trirod provides 2 side rods in backing and 1 side rod in veneer wall
 - Double Side Rod provides 2 side rods in backing and 2 side rods in veneer
- Dimensions:**
- Out-to-out spacing of deformed side rods is approximately 2 inches (50mm) less than the nominal thickness of the wythe or wall in which the reinforcement is to be placed
 - Truss is provided in 10 feet (3050mm) lengths with Cross Rods welded 16 inches (400mm) on center
 - Ladur is provided in 10 feet 8 inch lengths (3250mm) with Cross Rods welded 16 inches (400mm) on center [15 inches (380mm) on center is available in 10 feet (3050mm) lengths]
- Wire Gages:**
- Standard Weight 9 gage (3.7mm) Side Rods and 9 gage (3.7mm) Cross Rods
 - Extra Heavy Weight 3/16 inch (5mm) Side rod and 9 gage (3.7mm) Cross Rods
 - Super Heavy Weight 3/16 inch (5mm) Side rods and 3/16 inch (0.187 or 5mm) Cross Rods
- Finishes:**
- Brite Basic, Mill Galvanized, Class Coated Hot Dip Galvanized and Stainless Steel
 - DUR-O-WAL recommends Mill Galvanized for Interior applications, (not glass block)
 - DUR-O-WAL recommends Hot Dip Galvanized for all Exterior applications, including glass block masonry and where Mean Relative Humidity exceeds 75%
 - Always check local building codes for requirements
 - Multiwythe walls are considered exterior applications and should be Stainless Steel or Hot Dip Galvanized
- Advantages:** Tests show continuous reinforcement improves masonry wall performance by providing
- Crack control
 - Greater elasticity
 - Butt-welded, single plane construction
 - High bond with the deformed side rods
 - Better resistance to rain penetration
 - Increased horizontal flexural strength
- Special Notes:**
- Prefabricated Corners and Tees are available and measure 32 inches (810mm) x 32 inches (810mm) and Corners must be designated as Outside or Inside Corners
 - DUR-O-WAL does not recommend Truss Trirod or Truss Double Side Rod in insulated cavity walls due to differential movement
 - Trirod and Double Side Rod should only be used when the wythes course out

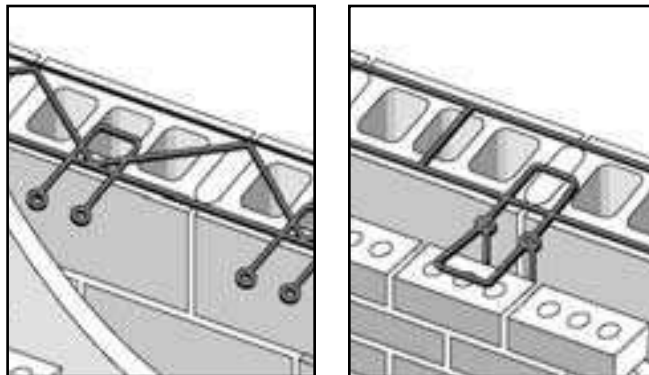
Multi-Wythe Systems



DUR-O-WAL MULTIWYTHE NON-ADJUSTABLE SYSTEMS DA3500 DUR-O-TAB AND DA3400 CONTINUOUS RECTANGULAR TAB TIE (CRT)

- Function:** Prefabricated reinforcement designed for embedment in the horizontal mortar joints of masonry walls in either DA3500 Dur-O-Tab or DA3400 C R T types
- Basic Uses:**
- To control shrinkage cracking
 - To bond intersection walls
 - To provide principal steel in engineered masonry walls
 - To reinforce stack bond masonry
 - Ties multiwythe masonry walls
 - Welded rectangular tabs on the side rods of the Truss design DA3500 Dur-O-Tab or Ladur design DA3200 C R T are embedded in the veneer
- Dimensions:**
- Out-to-out spacing of deformed side rods is approximately 2 inches (50mm) less than the nominal thickness of the backing and the overall width of the assembly should be such that the tab tie extends at least 1-1/2 inches (38mm) into the outer wythe.
 - Standard length is 10 feet (3050mm) with the rectangular tabs welded at 16 inches (400mm) on center
- Wire Gages:**
- Standard Weight 9 gage (3.7mm) Side Rods and 9 gage (3.7mm) Cross Rods
 - Extra Heavy Weight 3/16 inch (5mm) Side rod and 9 gage (3.7mm) Cross Rods
 - Super Heavy Weight 3/16 inch (5mm) Side rods and 3/16 inch (0.187 or 5mm) Cross Rods
 - Rectangular Tabs are fabricated from 3/16 inch (5mm) wire
- Finishes:**
- Brite Basic, Mill Galvanized, Class Coated Hot Dip Galvanized and Stainless Steel
 - DUR-O-WAL recommends Mill Galvanized for Interior applications, (not glass block)
 - DUR-O-WAL recommends Hot Dip Galvanized for all Exterior applications, including glass block masonry and where Mean Relative Humidity exceeds 75%
 - Multiwythe walls are considered exterior applications and should be Stainless Steel or Hot Dip Galvanized
 - Always check local building codes for requirements
- Advantages:** Tests show continuous reinforcement improves masonry wall performance by providing
- Crack control
 - Greater elasticity
 - Butt-welded, single plane construction
 - High bond with the deformed side rods
 - Better resistance to rain penetration
 - Increased horizontal flexural strength
- Special Notes:**
- Prefabricated Corners and Tees are available and measure 32 inches (810mm) x 32 inches (810mm) and Corners must be designated as Outside or Inside Corners
 - Dur-O-Tab and C R T should only be used when the wythes course out

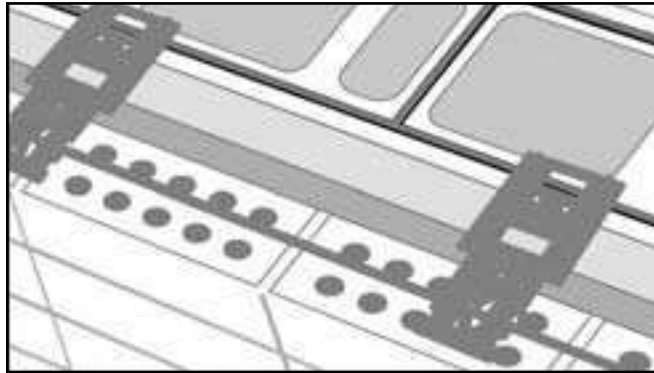
Multi-Wythe Adjustable Systems



DUR-O-WAL MULTI-WYTHE ADJUSTABLE SYSTEMS DA3700 DUR-O-EYE AND DA3600 LADUR-EYE

- Function:** Prefabricated reinforcement designed for embedment in the horizontal mortar joints of masonry walls in either DA3700 Dur-O-Eye or DA3600 Ladur-Eye types
- Basic Uses:**
- Provides same uses as single wythe walls
 - Ties multiwythe masonry walls
 - Welded eyes on the side rods of the Truss design DA3700 Dur-O-Eye or Ladur design DA3600 Ladur-Eye engage pintles to tie the wythes with adjustability between wythes
- Dimensions:**
- Out-to-out spacing of deformed side rods is approximately 2 inches (50mm) less than the nominal thickness of the backing and the overall width of the assembly should be such that the engaged pintles extend at least 1-1/2 inches (38mm) into the outer wythe
 - Maximum play between Pintle engaged in Eye is 1/16 inch (2mm)
 - Pintle leg allows for a misalignment of 1-1/4 inches (30mm)
 - Standard length is 10 feet (3050mm) with the Eyes welded at 16 inches (400mm) on center
- Wire Gages:**
- Standard Weight 9 gage (3.7mm) Side Rods and 9 gage (3.7mm) Cross Rods
 - Extra Heavy Weight 3/16 inch (5mm) Side rod and 9 gage (3.7mm) Cross Rods
 - Super Heavy Weight 3/16 inch (5mm) Side rods and 3/16 inch (0.187 or 5mm) Cross Rods
 - Eyes and Pintles are fabricated from 3/16 inch (5mm) wire
- Finishes:**
- Brite Basic, Mill Galvanized, Class Coated Hot Dip Galvanized and Stainless Steel
 - DUR-O-WAL recommends Mill Galvanized for Interior applications, (not glass block)
 - DUR-O-WAL recommends Hot Dip Galvanized for all Exterior applications, including glass block masonry and where Mean Relative Humidity exceeds 75%
 - Multiwythe walls are considered exterior applications and should be Stainless Steel or Hot Dip Galvanized
 - Always check local building codes for requirements
- Advantages:** Tests show continuous reinforcement improves masonry wall performance by providing
- Crack control
 - Greater elasticity
 - Butt-welded, single plane construction
 - High bond with the deformed side rods
 - Better resistance to rain penetration
 - Increased horizontal flexural strength
- Special Notes:**
- Prefabricated Corners and Tees are available and measure 32 inches (810mm) x 32 inches (810mm) and Corners must be designated as Outside or Inside Corners
 - Pintles can be installed either up or down
 - 2-1/2" maximum misalignment between courses which will meet the code requirements
 - These same guidelines apply to DUR-O-WAL's In Line Ladur-Eye to utilize its advantages

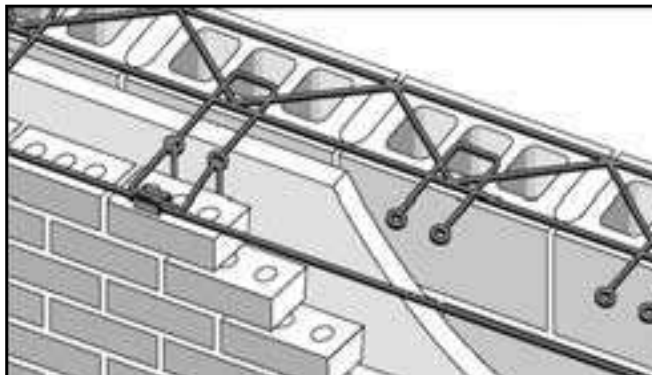
Seismic Joint Reinforcement



DUR-O-WAL SEISMIC JOINT REINFORCEMENT

DA3700S SEISMIC DUR-O-EYE AND DA3600S HEAVY DUTY SEISMIC LADUR-EYE

- Function:** Prefabricated reinforcement designed for embedment in the horizontal mortar joints of masonry walls in either DA3700S Dur-O-Eye or DA3600S Seismic Ladur-Eye types
- Basic Uses:**
- Provides same uses as single wythe walls
 - Ties multiwythe masonry walls in seismic applications
 - Welded eye plates on the side rods of the Truss design DA3700S Seismic Dur-O-Eye or Ladur design DA3600S Seismic Ladur-Eye engage Seismic Pintles to tie the wythes with adjustability between wythes
- Dimensions:**
- Out-to-out spacing of deformed side rods is approximately 2 inches (50mm) less than the nominal thickness of the backing and the overall width of the assembly should be such that the engaged Seismic Pintles extend at least 1-1/2 inches (38mm) into the outer wythe.
 - Seismic Pintle leg allows for a misalignment of 1-1/4 inches (30mm)
 - Standard length is 10 feet (3050mm) with the Eyes Plates welded at 16 inches (400mm) on center
- Wire Gages:**
- Standard Weight 9 gage (3.7mm) Side Rods and 9 gage (3.7mm) Cross Rods
 - Extra Heavy Weight 3/16 inch (5mm) Side rod and 9 gage (3.7mm) Cross Rods
 - Super Heavy Weight 3/16 inch (5mm) Side rods and 3/16 inch (0.187 or 5mm) Cross Rods
 - Eyes Plates are fabricated from 16 gage (1.5mm) sheet steel.
 - Seismic Pintles are fabricated from either 12 gage (2.7mm) or 11 gage (3.0mm) sheet steel
- Finishes:**
- Brite Basic, Mill Galvanized, Class Coated Hot Dip Galvanized and Stainless Steel
 - DUR-O-WAL recommends Mill Galvanized for Interior applications, (not glass block)
 - DUR-O-WAL recommends Hot Dip Galvanized for all Exterior applications, including glass block masonry and where Mean Relative Humidity exceeds 75%
 - Multiwythe walls are considered exterior applications and should be Stainless Steel or Hot Dip Galvanized
 - Always check local building codes for requirements
- Advantages:** Tests show continuous reinforcement improves masonry wall performance by providing
- Crack control
 - Greater elasticity
 - Butt-welded, single plane construction
 - High bond with the deformed side rods
 - Better resistance to rain penetration
 - Increased horizontal flexural strength
- Special Notes:**
- Prefabricated Corners and Tees are available and measure 32 inches (810mm) x 32 inches (810mm) and Corners must be designated as Outside or Inside Corners
 - Seismic Pintles can be installed either up or down 2-1/2" maximum misalignment between courses which will meet the code requirements
 - Shear Lugs at the end of the Seismic Pintle engage a piece of joint reinforcement or pencil rod



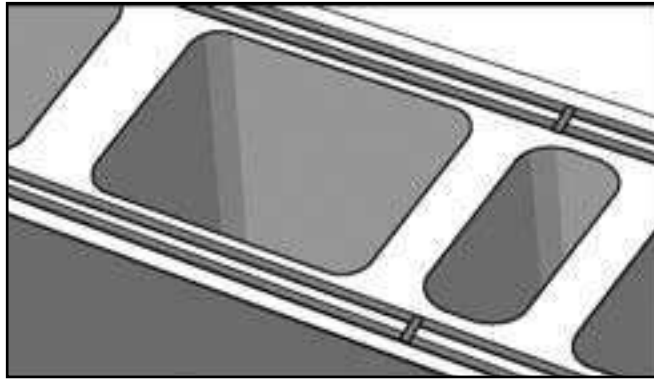
DUR-O-WAL SEISMIC JOINT REINFORCEMENT

DA3700ES LITE DUTY SEISMIC DUR-O-EYE

DA3600ES LITE DUTY SEISMIC LADUR-EYE

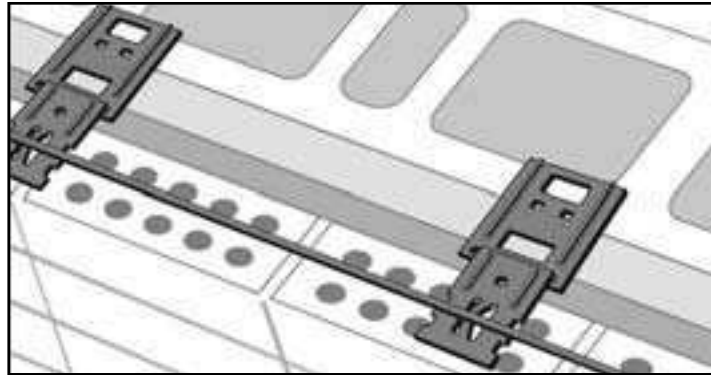
- Function:** Prefabricated reinforcement designed for embedment in the horizontal mortar joints of masonry walls in either DA3700ES Lite Duty Seismic Dur-O-Eye or DA3600ES Lite Duty Seismic Ladur-Eye types
- Basic Uses:**
- Provides same uses as single wythe walls
 - Ties multiwythe masonry walls
 - Welded eyes on the side rods of the Truss design DA3700ES Lite Duty Seismic Dur-O-Eye or Ladur design DA3600ES Lite Duty Ladur-Eye engage pintles to tie the wythes with adjustability between wythes
- Dimensions:**
- Out to out spacing of deformed side rods is approximately 2 inches (50mm) less than the nominal thickness of the backing and the overall width of the assembly should be such that the engaged pintles extend at least 1-1/2 inches (38mm) into the outer wythe
 - Maximum play between engaged pintle in Eye is 1/16 inch (2mm)
 - Pintle leg allows for a misalignment of 1-1/4 inches (30mm)
 - Standard length is 10 feet (3050mm) with the Eyes welded at 16 inches (400mm) on center
- Wire Gages:**
- Standard Weight 9 gage (3.7mm) Side Rods and 9 gage (3.7mm) Cross Rods
 - Extra Heavy Weight 3/16 inch (5mm) Side rod and 9 gage (3.7mm) Cross Rods
 - Super Heavy Weight 3/16 inch (5mm) Side rods and 3/16 inch (0.187 or 5mm) Cross Rods
 - Eyes and pintles are fabricated from 3/16 inch (5mm) wire
- Finishes:**
- Brite Basic, Mill Galvanized, Class Coated Hot Dip Galvanized and Stainless Steel
 - DUR-O-WAL recommends Mill Galvanized for Interior applications, (not glass block)
 - DUR-O-WAL recommends Hot Dip Galvanized for all Exterior applications, including glass block masonry and where Mean Relative Humidity exceeds 75%
 - Multiwythe walls are considered exterior applications and should be Stainless Steel or Hot Dip Galvanized
 - Always check local building codes for requirements
- Advantages:** Tests show continuous reinforcement improves masonry wall performance by providing
- Crack control
 - Greater elasticity
 - Butt-welded, single plane construction
 - High bond with the deformed side rods
 - Better resistance to rain penetration
 - Increased horizontal flexural strength
- Special Notes:**
- Prefabricated Corners and Tees are available and measure 32 inches (810mm) x 32 inches (810mm) and Corners must be designated as Outside or Inside Corners
 - Pintles can be installed either up or down 2-1/2" total for adjustment between courses, which will meet the code requirements allowing for 2-1/2" maximum misalignment between courses
 - Welded Quake Tie at end of pintle engages a piece of joint reinforcement or pencil rod

Seismic Joint Reinforcement



DUR-O-WAL SEISMIC JOINT REINFORCEMENT DA3200S SEISMIC LADUR

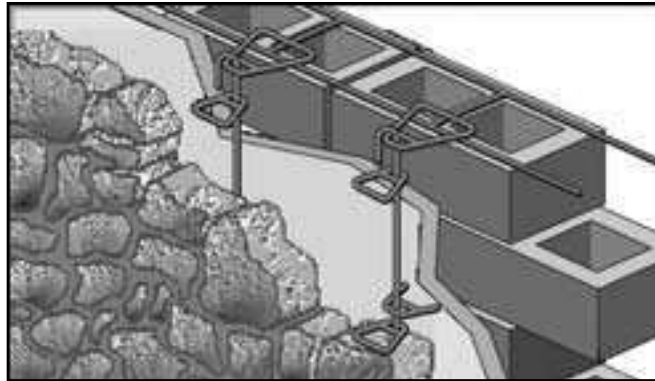
- Function:** Prefabricated reinforcement designed for embedment in the horizontal mortar joints of masonry walls
- Basic Uses:**
- To control shrinkage cracking
 - To bond intersection walls
 - To provide principal steel in engineered masonry walls
 - To reinforce stack bond masonry
 - To provide greater ductility in veneers
- Dimensions:** 5/8 inch (15mm) out-to-out measurement
10 feet 8 inch (3760mm) length
- Wire Gages:**
- Standard Weight 9 gage (3.7mm) Side Rods and 9 gage (or 3.7mm) cross rods
 - Extra Heavy Weight 3/16 inch (or 5mm) Side rods and 9 gage (or 3.7mm) cross rods
 - Super Heavy Weight 3/16 inch (or 5mm) Side rods and 3/16 inch (or 5mm) cross rods
- Finishes:** Hot Dip Galvanized or Stainless Steel (See Page 5)
- Advantages:** Tests show continuous reinforcement improves masonry wall performance by providing:
- Better crack distribution under seismic loads
 - Greater elasticity
 - High bond with the deformed side rods
 - Better resistance to rain penetration
 - Increased horizontal flexural strength
 - Installation ease by allowing joint reinforcement to be placed on either side of vertical rods in block veneers
- Special Notes:** Seismic Ladur is generally the recommended joint reinforcement in block veneers



DUR-O-WAL SEISMIC JOINT REINFORCEMENT DA8706 PENCIL ROD (STRAIGHT AND CUT)

- Function:** Prefabricated reinforcement designed for embedment in the horizontal mortar joints of veneer walls
- Basic Uses:**
- To control shrinkage cracking
 - To provide greater ductility in veneers
- Dimensions:** Deformed 10 feet (3050mm) lengths
- Wire Gages:** Standard Weight 9 gage (3.7mm) Extra Heavy Weight 3/16 inch (or 5mm)
- Finishes:** Brite Basic, Mill Galvanized, Class Coated, Hot Dip Galvanized and Stainless Steel
(See Page 1 for Tables) DUR-O-WAL recommends Hot Dip Galvanized for all Exterior applications including veneers
Always check local building codes for requirements
- Advantages:** Tests show continuous reinforcement improves masonry wall performance by providing:
- Better crack distribution under seismic loads
 - High bond because of the deformations

Random/Rubble Stone System



DUR-O-WAL RANDOM/RUBBLE STONE SYSTEM DA3300SL, ADJUSTABLE DUR-O-TAB WITH RESTRAINT BAR DA3000SL ADJUSTABLE RECTANGULAR TAB TIE WITH RESTRAINT BAR (CRT) J-BARS AND DA700WB SERIES TRIANGULAR TIES WITH RESTRAINT BAR

- Function:** Prefabricated reinforcement designed for embedment in the horizontal mortar joints of masonry walls in either DA3300SL Dur-O-Tab or DA3000SL C R T types
- Basic Uses:**
- Provides same uses as single wythe walls
 - Ties multiwythe block wall to random/rubble stone veneer
 - Triangular tabs with restraint bars are welded on the side rods of the Truss design DA3300SL Dur-O-Tab or Ladur design DA3300SL C R T to tie wythes with adjustability between the wythes
 - J-Bars and Triangular Ties with welded Restraint Bars combination provides versatility for tying the veneer to the block back-up
- Dimensions:**
- Out-to-out spacing of deformed side rods is approximately 2 inches (50mm) less than the nominal thickness of the backing
 - Standard length is 10 feet (3050mm) with the Tabs welded at 16 inches (400mm) on center
 - J-Bars are 52 inches (1320mm) length
- Wire Gages:** Tests show continuous reinforcement improves masonry wall performance by providing
- Crack control
 - Greater elasticity
 - Butt-welded, single plane construction
 - High bond with the deformed side rods
 - Better resistance to rain penetration
 - Increased horizontal flexural strength
 - Tabs and Triangular Ties are 3/16 inch (5mm) wire
 - J-Bars are 3/8 inch (10mm) rod
- Finishes:**
- Brite Basic, Mill Galvanized, Class Coated Hot Dip Galvanized and Stainless Steel
 - DUR-O-WAL recommends Mill Galvanized for Interior applications, (not glass block)
 - DUR-O-WAL recommends Hot Dip Galvanized for all Exterior applications, including glass block masonry and where Mean Relative Humidity exceeds 75%
 - Multiwythe walls are considered exterior applications and should be Stainless Steel or Hot Dip Galvanized
 - Always check local building codes for requirements
- Advantages:** Tests show continuous reinforcement improves masonry wall performance by providing
- Crack control
 - Greater elasticity
 - Butt-welded, single plane construction
 - High bond with the deformed side rods
 - Better resistance to rain penetration
 - Increased horizontal flexural strength
- Special Notes:** Prefabricated Corners and Tees are available and measure 32 inches (810mm) x 3 inches (810mm) and Corners must be designated as Outside or Inside Corners

DA207 MSSA VENEER ANCHOR SCREW ON STRAPS

- Function:** Designed to anchor masonry to a structure.
Used with DA700 Triangular Ties or DA750 Trapezoid Ties.
- Dimensions:** 3/4 inch (19mm) wide x 5 inches (125mm) long x 12 gage (2.7mm) thick
- Finishes:** Mill Galvanized; Hot Dip Galvanized; Stainless Steel
- Special Notes:**
- Has 1/4 inch (6mm) clearance
 - Requires two fasteners
 - Not recommended for metal or wood stud over sheathing (Suggest DA210 Anchor Plate or DA213 Veneer Plate)
 - Not recommended when cavity contains rigid insulation (Suggest DA213 Veneer Anchors)
 - Can adapt to Seismic Zones see Seismic Section



DA210 VENEER ANCHOR SCREW ON PLATES

- Function:** Designed to anchor masonry to a structure.
Used with DA700 Triangular Ties or DA750 Trapezoid Ties.
- Dimensions:** 1-1/2 inches (37mm) wide Back Plate 6 inches (150mm) long 14 (1.9mm) or 12 (2.7mm) gage thick
- Finishes:** Mill Galvanized; Hot Dip Galvanized; Stainless Steel
- Special Notes:**
- Has 1/4 inch (6mm) clearance
 - Requires two fasteners
 - Not recommended when cavity contains rigid insulation (Suggest DA213 Veneer Anchor Plate)
 - Can adapt to Seismic Zones see Seismic Section



DA210X VENEER ANCHOR SCREW ON PLATES

- Function:** Designed to connect masonry veneer to wood or metal stud framed structural backings. Used with DA700 Series Triangular Ties.
- Dimensions:** Available in 14 gauge and measures 1 1/4" wide x 5" long, legs sized to accommodate 5/8", 3/4", 1", 1 1/2", 2", 2 1/2" and 3" insulation or sheathing.
- Finishes:** Mill galvanized, hot dip galvanized, and stainless steel.
- Special Notes:**
- Requires two fasteners
 - Can be used with or without rigid foam insulation
 - Provides 3-3/4" of vertical tie adjustment to meet variations in the masonry coursing



DA213 VENEER ANCHORS (PLATES AND PINTLES)

- Function:** Designed to anchor masonry to a structure accommodating rigid insulation up to and including 3 inches (75mm).
- Plate Dimensions:** 14 (1.9mm) or 12 (2.7mm) gage with leg to accommodate rigid insulation
- Pintle Dimensions:** 3/16 inch (5mm) wire x 3 inches (75mm), 4 inches (100mm), 5 inches (125mm), 6 inches (150mm), or 7 inches (180mm) long
- Finishes:** Mill Galvanized; Hot Dip Galvanized; Stainless Steel
- Special Notes:**
- Recommend two fasteners per plate
 - Needs 3/4 inch (19mm) to 1 inch (25mm) minimum air cavity
 - Can adapt Wire Pintle to Seismic Zones see Seismic Section
 - For attachment to concrete, brick or block use DA5213 (see page 29)
 - Fully tested



DA801 ADJUSTABLE SPEED SET VENEER ANCHORS

- Function:** Designed to anchor masonry to a structure.
- Plate Dimensions:** 14 (1.9mm) gage thick 1/2 inch (25mm) depth 3 inch (75mm) long
- Tri Tie Dimension:** 3/16 inch (5mm) wire x 3 inch (75mm), 4 inch (100mm), or 5 inch (125mm) lengths
- Finishes:** Mill Galvanized; Hot Dip Galvanized; Stainless Steel
- Special Notes:**
- Uses one fastener
 - Anchor comes assembled with Triangular Tie in Plate
 - For attachment to concrete, brick or block use DA5801 (see page 30)



Ties, Anchors and Veneer Anchors

DA807 METAL STUD VENEER SCREW

- Function:** Designed to fasten anchors to metal stud backing.
Dimensions: #10 - 16 x 1-1/2 (38mm) long or #12 - 14 x 2" (50mm) long
Finishes: Copolymer coated for corrosion resistance
Special Notes: Available with or without Neoprene Washer



DA808 WOOD STUD VENEER SCREW

- Function:** Designed to fasten anchors to wood stud backing.
Dimensions: #9 - 1-5/8 inches (41mm) or 2-1/4 inches (57mm) long
Finishes: Phillips Head
Proprietary corrosion resistant coating



DA995 STAINLESS STEEL SCREW

- Function:** Designed to fasten anchors to metal stud backing.
Dimensions: #12-14 x 1-1/2 inches (38mm) or 2 inches (50mm) long
Finishes: Type 304 Stainless Steel with Case Hardened Carbon Steel Drill Point.
Special Notes: Screw is self-drilling and self-tapping with Neoprene Washer available for 2 inch (50mm) long screw



DA5410 AND DA5610 MASONRY EXPANSION ANCHORS

- Function:** Designed to fasten anchors to concrete, block, brick, tile, and into mortar joints.
Dimensions: 7/16 inch (11mm) outside diameter x 2 inches (50mm) long
Finishes: 1/4 - 20 NC Hex head bolt and washer of HDG Carbon Steel (DA5610) or Type 304 Stainless Steel (DA5410; Expansion Sleeve and Expander Cone of Brass
Special Notes: Sold as sets with anchors as in DA5213; DA5213S; DA5431; DA5801 (see page 28) and individually



DA301Z MASONRY STRAP ANCHOR

- Function:** Various masonry applications.
Dimensions: Code required 1/4 inch (6mm) thick 1-1/2 inch (38mm) wide 24 inch (600mm) long with 2 inch (50mm) long, 90 degree bends on each end
Finishes: Hot Dip Galvanized; Stainless Steel
Special Notes: Other dimensions and shapes available



DA500 "Z" CAVITY WALL TIES

- Function:** Designed to tie multiwythe masonry walls when fully grouted.
Dimensions: 3/16 inch (5mm) wire with 2 inch (50mm) bends with various lengths between bends
Finishes: Mill Galvanized; Hot Dip Galvanized; Stainless Steel
Special Notes: Provides no adjustability between wythes
For cavity drip use DA2100 Ins-O-Grips (See Page 17)



DA510 AND DA511 RECTANGULAR CAVITY WALL TIES

- Function:** Designed to tie multiwythe masonry walls
- Dimensions:** DA510 3/16 inch (5mm) wire x 2 inch (50mm) wide with various lengths
DA511 3/16 inch (5mm) wire x 4 inch (100 mm) wide with various lengths
- Finishes:** Mill Galvanized; Hot Dip Galvanized; Stainless Steel
- Special Notes:**
- Provides no adjustability between wythes
 - For cavity drip use DA2100 Ins-O-Grips (See page 18)



DA518 ADJUSTABLE RECTANGULAR CAVITY WALL TIE EYES

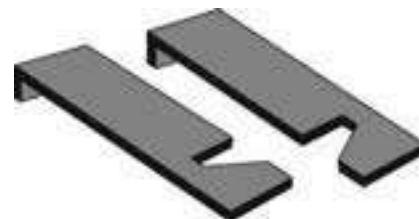
(Formerly known as DA515)

- Function:** Designed to tie multiwythe walls with adjustability between the wythes. Used with DA213 Wire Pintle.
- Dimensions:** 3/16 inch (5mm) wire x 2-3/4 inch (70mm), 4-3/4 inch (119mm), or 5-3/4 inch (144mm) lengths
- Finishes:** Mill Galvanized; Hot Dip Galvanized; Stainless Steel
- Special Notes:**
- Allows for only 1/16 inch (2mm) play when leg of pintle is engaged in eye
 - Can adapt Wire Pintle to Seismic Zones see Seismic Section



DA601 COLUMN ANCHORS

- Function:** Designed to anchor block to steel column flanges.
- Dimensions:** 1/8 inch (3mm) thick x 2 inch (50mm) wide with 1 inch (25mm) right angle bend with various lengths
- Finishes:** Hot Dip Galvanized; Stainless Steel
- Special Notes:**
- Requires two anchors, one for left and right hand side of flange
 - Fully tested



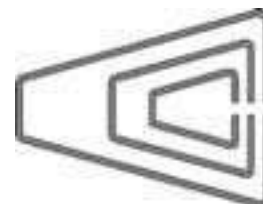
DA604 COLUMN ANCHORS

- Function:** Designed to anchor brick to steel column flanges.
- Dimensions:** 16 (1.5mm) gage thick x 1 inch (25mm) wide corrugated with various lengths
- Finishes:** Mill Galvanized; Hot Dip Galvanized; Stainless Steel
- Special Notes:**
- Requires two anchors one for each left and right hand side of flange
 - Fully tested



DA700 SERIES TRIANGULAR TIES

- Function:** Designed to anchor masonry to a structure. Used with DA207 MSSA Veneer Anchor Screw on Strap, DA210 Veneer Anchor Screw on Plate or DA709 Column Anchor Weld-on.
- Dimensions:** 3/16 inch (5mm) wire, 3 x 3 inches (75mm x 75mm), 4 x 4 inches (100mm x 100mm), 5 x 5 inches (125mm x 125mm), 6 x 6 inches (150mm x 150mm), 7 x 7 inches (180mm x 180mm), and 7 x 9 inches (180mm x 230mm)
- Finishes:** Mill Galvanized; Hot Dip Galvanized; Stainless Steel
- Special Notes:** Can adapt for Seismic Zones see Seismic Section



Ties, Anchors and Veneer Anchors

DA709 COLUMN ANCHOR WELD-ON

Function: Designed to anchor masonry to structural steel columns. Used with DA700 Series Triangular Ties or DA730 Trapezoid Ties

Dimensions: 5/16 inch (8mm) rod x 5 inch (125mm) length

Finishes: Brite or Plain Uncoated; Mill Galvanized; Hot Dip Galvanized



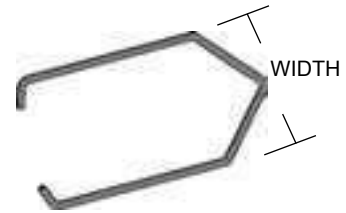
DA730 TRAPEZOID TIES (OR WEB TIES)

Function: Designed to anchor masonry to a steel structure from the end of the CMU using a wire anchor such as a DA709

Dimensions: 3/16 inch (5mm) wire x 12 inch (300mm) overall length, 1" bends with various widths

Finishes: Mill Galvanized; Hot Dip Galvanized; Stainless Steel

Special Notes: Order by actual width of masonry unit being used



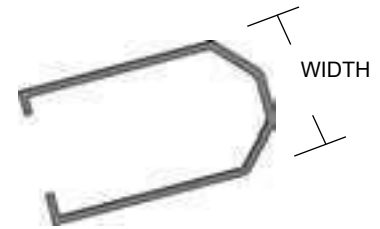
DA750 TRAPEZOID TIES (OR WEB TIES)

Function: Designed to anchor masonry to a structure from the end of the CMU using a strap anchor such as a DA207 or Plate Anchor such as DA210.

Dimensions: 3/16 inch (5mm) wire x 12 inch (300mm) overall length, 1" bends with various widths

Finishes: Mill Galvanized; Hot Dip Galvanized; Stainless Steel

Special Notes: Order by actual width of masonry unit being used



DA960 WIRE MESH TIES

Function: Variety of applications.

Dimensions: 1/2 inch x 1/2 inch (13mm x 13mm) mesh of 16 gage (1.5mm) wire in 3 inch (75mm) widths and various lengths

Finishes: Hot Dip Galvanized

Special Notes:

- Available in rolls of 100 feet (30.48M) length in either 36 inch (915mm) or 48 (1220mm) inch widths
- Other widths of Ties and Rolls available



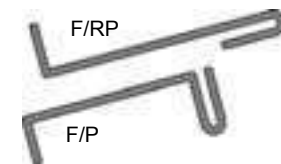
DA980 COLUMN FLANGE TIES

Function: F/P Style: Designed to anchor masonry to a steel column flange parallel to the flange.
F/RP Style: Designed to anchor masonry to a steel column flange at a right angle to the flange.

Dimensions: 3/16 inch (5mm) wire with a 2 1/2 inch (64mm) hook with a 1/2 inch (13mm) opening in various lengths and a 2 inch (50mm) right angle bend

Finishes: Mill Galvanized; Hot Dip Galvanized; Stainless Steel

Special Notes: Requires two anchors, one for left and right hand side of flange



DA990 CORRUGATED WALL TIES

Function: Designed to anchor masonry to a structure or to tie multi wythe walls.

Dimensions: 26 gage (0.45mm), 22 gage (0.76mm) or 16 gage (1.50mm) x 7/8 inch (22mm) wide x 7 inch (180mm) length

Finishes: Mill Galvanized; Hot Dip Galvanized is available in 22 and 16 gages; stainless steel

Special Notes: Other lengths and widths are available



DA100 DOVETAIL ANCHOR SLOTS

- Function:** Designed to anchor masonry to new concrete with the slot embedded in concrete. Used with all DA100 Series Dovetail Anchors and DA720. Dovetail Triangular Ties Anchors, and DA200 Series Stone Anchors.
- Dimensions:** For Seismic Dovetail Anchors see Seismic Section
26 gage (48mm), 24 gage (0.61mm), 22 gage (0.76mm) or 20 gage (0.89mm) x 10 feet (3050mm) length
Throat 1 inch x 1 inch x 5/8 inch (25mm x 25mm x 16mm)
- Finishes:** Mill Galvanized and Stainless Steel
- Special Notes:** Slot is foam filled to protect slot during concrete forming and placement



DA101 DOVETAIL ANCHORS

- Function:** Designed to anchor masonry to concrete
Used with DA100 Dovetail Anchor Slot.
- Dimensions:** 16 gage (1.5mm), 14 gage (1.9mm), 12 gage (2.7mm) x 1 inch (25mm) wide x 3-1/2 inch (90mm), 4-1/2 inch (113mm), 5-1/2 inch (138mm), 6-1/2 inch (163mm) lengths (length does not include dovetail). Corrugated Dovetail measures 1 inch (25mm) in length
- Finishes:** Mill Galvanized; Hot Dip Galvanized; Stainless Steel
- Special Notes:**
- Other lengths and thickness available
 - Other styles available with twists, bends, holes, splits, etc.
 - See Seismic Section for popular DA131 Dovetail Anchor which has been fully tested and can be substituted for DA101
 - Dovetail Anchor



DA720 SERIES DOVETAIL TRIANGULAR TIES

- Function:** Designed to anchor masonry to concrete.
Used with DA100 Dovetail Anchor Slot.
- Dimensions:** 12 gage (2.7mm) Dovetail Clip with 3/16 inch (5mm) wire tie x 3-1/2 inch (90mm), 4-1/2 inch (113mm), 5-1/2 inch (138mm), 6-1/2 inch (163mm), 7-1/2 inch (193mm) and 9-1/2 inch (243mm) lengths
- Finishes:** Mill Galvanized; Hot Dip Galvanized; Stainless Steel
- Special Notes:** Can adapt for Seismic Zones see Seismic Section



DA901 CHANNEL ANCHOR SLOT

- Function:** Designed to anchor masonry to concrete, CMU, brick or steel columns.
Used with DA900 Series Channel Anchors.
- Dimensions:** 16 gage (1.5mm) or 11 gage (3mm) x 8 inch (200mm) length x 1-3/4 inch (43mm) wide
Slot measures 9/16 inch wide x 5-1/2 inches (14mm x 151mm) long
- Finishes:** Mill Galvanized; Hot Dip Galvanized; Stainless Steel
- Special Notes:**
- Slot has two 5/16 inch (8mm) holes above and below slot
 - Power-driven fasteners into concrete, block or brick not recommended
 - Not recommended against sheathing over wood or metal stud



Dovetail & Channel Anchor Systems

DA902 CHANNEL ANCHOR SLOT

- Function:** Designed for embedment in block masonry for anchoring veneer to CMU backing. Used with DA900 Series Channel Anchors.
- Dimensions:** Same as DA901 except has two welded 3 inch (75mm) long legs perpendicular to slot and each leg has a right angle bend
- Finishes:** Mill Galvanized; Hot Dip Galvanized; Stainless Steel



DA903 CHANNEL ANCHOR SLOT

- Function:** Designed for anchoring masonry to a structure including over sheathing for wood and metal stud applications. Used with DA900 Series Channel Anchors.
- Dimensions:** Same as DA901 except is 11 inch (275mm) length
- Finishes:** Mill Galvanized; Hot Dip Galvanized; Stainless Steel
- Special Notes:** Fabricated to enable slot to be placed for attachment flush against backing



DA904 CONTINUOUS CHANNEL ANCHOR SLOT

- Function:** Designed to anchor masonry to concrete, block, brick or steel columns. Used with DA900 Series Channel Anchors.
- Dimensions:** 16 gage (1.5mm) or 11 gage (3mm) x 8 feet (2440mm) length x 1-3/4 inch (43mm) wide
12 usable slots measure 9/16 inch x 5-3/8 inches (14mm x 135mm)
- Finishes:** Mill Galvanized; Hot Dip Galvanized; Stainless Steel
- Special Notes:**
- Not recommended against sheathing over wood or metal stud
 - Fender washer of appropriate size required when slots are used to accommodate drill-in fasteners to concrete, block or brick. (Bridge Plates are also available)
 - Power-driven fasteners not recommended



DA918 SERIES CHANNEL ANCHOR TRIANGULAR TIES

- Function:** Designed to anchor masonry to a structure. Used with DA901, DA902, DA903, or DA904 Channel Anchor Slots.
- Dimensions:** 12 gage (2.7mm) Channel Anchor Clip with 3/16 inch (5mm) wire tie x 3-1/2 inch (90mm), 4-1/2 inch (113mm), 5-1/2 inch (138mm), 6-1/2 inch (163mm), 7-1/2 inch (193mm) and 9-1/2 inch (243mm) lengths
- Finishes:** Mill Galvanized; Hot Dip Galvanized; Stainless Steel
- Special Notes:** Can adapt for Seismic Zones see Seismic Section



DA931 CHANNEL ANCHORS

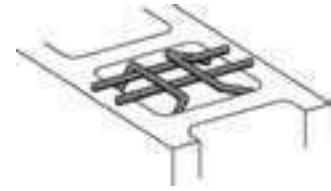
- Function:** Designed to anchor masonry to a structure. Used with DA901, DA902, DA903, or DA904 Channel Anchor Slots.
- Dimensions:** 16 gage (1.5mm), 14 gage (1.9mm), or 12 gage (2.7mm) x 1 inch (25mm) wide x 3-1/2 inch (90mm), 4-1/2 inch (113mm), or 5-1/2 inch (138mm) lengths (length does not include Channel Anchor "T")
- Finishes:** Mill Galvanized; Hot Dip Galvanized; Stainless Steel
- Special Notes:**
- Other lengths and thickness available
 - Older styles of DA900 Series Anchors, generally replaced with DA931, are still available
 - Meets requirements for Seismic Zones see Seismic Section for details



Rebar Positioners and Other Products

DA810 REBAR POSITIONERS

- Function:** Designed to position rebar vertically in the cell of CMU.
- Dimensions:** 9 gage (3.7mm) wire for 6 inch (150mm), 8 inch (200mm), 10 inch (250mm) and 12 inch (300mm) CMU
- Finishes:** Mill Galvanized or Hot Dip Galvanized
- Special Notes:** Will accommodate up to and including #7 rebar



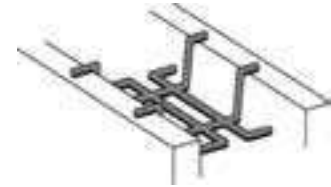
DA811 REBAR POSITIONERS

- Function:** Designed to position rebar vertically in cell of CMU.
- Dimensions:** 18 gage (1.2mm) steel for 8 inch (200mm) CMU ONLY
- Finishes:** Mill Galvanized or Hot Dip Galvanized
- Special Notes:**
- Will accommodate up to and including #7 rebar
 - Will position 2 bars
 - Can be installed after rebar is positioned in cell



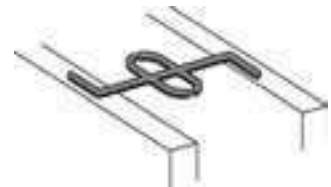
DA812 REBAR POSITIONERS

- Function:** Designed to position rebar horizontally in cell of CMU.
- Dimensions:** 9 gage (3.7mm) wire for 6 inch (150mm), 8 inch (200mm), 10 inch (250mm) and 12 inch (300mm) CMU
- Finishes:** Mill Galvanized or Hot Dip Galvanized
- Special Notes:** Will accommodate up to and including #7 rebar



DA815 REBAR POSITIONERS

- Function:** Designed to position rebar vertically in cell of CMU.
- Dimensions:** 9 gage (3.7mm) wire with 18 gage (1.2mm) segments for 6 inch (150mm), 8 inch (200mm), 10 inch (250mm) and 12 inch (300mm) CMU
- Finishes:** Mill Galvanized or Hot Dip Galvanized
- Special Notes:**
- Will accommodate up to and including #7 rebar
 - Will position 2 bars
 - Can be installed after rebar is positioned in cell



DA816 REBAR POSITIONERS

- Function:** Designed to position rebar vertically in cell of CMU.
- Dimensions:** 9 gage (3.7mm) wire with 18 gage (1.2mm) segments for 8 inch (200mm), 10 inch (250mm) and 12 inch (300mm) CMU
- Finishes:** Mill Galvanized or Hot Dip Galvanized
- Special Notes:**
- Will accommodate up to and including #7 rebar
 - Will position 4 bars
 - Can be installed after rebar is positioned in cell



DA817 REBAR POSITIONERS

- Function:** Designed to position rebar vertically in cell of CMU.
- Dimensions:** 9 gage (3.7mm) wire for 8 inch (200mm), 10 inch (250 mm), and 12 inch (300mm) CMU
- Finishes:** Mill Galvanized or Hot Dip Galvanized
- Special Notes:**
- Will accommodate up to and including #8 rebar
 - Will position 2 bars
 - Can be installed after rebar is positioned in cell



INSTALLATION NOTE FOR REBAR POSITIONERS

Bar positioners required by Uniform Building Code. Locate one positioner at top of first course, one course below top of wall and at intervals not exceeding 200 bar diameters

Rebar Positioners and Other Products

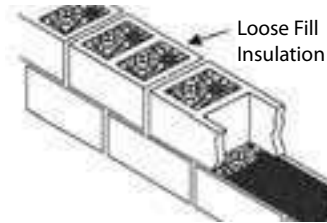
DA680 ANCHOR BOLTS

- Function:** Designed to be embedded in concrete for miscellaneous anchoring.
- Dimensions:** 1/2 inch (13mm) threaded end with 2 inch (50mm) right angle bend and 6 inch (150mm), 8 inch (200mm), 10 inch (250mm), 12 inch (300mm), 14 inch (355mm), 16 inch (400mm) and 18 inch (457mm) lengths
- Finishes:** Brite or Plain, Uncoated or Hot Dip Galvanized
- Special Notes:** Provided with or without Nut and Washer



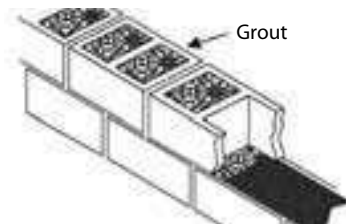
DA1010 FIL-STOP

- Function:** Designed to control loose fill insulation in block wall cells.
- Dimensions:** 10 x 10 Mesh in 150 feet (45.72M) rolls in 4 inch (100mm), 6 inch (150mm), 9 inch (230mm) and 12 inch (300mm) actual widths
- Special Notes:** Fabricated from resin coated fiberglass



DA1015-DA1018 DUR-O-STOP

- Function:** Designed to prevent grout falling through while maintaining positive bond in mortar joint.
- Dimensions:** 1/2 inch x 1/2 inch (13mm x 13mm) mesh in 100 feet (30.48M) rolls for a 6 inch (150mm), 8 inch (200mm), 10 inch (250mm) and 12 inch (300mm) actual widths. Actual measurement is 2 inches less than the block in which it is installed.
- Special Notes:**
- Is corrosion proof and biologically inert
 - Fabricated from monofilament screen of nylon



DA1020 DUR-O-FIBAR

- Function:** An additive to Portland Cement Plaster to control cracking in stucco.
- Dimensions:** 1/2 inch (13mm) fibers
Pre-measured 1 pound (454g) bags
Bulk packaged in 1,000 pounds (534kg)
- Special Notes:** This is an alkali-resistant (AR glass) additive



DA2100 INS-O-GRIPS

- Function:** Designed to hold rigid insulation tight against backup and provide cavity drip.
- Special Notes:** Recommended for cavity drip instead of crimping or placing a "V" in the wire which weakens the steel



DA213 I R P INSULATION PLATES

(Formerly Fur-Clip Insulation Holder)

- Function:** Designed to mechanically clamp rigid insulation board to backup structure. Used with DA213 Anchor Plates; DA519 Adjustable Seismic Eye Plates; Seismic Dur-O-Eye and Seismic Ladur-Eye.
- Dimensions:** 28 gage (0.38mm) Stainless Steel
- Special Notes:** Eliminates moisture accumulation and insulation discontinuity in the air cavity



DA8800 OCM MASONRY REBAR ANCHOR

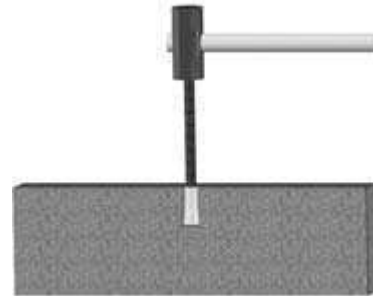
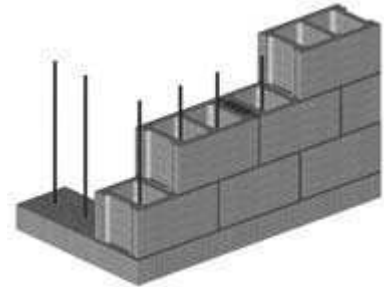
This is a mechanical rebar anchor system consisting of a mechanical expansion anchor swaged to either a #4 or a #5 grade 40 reinforcing bar. Expansion anchor portion is zinc plated for corrosion resistance.

This rebar anchor is used to tie vertical reinforcing steel in masonry construction to a poured-in-place concrete foundation (4,000 psi compressive strength). Jobsites are not restricted by temperature when this system is specified, which means no delays in laying CMU due to waiting on installation of rebars.

Specify a 11/16" diameter drill bit x 2-1/2" minimum depth hole for the #4 and a 27/32" diameter drill bit x 3" minimum depth hole for the #5 system.

Installation instructions:

- Drill hole using carbide bit of specified diameter.
- Drill hole to specified depth.
- Remove cement fines or dust using compressed air.
- Insert appropriate anchor into hole.
- Strike the top of the rebar with a hammer blow of sufficient force to expand expansion anchor into the drilled hole



DA8800 OCM Anchor		
Rebar Anchor	Ultimate Tension Capacity	Ultimate Shear Capacity
#4	7,533 lbs.	6,865 lbs.
#5	11,233 lbs.	7,659 lbs.

Movement Control Products

DA2001 REGULAR RUBBER CONTROL JOINT

Function: Designed to control movement in concrete masonry unit with standard sash block end.

Dimensions: Each piece in 32 (810mm) or 48 inch (1220mm) lengths, black color

Special Notes:

- Meets ASTM D2000-05
- Durometer is in accordance with ASTM D2240-05
- Recommend to be used in all exterior walls with backer rod and caulking/sealant



DA2003 #6 WIDE FLANGE RUBBER CONTROL JOINT

Function: Designed to control movement in concrete masonry unit with standard sash block end.

Dimensions: Each piece in 32 (810mm) or 48 inch (1220mm) lengths, black color

Special Notes:

- Meets ASTM D2000-05
- Durometer is in accordance with ASTM D2240-05
- Recommended to be used in interior walls



DA2005 #8 WIDE FLANGE RUBBER CONTROL JOINT

Function: Designed to control movement in concrete masonry unit with standard sash block end.

Dimensions: Each piece in 32 (810mm) or 48 inch (1220mm) lengths, black color

Special Notes:

- Meets ASTM D2000-05
- Durometer is in accordance with ASTM D2240-05
- For 8 inch (200mm), 10 inch (250mm) and 12 inch (300mm) CMU
- Recommended to be used in interior walls



DA2025 RAPID "T" RUBBER CONTROL JOINT

Function: Designed to control movement in concrete masonry unit with standard sash block end.

Dimensions: Each piece in 32 (810mm) or 48 inch (1220mm) lengths, black color

Special Notes:

- Meets ASTM D2000-05
- Durometer is in accordance with ASTM D2240-05
- Has shear key only on one side of flange



DA2002 REGULAR PVC CONTROL JOINT

Function: Designed to control movement in concrete masonry unit with standard sash block end.

Dimensions: Each piece in 32 (810mm) or 48 inch (1220mm) lengths, gray color

Special Notes:

- Meets ASTM D2287-96 (2001) Type PVC 654-4
- Durometer is in accordance with ASTM D2240-05
- Recommend to be used in all exterior walls with backer rod and caulking/sealant
- PVC not recommended in fire-rated walls



DA2004 6 WIDE FLANGE PVC CONTROL JOINT

Function: Designed to control movement in concrete masonry unit with standard sash block end.

Dimensions: Each piece in 32 (810mm) or 48 inch (1220mm) lengths, gray color

Special Notes:

- Meets ASTM D2287-96 (2001) Type PVC 654-4
- Durometer is in accordance with ASTM D2240-05
- Recommended to be used in interior walls
- PVC not recommended in fire-rated walls



DA2006 #8 WIDE FLANGE PVC CONTROL JOINT

Function: Designed to control movement in concrete masonry with standard sash block end.

Dimensions: Each piece in 32 (810mm) or 48 inch (1220mm) lengths, gray color

- Special Notes:**
- Meets ASTM D2287-96 (2001) Type PVC 654-4
 - Durometer is in accordance with ASTM D2240-05
 - For 8 inch (200mm), 10 inch (250mm) and 12 inch (300mm) CMU's
 - Recommended to be used in interior walls
 - PVC not recommended in fire rated walls



DA2007 #12 WIDE FLANGE PVC CONTROL JOINT

Function: Designed to control movement in concrete masonry with standard sash block end.

Dimensions: Each piece in 32 (810mm) or 48 inch (1220mm) lengths, gray color

- Special Notes:**
- Meets ASTM D2287-96 (2001) Type PVC 654-4
 - Durometer is in accordance with ASTM D2240-05
 - Has an offset shear key
 - PVC not recommended in fire rated walls



DA2020 RAPID "T" PVC CONTROL JOINT

Function: Designed to control movement in concrete masonry with standard sash block end.

Dimensions: Each piece in 32 (810mm) or 48 inch (1220mm) lengths, gray color

- Special Notes:**
- Meets ASTM D2287-96 (2001) Type PVC 654-4
 - Durometer is in accordance with ASTM D2240-05
- Has shear key only on one side of flange
PVC not recommended in fire rated walls



DA2010 RAPID SOFT JOINT

Function: Designed to keep mortar and other debris outside of horizontal joints, generally under shelf angles, to allow for brick expansion.

Dimensions: 1/4 inch (6mm) thick x 2 3/4 inch (70mm) wide x 50 feet (15.24M) rolls
Other thickness and widths available

- Special Notes:** Closed cell neoprene rubber
Adhesive on one side with a release coated disposable backing paper
Meets ASTM D1056-00, Class RE41 or 2A1



DA2015 RAPID EXPANSION JOINT

Function: Designed to keep mortar and other debris outside of vertical joints to allow for brick expansion.

Dimensions: 3/8 inch (10mm) thick x 3 inch (75mm) wide x 50 feet (15.24M) rolls
Other thickness and widths available

- Special Notes:** Closed cell neoprene Rubber
Meets ASTM D1056-00, Class RE41 or 2A1



DA2200 JOINT STABILIZING ANCHOR

Function: Designed to allow movement at expansion, contraction or isolation joints in masonry while maintaining the wall alignment in a direction normal to the movement.

Dimensions: 1/32 inch (1mm) sheet steel sleeves and two 8 gage (4mm) wires

Finishes: Mill Galvanized and Stainless Steel



DA411 WALL TOP STABILIZING ANCHOR

Function: A mechanical anchor designed to resist lateral loads at the top of masonry walls and allow for live load vertical deflection.

Dimensions: 3/8 inch x 6 inch (10mm x 150mm) steel dowel vertically welded to 12 gage (2.7mm) steel plate

Finishes: Hot Dip Galvanized

- Special Notes:** Concealed within a partition wall with no exposed hardware. Installed by welding or with mechanical anchors, such as DUR-O-WAL Expansion Anchor fasteners, in concrete



Moisture Control Products

DA1501 DCF THRU-WALL FLASHING

- Function:** Designed as thru-wall flashing for masonry walls.
- Dimensions:** 300 feet (91.4M) Rolls available in 12 inch (300mm), 16 inch (400mm), 18 inch (457mm), 24 inch (600mm), 36 inch (915mm) and 48 inch (1220mm) widths
- Special Notes:**
- Composite flashing of vinyl ethylene film bonded to a fiber glass reinforcement
 - Recommend use of mastic to seal edges, splices and cover punctures



DA1502 DCF FLASHING TAPE

- Function:** Designed to attach flashing to substrate, to repair and seal punctures or perforations and for splices.
- Dimensions:** 2 inch (50mm) wide x 108 feet (32.9M) rolls



DA1505 COPPER FABRIC THRU-WALL FLASHING

- Function:** Designed as thru-wall flashing for masonry walls.
- Dimensions:** 25 feet (7.6M) rolls in 3, 5 and 7 ounce copper available in 12 inch (300mm), 16 inch (400mm), 18 inch (457mm), 24 inch (600mm), 32 inch (810mm), and 36 inch (915mm) widths
- Special Note:** Copper sheet is asphalt coated on both sides and bonded between two layers of high tensile fiberglass fabric



DA1506 COPPER KRAFT DUPLEX FLASHING

- Function:** Designed flashing for concealed roof flashing and for vapor barrier and slab on grade.
- Dimensions:** 60 feet (18.2M) rolls in 3, 5 and 7 ounce copper available in 12 inch (300mm), 16 inch (400mm), 18 inch (457mm), 24 inch (600mm), and 36 inch (915mm) widths
- Special Note:** Copper sheet is laminated under high pressure with one layer of asphalt saturated with 60 pound kraft paper on each side 7 oz. available on Special Order



DA1507 COPPER COATED THRU-WALL FLASHING

- Function:** Designed as thru-wall flashing for masonry walls.
- Dimensions:** 25 feet (7.6M) rolls in 3, 5 and 7 ounce copper with various widths
- Special Note:**
- Copper sheet is coated on both sides with a polymer modified asphalt compound
 - Special Order: subject to minimum quantities



DA1508 PVC SHEETING

- Function:** Designed as a concealed waterproofing membrane on foundation walls and under concrete slabs.
- Dimensions:** 150 feet (45.7M) rolls in 20 mil and 30 mil available in 12 inch (300mm), 16 inch (400mm), 18 inch (457mm), 24 inch (600mm), and 36 inch (915mm) and 48 inch (220mm) widths
- Special Note:** Not recommended or endorsed for use as above grade thru-wall flashing



DA1510 TERMINATION BAR

- Function:** Designed to attach flashing to a backing.
- Dimensions:** 1/8 inch (3mm) thick x 1 1/2 inch (38mm) wide x 8 feet (2440mm) lengths with holes at 8 inches (200mm) on center
- Finishes:** Stainless Steel
- Special Notes:** Hole size is 5/16 inch (8mm) diameter



DA1540 POLY-BARRIER THRU-WALL FLASHING

- Function:** Designed as thru-wall flashing for masonry walls.
- Dimensions:** 50 feet (15.2M) rolls in 40 mil (32 mil rubberized asphalt plus 8 mil polyethylene film) available in 12 inch (300mm), 16 inch (406mm), 18 inch (457mm), 24 inch (600mm) and 36 inch (915mm) width
- Special Notes:**
- Self-sealing, self-healing, fully-adhered composite flexible flashing
 - Recommend Drip Edge Stainless Steel Flashing be used



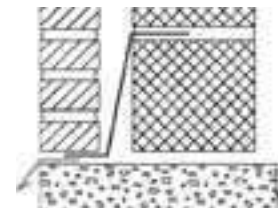
DA1544 DUR-O-BARRIER THRU-WALL FLASHING

- Function:** Designed as thru-wall flashing for masonry walls.
- Dimensions:** 75 feet (22.8M) rolls in 44 mil (32 mil rubberized asphalt plus 12 mil polyethylene sheet) available in 12 inch (300mm), 18 inch (457mm), 24 inch (600mm) and 36 inch (915mm) width
- Special Notes:**
- Self-sealing, self-healing, fully-adhered composite flexible flashing
 - Recommend Drip Edge Stainless Steel Flashing be used



DA1525 DRIP EDGE FLASHING

- Function:** Designed as a moisture barrier to use with thru-flashing such as DCF Flashing, Copper Flashing, Dur-O-Barrier and Poly Barrier.
- Dimensions:** 26 gage (0.45mm) x 8 feet (2440mm) lengths x 1-1/2 inch (38mm) wide with 3/8 inch (10mm) closed hemmed edge
- Finishes:** Stainless Steel
- Special Notes:** Full Drip Edge wide enough to bridge the length of the horizontal leg of the lintel or shelf angle is available with hemmed edge only.



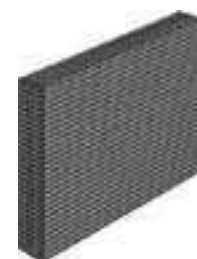
DA1005 WEEP HOLES OR TUBES

- Function:** Designed to be placed in head joints to allow the moisture to exit air cavity.
- Dimensions:** 3/8 inch (10mm) outside diameter in 4 inch (100mm) and 8 inch (200mm) lengths of clear plastic
- Special Notes:**
- Weep holes are subject to clogging with mortar droppings, silt and bugs
 - Recommend cavity contain mortar dropping control devices



DA1006 CELL VENTS

- Function:** Designed to be placed in head joints in flashing course to weep and vent the cavity.
- Dimensions:** Standard 3/8 inch x 2-1/2 inches x 3-3/8 inches (10mm x 64mm x 85mm)
Jumbo 3/8 inch x 3-5/8 inches x 3-5/8 inches (10mm x 92mm x 92mm)
- Special Notes:**
- Available in Clear (Transparent), Almond, Gray, Cocoa, Brown and Stone Gray colors
 - Recommend cavity contain mortar dropping control devices



Moisture Control Products

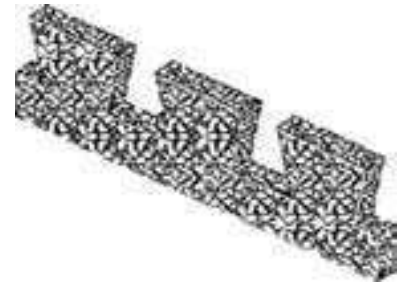
DA1007 MOR-CONTROL

- Function:** Designed to control mortar droppings to insure clear air spaces in cavity walls.
- Dimensions:** 16 inch (400mm) length to accommodate 1 inch (25mm), 1-1/2 inch (38mm) and 2 inch (50mm) air cavities
- Special Notes:** Fabricated from white corrugated poly-propylene co-polymer plastic in white



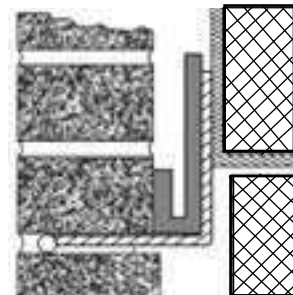
DA1008 MORTAR NET™

- Function:** Designed to control mortar droppings to insure clear air spaces in cavity walls.
- Dimensions:** 10 inch (250mm) wide x 5 feet (1.5M) lengths to accommodate 1 inch (25mm) and 2 inch (50mm) air cavities
- Special Notes:** Fabricated from either high density polyethylene or 100% recycled polyester



DA1009 MORTAR-STOP™

- Function:** Designed to control mortar droppings to insure clear air spaces in cavity walls.
- Dimensions:** 10 inch (250mm) wide 50 feet (15.2M) lengths to accommodate any air cavity
- Special Notes:** Fabricated from high density polyethylene



DA2016 DUR-O-BARRIER TAPES

- Function:** Designed to be placed against sheathing behind veneer anchor plates or straps to minimize moisture penetration.
- Dimensions:** 4 inch (100mm) wide x 100 feet (30.4M) rolls
- Special Notes:** Has a release coated disposable backing



DA131 SEISMIC DOVETAIL ANCHORS

- Function:** Designed to anchor masonry to concrete with joint reinforcement in the veneer. Used with DA100 Dovetail Anchor Slot.
- Dimensions:** 16 gage (1.5mm), 14 gage (1.9mm), or 12 gage (2.7mm) x 1 inch (25mm) wide x 3-1/2 inch (90mm), 4-1/2 inch (113mm), 5-1/2 inch (138mm), or 6-1/2 inch (163mm) lengths (length does not include dovetail)
Dovetail measures 1 inch (25mm)
- Finishes:** Hot Dip Galvanized or Stainless Steel
- Special Notes:** Other lengths and thickness available
Has shear lugs to engage a piece of joint reinforcement either Seismic Ladur or Pencil Rod



DA213 SEISMIC VENEER ANCHOR PLATES

- Function:** Designed to anchor masonry to a structure accommodating rigid insulation up to 3 inches (75mm) thick. Used with DA213 Seismic Pintles or DA213QT Lite Duty Seismic pintles.
- Dimensions:** 14 (1.9mm) or 12 (2.7mm) gage with leg to accommodate thickness of rigid insulation
- Finishes:** Hot Dip Galvanized or Stainless Steel
- Special Notes:**
- Recommend two fasteners per plate
 - Needs 3/4 inch (19mm) to 1 inch (25mm) minimum air cavity
 - For attachment to concrete, block or brick see DA5213S
 - Fully tested



DA213 S SEISMIC VENEER ANCHOR PINTLES

- Function:** Designed to anchor masonry to a structure accommodating rigid insulation with provision for holding joint reinforcement in the veneer. Used with DA213 Plates and DA519 Seismic Adjustable Eye Plates (Also Seismic Dur-O-Eye and Seismic Ladur-Eye).
- Dimensions:** 12 (2.7mm) and 11 (3mm) gage with 3-1/2 inch (90mm) and 4-1/2 inch (113mm) lengths 2 inches (50mm) wide with a 2 inch (50mm) bent leg
- Finishes:** Hot Dip Galvanized or Stainless Steel
- Special Notes:**
- Other lengths available
 - Has shear lugs to engage a piece of joint reinforcement, either Seismic Ladur or Pencil Rod



DA431 SEISMIC VENEER ANCHOR

- Function:** Designed to anchor masonry to a structure particularly effective when air cavity is less than 1 inch (25mm).
- Dimensions:** 14 (1.9mm) or 12 (2.7mm) gage x 1-1/4 inch (32mm) wide in lengths 3-1/2 inch (90mm), 4-1/2 inch (113mm) and 5-1/2 inch (138mm)
- Finishes:** Hot Dip Galvanized or Stainless Steel
- Special Notes:**
- Has shear lugs to engage a piece of joint reinforcement, either Seismic Ladur or Pencil Rod
 - For attachment to concrete, brick or block see DA5431 (see page 28)
 - Other lengths available
 - Older DA400 Series Buck/Frame Anchor styles, generally replaced with the DA431, are still available for non-seismic applications



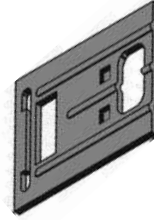
Seismic Ties and Anchors

DA519 ADJUSTABLE SEISMIC WALL EYE PLATES

Function: Designed to tie multiwythe masonry walls with adjustability between wythes and allows for joint reinforcement in the veneer. Used with DA213 Seismic Pintles.

Dimensions: 16 gage (1.5mm) plate with lengths to accommodate up to and including 3 inches of rigid insulation

Finishes: Hot Dip Galvanized or Stainless Steel



DA813 SEISMIC COMBS

Function: Designed to confine vertical bars at the ends of shear walls.

Dimensions: 3/16 inch (5mm) wire in a prescribed configuration of hooks for 8 inch (200mm), 10 inch (250mm) and 12 inch (300mm) CMU walls. Width is approximately 1-1/4 inches (30mm) less than the thickness of the CMU.

Length is approximately three times the actual width of the wall.

Finishes: Hot Dip Galvanized

Special Notes: Meets requirements of most Building Codes



DA931 SEISMIC CHANNEL ANCHORS

Function: Designed to anchor masonry to a structure. Used with DA901, DA902, DA903, or DA904 Channel Anchor Slots.

Dimensions: 16 gage (1.5mm), 14 gage (1.9mm) or 12 gage (2.7mm) x 1 inch (25mm) wide x 3-1/2 inch (90mm), 4-1/2 inch (113mm) or 5-1/2 inch (138mm) lengths (length does not include Channel Anchor "T")

Finishes: Hot Dip Galvanized or Stainless Steel

Special Notes: Has shear lugs to engage a piece of joint reinforcement, either Seismic Ladur or Pencil Rod



DA213QT LITE DUTY SEISMIC PINTLES

Function: Designed to anchor masonry to a structure with joint reinforcement in the veneer. Used with DA213 Veneer Anchor Plates, DA518 Adjustable Cavity Wall Eyes, Dur-O-Eye or Ladur-Eye.

Dimensions: 3/16 inch (5mm) wire x 3 inch (75mm), 4 inch (100mm), 5 inch (125mm), 6 inch (150mm), or 7 inch (180mm) lengths with welded Quake Tie (Lengths do not include the Quake Tie)

Finishes: Hot Dip Galvanized or Stainless Steel

Special Notes: Has clip to engage a piece of joint reinforcement either Seismic Ladur or Pencil Rod



DA700QT LITE DUTY SEISMIC TRIANGULAR TIES

Function: Designed to anchor masonry to a structure with joint reinforcement in the veneer. Used with DA207 MSSA Veneer Anchor Screw-on Straps, DA210 Veneer Anchor Screw-on Plates or DA709 Column Anchor Weld-on.

Dimensions: 3/16 inch (5mm) wire 3 x 3 inches (75mm x 75mm), 4 x 4 inches (100mm x 100mm), 5 x 5 inches (125mm x 125mm), 6 x 6 inches (150mm x 150mm), 7 x 7 inches (180mm x 180mm), and 7 x 9 inches (180mm x 230mm) with welded Quake Tie (Lengths do not include the Quake Tie)

Finishes: Hot Dip Galvanized or Stainless Steel

Special Notes:

- Has clip to engage a piece of joint reinforcement either Seismic Ladur or Pencil Rod
- Quake Tie is welded in off-set position to enable Triangular Tie to be engaged to DA207, DA210, or DA709



DA720QT LITE DUTY SEISMIC DOVETAIL TRIANGULAR TIES

- Function:** Designed to anchor masonry to concrete. Used with DA100 Dovetail Anchor Slot.
- Dimensions:** 12 gage (2.7mm) Dovetail Clip with 3/16 inch (5mm) wire tie x 3-1/2 inch (90mm), 4-1/2 inch (113mm), 5-1/2 inch (138mm), 6-1/2 inch (163mm), 7-1/2 inch (193mm) and 9-1/2 inch (243mm) lengths with welded Quake Tie (lengths do not include Quake Tie)
- Finishes:** Hot Dip Galvanized or Stainless Steel
- Special Notes:** Has shear lugs to engage a piece of joint reinforcement either Seismic Ladur or Pencil Rod



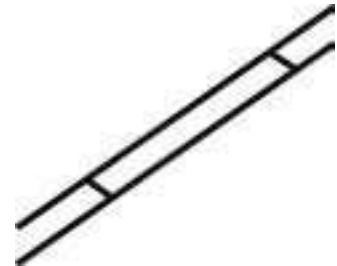
DA918QT LITE DUTY SEISMIC CHANNEL ANCHOR TRIANGULAR TIES

- Function:** Designed to anchor masonry to a structure. Used with DA901, DA902, DA903 or DA904 Channel Anchor slot.
- Dimensions:** 12 gage (2.7mm) Channel Anchor Clip with 3/16 inch (5mm) diameter wire tie x 3-1/2 inch (90mm), 4-1/2 inch (113mm), 5-1/2 inch (138mm), 6-1/2 inch (163mm), 7-1/2 inch (193mm) and 9-1/2 inch (243mm) lengths with welded Quake Tie (lengths do not include Quake Tie)
- Finishes:** Hot Dip Galvanized or Stainless Steel
- Special Notes:** Has shear lugs to engage a piece of joint reinforcement either Seismic Ladur or Pencil Rod



DA320S SEISMIC LADUR (Masonry Reinforcement for Veneers)

- Function:** Designed to provide greater ductility in veneers and is generally required in masonry veneers in seismic applications. Used for block or brick veneer applications.
- Dimensions:** 9 gage (3.7mm) wire for both side and cross rods
5/8 inch (15mm) out-to-out measurement
10 feet 8 inch (3760mm) length
- Finishes:** Hot Dip Galvanized or Stainless Steel
- Special Notes:** Is also available in 3/16 inch (5mm) wire for side rods and 9 gage (3.7mm) for cross rods



DA8706 PENCIL ROD DEFORMED (STRAIGHT AND CUT)

- Function:** Designed to provide greater ductility in veneers and is generally required in masonry veneers in seismic applications. Used as masonry reinforcement for brick veneers.
- Dimensions:** 9 gage (3.7mm) wire in 10 feet (3050mm) lengths
- Finishes:** Hot Dip Galvanized or Stainless Steel
- Special Notes:** Is deformed to comply with code requirements for joint reinforcement



Glass Block Masonry Accessories

DA320 LADUR JOINT REINFORCEMENT

Function: Designed to reinforce glass block masonry by placement in horizontal mortar joint.

Dimensions (1): 9 gage (3.7mm) wire for side and cross rods
#3 measures 1-5/8 inches (46mm) out-to-out
#4 measures 2 inches (50mm) out-to-out
Cross Rods spaced 16 inches (400mm) on center
10 feet 8 inch (3760mm) length

Dimensions (2): 9 gage (3.7mm) wire for side and cross rods
#3 measures 1-5/8 inches (46mm) out-to-out
#4 measures 2 inches (50mm) out-to-out
Cross Rods spaced 8 inches (200mm) on center
10 feet (3050mm) length

Dimensions (3): 9 gage (3.7mm) wire for side and cross rods
#3 measures 1-5/8 inches (46mm) out-to-out
#4 measures 2 inches (50mm) out-to-out
Cross Rods spaced 8 inches (200mm) on center 48 inch (1220mm) length

Finishes: Hot Dip Galvanized or Stainless Steel

Special Notes: Mill Galvanized is not recommended for glass block masonry construction



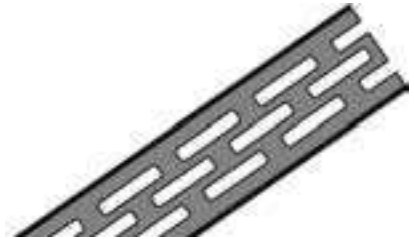
DA1070 GLASS BLOCK PANEL ANCHORS

Function: Designed to anchor glass block to adjacent structure.

Dimensions: 20 gage (0.91mm) x 1-3/4 inches x 24 inches (44mm x 600mm) perforated steel strip

Finishes: Hot Dip Galvanized or Stainless Steel

Special Notes: Mill Galvanized is not recommended for glass block masonry construction



DA8706 PENCIL ROD SMOOTH (STRAIGHT AND CUT) (Masonry Reinforcement for Veneers)

Function: Designed for vertical reinforcement in glass block masonry construction.

Dimensions: 1/4 inch (6mm) smooth wire in 10 feet (3050mm) lengths

Finishes: Hot Dip Galvanized or Stainless Steel

Special Notes: Mill Galvanized is not recommended for glass block masonry construction



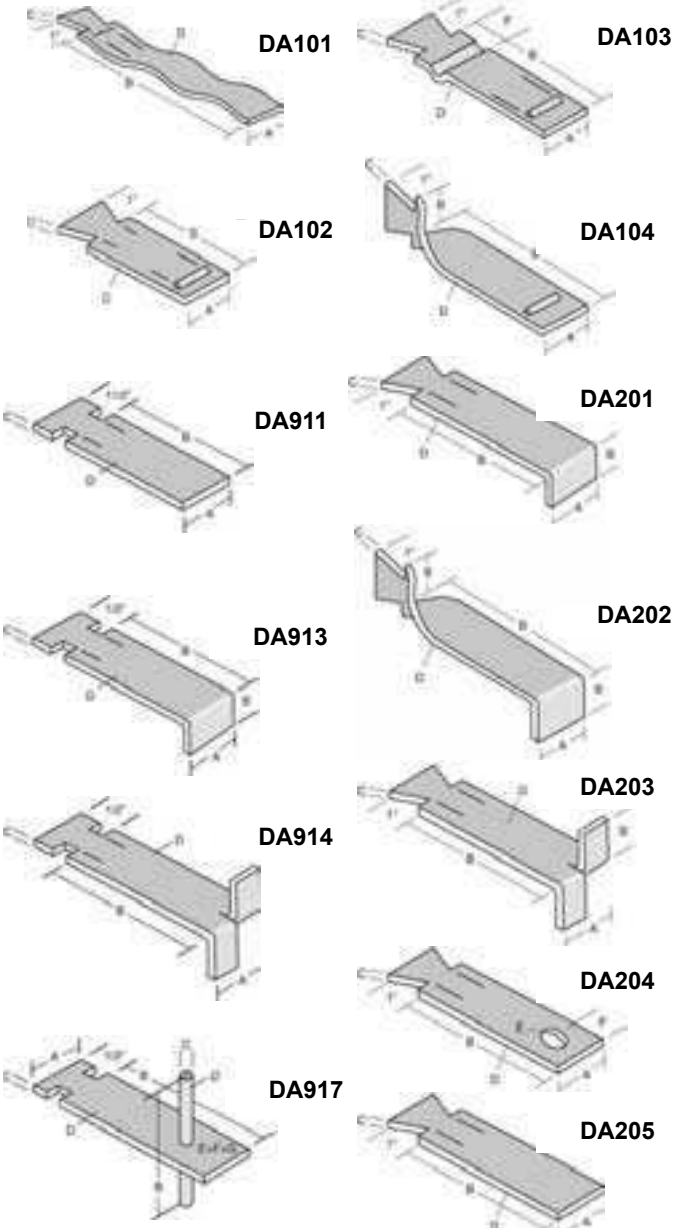
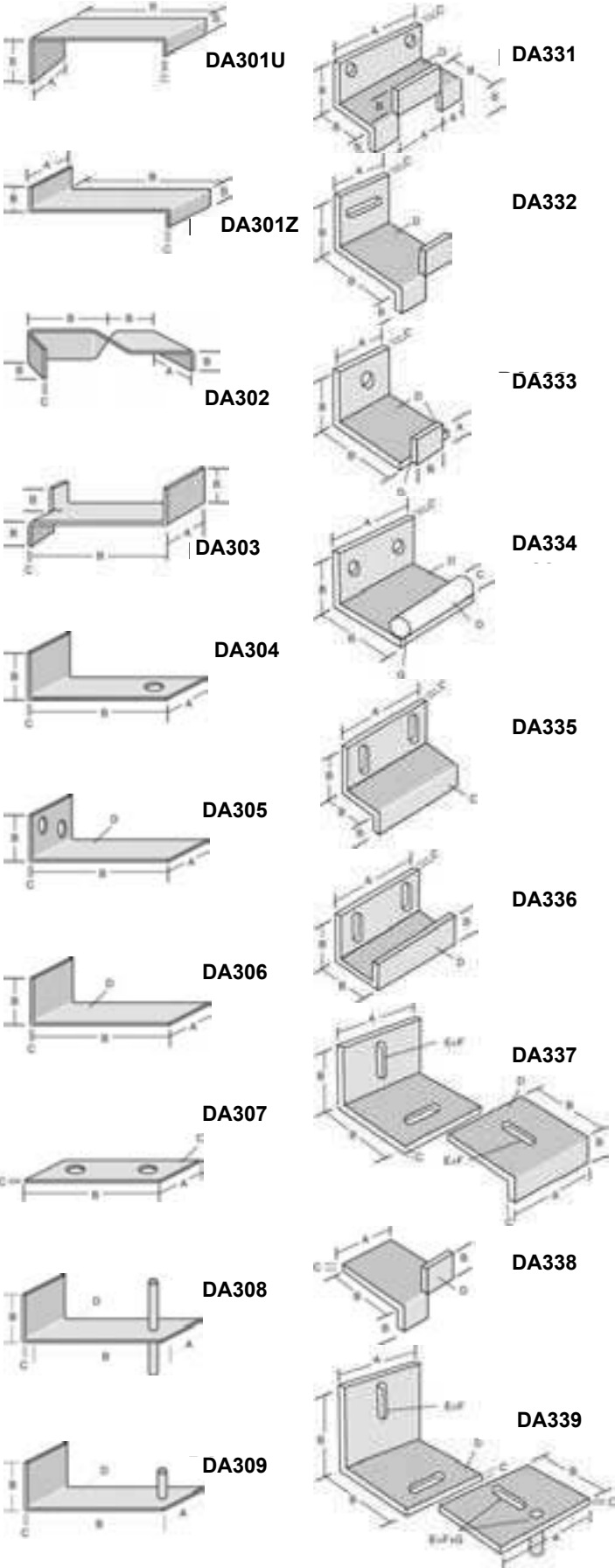
STONE ANCHORS

Function: Designed to anchor stone panels to a structure, these Anchors can support dead loads, resist live loads and accommodate movement of the building envelope relative to the structure.

Dimensions: There are no "standard" dimensions. Anchors are individually engineered, detailed and manufactured per project drawing.

Finishes: Brite or Plain Uncoated; Mill Galvanized; Hot Dip Galvanized; Stainless Steel

Special Notes: Quotes and fabrication are based on approved details containing all dimensions.



Restoration Anchors

DUR-O-WAL has a complete line of quality restoration products that includes a variety of mechanical and friction pinning anchors as well as replacement systems for seismic and non-seismic applications.

Some of the more popular anchors are shown here with brief information.

DA5000 MECHANICAL ANCHOR SERIES

Function: Designed for backing materials of solid concrete, brick, solid CMU and stone



DA5100 MECHANICAL ANCHOR SERIES

Function: Designed for backing material of brick, hollow CMU, solid CMU, stone, clay tile and precast concrete



DA5300 MECHANICAL ANCHOR SERIES

Function: Designed for backing material of wood stud, steel stud and wood sheathing



DA508 DUR-O-FLEX FRICTION PINNING ANCHOR

Function: Designed for variety of backing materials for wall tying applications that typically would use masonry connectors of the light to medium duty variety

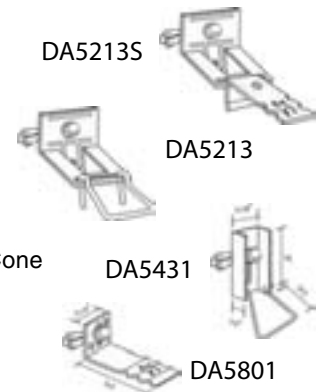


DA5213; DA5213 S; DA5431; DA5801 BRICK REPLACEMENT ANCHORS

Function: Designed to replace brick in retrofit applications and to anchor veneers in new construction to concrete, block and brick substrates and into mortar joints. Each anchor is provided with a 7/16 inch (11mm) Expansion Anchor Fastener which comes assembled on the Plate or Anchor for 2 inches (50mm) embedment in substrate

Finishes: Hot Dip Galvanized or Stainless Steel for the Anchor parts
Expansion Anchor Fastener consists of either a Carbon Steel or Stainless Steel 1/4" - 20 NC Hex Head Bolt with Washer and a Brass Sleeve and Brass Expander Cone

Special Notes: Reference to these four anchors are found on Pages 10 and 23 (also Page 11 references Expansion Anchor)



The BRACE-RITE™ System Pipe Braces are available in three sizes to support various masonry wall height dimensions.

BRACE DESIGNATION	DESCRIPTION	BRACE LENGTH	
		MIN.	MAX.
BRACE-RITE™ BR20	Regular Pipe Brace	13'-0"	20'-6"
BRACE-RITE™ BR23	Heavy Duty Regular Pipe Brace	14'-6"	23'-6"
BRACE-RITE™ BR39	Heavy Duty Long Pipe Brace	22'-6"	39'-0"

When ordering BRACE-RITE™ braces, indicate the brace designation and application type. Brace application types apply to BR20, BR23 and BR39 designations.

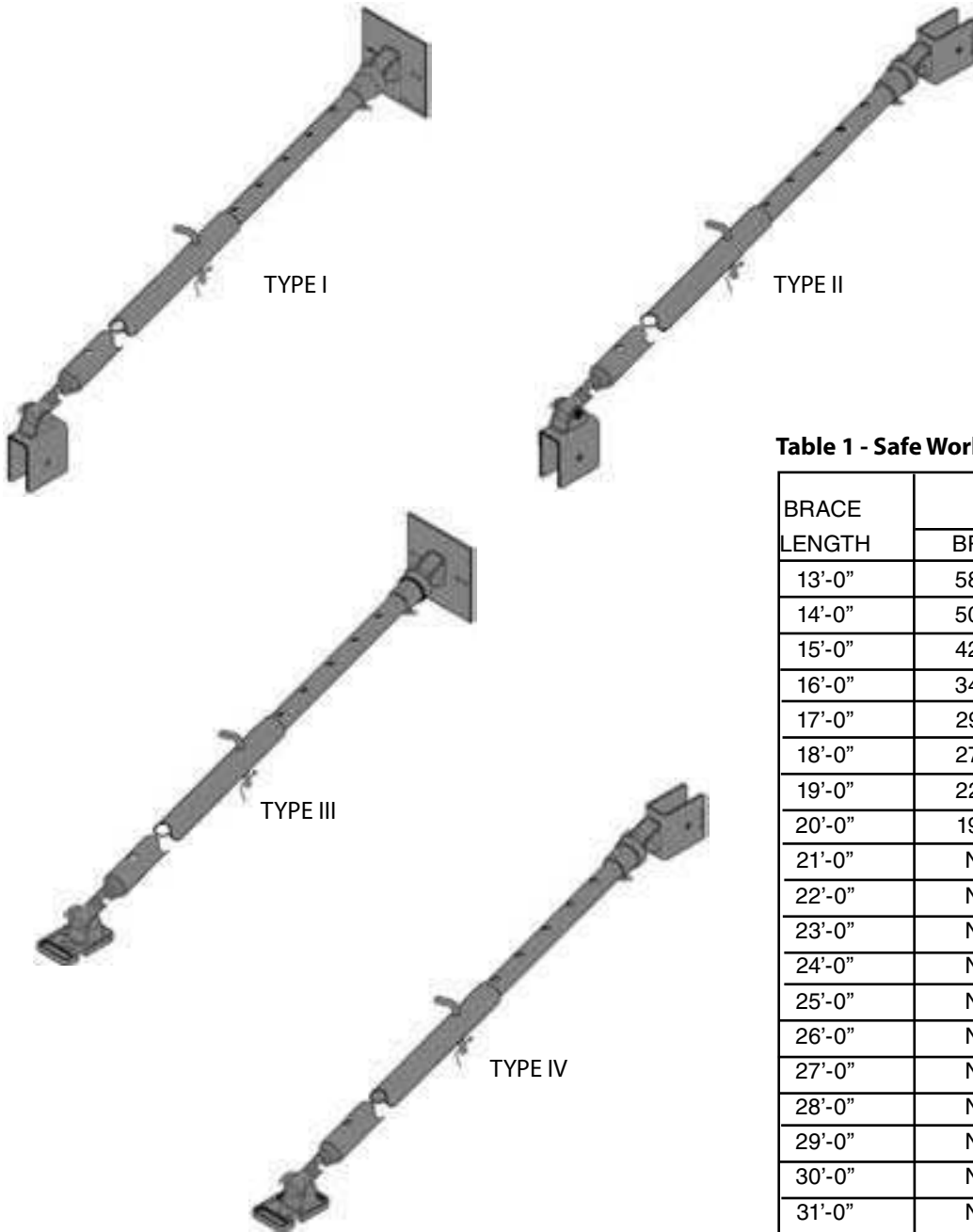


Table 1 - Safe Working Loads for Braces*

BRACE LENGTH	BRACE DESIGNATION		
	BR20	BR23	BR39
13'-0"	5800	NA	NA
14'-0"	5000	NA	NA
15'-0"	4200	6500	NA
16'-0"	3460	6500	NA
17'-0"	2975	6270	NA
18'-0"	2750	5250	NA
19'-0"	2275	4100	NA
20'-0"	1975	3575	NA
21'-0"	NA	2880	NA
22'-0"	NA	2410	NA
23'-0"	NA	2080	5585
24'-0"	NA	NA	4905
25'-0"	NA	NA	4250
26'-0"	NA	NA	3325
27'-0"	NA	NA	2715
28'-0"	NA	NA	2280
29'-0"	NA	NA	1850
30'-0"	NA	NA	1600
31'-0"	NA	NA	1250

*Safe Working Load based on a safety factor of 1.5.

BRACE-RIGHT™ System

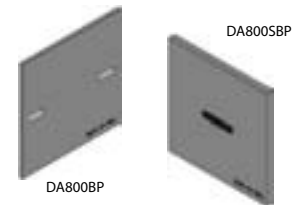
DA800MP MOUNTING PLATE

Mounting Plate connects to wall face and bears on the brace side of the wall. It is manufactured from 3/8" thick steel plate conforming to ASTM A36. The pipe brace is attached with a 5/8" diameter button head pin.



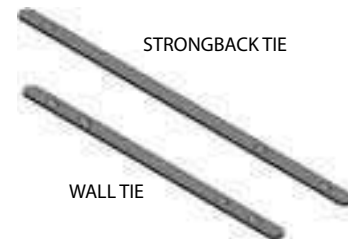
DA800BP and DA800SBP BACKING PLATE

Backing Plate is installed on the unbraced side of the wall. The Backing Plate is manufactured from 3/8" steel plate conforming to ASTM A36. The DA800BP is used when the brace is attached to the wall. Two slots are provided to accommodate the Wall Ties which are inserted through the bed joints of the wall. The DA800SBP Strongback Backing Plate is installed on the unbraced side of the wall when a strongback is used. One slot is provided to accommodate the Wall Tie which is inserted through the head joint of the wall.



DA800WT WALL TIES

Wall Ties connect the mounting plate to the backing plate through the wall. They are manufactured from high strength steel. The safe working load is set at 3000 pounds using a safety factor of 2 to 1. The wall ties are available in two sizes. DA800WT610 accommodates 6" and 10" block. DA800WT812 is used with 8" and 12" block.



DA800ST STRONGBACK TIES

Strongback Ties are used to tie strongbacks to the wall. DA800ST610 accommodates 6" and 10" block plus the strongback. DA800ST812 is used with 8" and 12" CMU and the strongback.

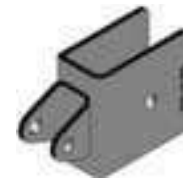
DA800W WEDGES

Wedges are manufactured from 3/16" high carbon steel for maximum gripping strength.



DA800BC Brace Clip

Brace Clip connects the brace to an aluminum horizontal strut or strongback. It is manufactured with 3/8" steel plate conforming to ASTM A36. The safe working load is 3,000 lbs. Attach brace clip to strongback or strut with 1/2" diameter, Grade 5 bolts.



DA800FB Floor Bracket

Floor Bracket casting connects the brace to a concrete slab, foundation or deadman. Use with DA800CA Coil Anchor. Safe Working Load is 6,500 lbs.



DA800CA Coil Anchor

Coil Anchor is used to attach the floor bracket to concrete floor slab or deadman. Use with DA0800FB.



DA800FC Foundation Clip

Foundation Clip is used to connect the horizontal strut to a deadman, sled or other above grade anchorage. It is manufactured from 3/8" steel plate conforming to ASTM A36. Fasten to concrete with two 1/2" anchor bolts.



DA800S Strongbacks and Struts

Strongbacks and Struts are extruded from 6061-T6 structural aluminum. Tubes are punched to allow for attachment of brace and foundation clips as well as wall ties.

The Strongback is a vertical stiffening beam that is attached to the wall on the brace side of the wall. It is typically used when the vertical bending strength of the wall is not adequate to resist wind load between brace points. The Strongback is attached to the wall with a **DA800ST** Strongback Tie located in vertical head joints at 4'-0" spacing. Strongback ties are attached to **DA800SBP** Backing Plates on the opposite side of the wall. Individual tubes can be spliced with **DA800SP** Splice Plates to form strongbacks that are 20", 24" or 28" long. The Strongback has a section modulus of 2'-0" and a safe working load bending moment capacity of 2,500 lb. ft.

The Strut is a horizontal member used to transfer horizontal brace loads to the wall foundation when the brace anchor does not have the capability to resist horizontal loads itself. Struts are generally used with concrete deadmen above grade.



DA800S



DA800SBP



DA800SP



DA800SC

Dur-O-Wal Specifications

Reinforcing Requirements

Building codes generally define reinforced masonry by requiring that the sum of the areas of horizontal and vertical reinforcement be at least 0.002 times the gross cross-sectional area of the wall with the minimum in either direction not less than 0.0007 times the wall area. Reinforcement is also limited to a maximum spacing of 4 feet (1220mm) on center.

DUR-O-WAL Truss and Ladur Type joint reinforcements may be considered part of the required minimum horizontal reinforcement.

In many cases, the steel requirement can be satisfied entirely by the use of DUR-O-WAL products and/or will reduce the amount of steel required in bond beams to meet code requirements. It should be noted, that the codes also require sufficient steel reinforcement to resist all live and dead loads imposed upon the structure. But even when more than the minimum steel is required, the use of DUR-O-WAL joint reinforcement, as a part of this steel, will reduce the number of bond beams needed.

MINIMUM AREA OF HORIZONTAL STEEL REQUIRED TO SATISFY CODE REQUIREMENTS*

Nominal Wall Thickness in/(mm)	4" (100)	6" (150)	8" (200)	10" (250)	12" (300)	14" (350)	16" (400)	18" (450)	20" (500)	22" (550)	24" (600)
Gross Area in ² /ft. (mm ² /m)	43.50 (92,000)	67.5 (140,276)	91.50 (193,522)	115.5 (244,282)	139.5 (295,042)	163.5 (345,802)	187.5 (396,562)	211.5 (447,322)	235.5 (498,082)	259.5 (548,842)	283.5 (599,602)
Total area of steel in ² /ft (mm ² /m) .002 x Gross Area	0.087 (184.0)	0.135 (285.5)	0.183 (387.0)	0.231 (488.6)	0.279 (590.0)	0.327 (691.6)	0.375 (793.1)	0.423 (894.6)	0.471 (996.2)	0.519 (1097.7)	0.567 (1199.2)
Horizontal Steel Required in ² /ft (mm ² /m)	0.030 (63.5)	0.047 (99.4)	0.064 (135.4)	0.081 (171.3)	0.098 (207.3)	0.114 (241.1)	0.131 (277.1)	0.148 (313.0)	0.165 (349.0)	0.182 (385.0)	0.198 (418.8)

*Compare area of steel required with area supplied by DUR-O-WAL Ladur or Truss

AREA OF STEEL SUPPLIED BY DUR-O-WAL LADUR TYPE REINFORCEMENT* in ²/ft (mm²/m)

Vertical Spacing	2-#9 Side Rods	2-#8 Side Rods	2-3/16" Side Rods	4-#9 Side Rods	4-#8 Side Rods	4-3/16" Side Rods
8" (200)	.052 (110.0)	.061 (129.0)	.083 (175.5)	.104 (220.0)	.122 (258.0)	.166 (351.1)
16" (400)	.026 (55.0)	.031 (65.6)	.041 (86.7)	.052 (110.0)	.061 (129.0)	.083 (175.5)

*Regular DUR-O-WAL Truss can also be used to provide reinforcement. Diagonal cross wires may interfere with grout and reinforcing rod placement.

REINFORCEMENT FOR BOND BEAM AT TOP OF 8" & 12" CM WALLS WHEN DUR-O-WAL LADUR IS USED*

Ladur Type	Spacing	8" Wall (200)					12" Wall (300)				
		8' (2400)	12' (3660)	16' (4880)	20' (6100)	24' (7310)	8' (2400)	12' (3660)	16' (4880)	20' (6100)	24' (7310)
STD Ladur 9 GA.	8" (200) O.C.	1#4	1#5	1#5	2#4	1#6	1#6	1#7	1#8	2#7	1#10
	16" (400) O.C.	2#4	1#7	1#8	2#6	2#7	1#7	2#6	2#7	2#8	2#9
Medium Ladur 9 GA.	8" (200) O.C.	1#3	1#3	1#4	1#4	1#4	2#4	1#7	1#8	2#6	1#9
	16" (400) O.C.	1#5	1#6	1#7	1#8	2#6	1#7	2#6	2#7	2#8	2#9
Extra Heavy Ladur 3/16"	8" (200) O.C.	1#3	1#3	1#3	2#3	1#3	1#3	1#5	1#5	1#6	1#7
	16" (400) O.C.	2#3	1#5	1#6	1#7	2#5	1#7	1#8	2#7	2#7	2#8

*See DUR-O-WAL publications; Reinforcing Masonry Walls With Joint Reinforcement, A Design Aid, Bulletin 83-7, Building Reinforced Masonry Walls with Joint Reinforcement, Bulletin 84-10. Reinforcing Shear Walls with Joint Reinforcement, Bulletin 85-1 2R. For information on the use of DUR-O-WAL to resist horizontal bending, Masonry Reinforcement in High-Rise, Bearing Wall Buildings, Bulletin 74-6.

SELECTION TABLE FOR DUR-O-WAL TRUSS**

Design Types	Weight Classifications and wire sizes			Wall Widths			Effective Areas in ² (mm ²) per 10ft of Truss										
				Single Wythe	Composite or Cavity		No. 3 (for 3" wall)	No. 4 (for 4" wall)	No. 6 (for 6" wall)	No. 8 (for 8" wall)	No. 10 (for 10" wall)	No. 12 (for 12" wall)	No. 13 (for 13" wall)	No. 14 (for 14" wall)	No. 16 (for 16" wall)	No. 18 (for 18" wall)	No. 20 (for 20" wall)
Dur-O-Wal Truss	Standard	No.9 W 1.7	No.9 W 1.7	3" to 20" (75 to 500)			.052 (33.6)	.051 (32.9)	.050 (33.6)	.048 (31.0)	.047 (30.3)	.045 (29.0)	.045 (29.0)	.044 (28.4)	.043 (27.7)	.042 (27.1)	.042 (27.1)
	Extra Heavy	3/16" W 2.8	No.9 W 1.7				.073 (47.1)	.072 (46.5)	.071 (45.8)	.069 (44.5)	.068 (43.9)	.066 (42.6)	.066 (42.6)	.065 (41.9)	.064 (41.3)	.063 (40.6)	.062 (40.0)
Dur-O-Wal Truss Trirod	Standard	No.9 W 1.7	No.9 W 1.7		8" to 24" (200 to 600)	3" to 12" (75 to 300)	Not made for 3", 4", 6" walls			.066 (42.6)	.064 (41.3)	.063 (40.6)	.062 (40.0)	.061 (39.4)	.060 (38.7)	.060 (38.7)	.059 (38.1)
	Extra Heavy	3/16" W 2.8	No.9 W 1.7				Not made for 3", 4", 6" walls			.097 (62.6)	.095 (61.3)	.094 (60.6)	.093 (60.0)	.093 (60.0)	.092 (59.4)	.091 (58.7)	.090 (58.1)
Dur-O-Wal Truss Double Side Rod	Standard	No.9 W 1.7	No.9 W 1.7		10" to 24" (250 to 600)	3" to 12" (75 to 300)	Not made for 3", 4", 6", 8" walls			.081 (52.3)	.080 (51.6)	.079 (51.0)	.079 (51.0)	.078 (50.3)	.077 (49.7)	.076 (49.0)	
	Extra Heavy	3/16" W 2.8	No.9 W 1.7				Not made for 3", 4", 6", 8" walls			.123 (79.4)	.122 (78.7)	.121 (78.1)	.120 (77.4)	.119 (76.8)	.119 (76.8)	.118 (76.1)	

*When cavities are insulated, check for effect or differential movement

** Effective area of DUR-O-WAL Truss, Trirod and Double includes side rods plus an allowance for the tensile resistance of the diagonal cross rods which is equal to the diagonal cross rod area times the cosine of the angle between the diagonal cross rod and side rod.

SELECTION TABLE FOR DUR-O-WAL LADUR

Design Types	Weight Classifications and wire sizes			Wall Widths			Effective Areas in ² (mm ²) per 10ft of Ladur										
				Single Wythe	Composite or Cavity		No. 3 (for 3" wall)	No. 4 (for 4" wall)	No. 6 (for 6" wall)	No. 8 (for 8" wall)	No. 10 (for 10" wall)	No. 12 (for 12" wall)	No. 13 (for 13" wall)	No. 14 (for 14" wall)	No. 16 (for 16" wall)	No. 18 (for 18" wall)	No. 20 (for 20" wall)
Dur-O-Wal Ladur	Standard	No.9 W 1.7	No.9 W 1.7	3" to 20" (75 to 500)			.0346 (22.3)	.0346 (22.3)	.0346 (22.3)	.0346 (22.3)	.0346 (22.3)	.0346 (22.3)	.0346 (22.3)	.0346 (22.3)	.0346 (22.3)	.0346 (22.3)	.0346 (22.3)
	Extra Heavy	3/16" W 2.8	No.9 W 1.7				.0554 (35.7)	.0554 (35.7)	.0554 (35.7)	.0554 (35.7)	.0554 (35.7)	.0554 (35.7)	.0554 (35.7)	.0554 (35.7)	.0554 (35.7)	.0554 (35.7)	.0554 (35.7)
Dur-O-Wal Ladur Trirod	Standard	No.9 W 1.7	No.9 W 1.7		8" to 24" (200 to 600)	3" to 12" (75 to 300)	Not made for 3", 4", 6" walls			.0519 (33.5)	.0519 (33.5)	.0519 (33.5)	.0519 (33.5)	.0519 (33.5)	.0519 (33.5)	.0519 (33.5)	.0519 (33.5)
	Extra Heavy	3/16" W 2.8	No.9 W 1.7				Not made for 3", 4", 6" walls			.0831 (53.6)	.0831 (53.6)	.0831 (53.6)	.0831 (53.6)	.0831 (53.6)	.0831 (53.6)	.0831 (53.6)	.0831 (53.6)
Dur-O-Wal Ladur Double Side Rod	Standard	No.9 W 1.7	No.9 W 1.7		10" to 24" (250 to 600)	3" to 12" (75 to 300)	Not made for 3", 4", 6", 8" walls			.0692 (44.6)	.0692 (44.6)	.0692 (44.6)	.0692 (44.6)	.0692 (44.6)	.0692 (44.6)	.0692 (44.6)	.0692 (44.6)
	Extra Heavy	3/16" W 2.8	No.9 W 1.7				Not made for 3", 4", 6", 8" walls			.1108 (71.5)	.1108 (71.5)	.1108 (71.5)	.1108 (71.5)	.1108 (71.5)	.1108 (71.5)	.1108 (71.5)	.1108 (71.5)

*When cavities are insulated, check for effect or differential movement

** Effective area of DUR-O-WAL Truss, Trirod and Double includes side rods plus an allowance for the tensile resistance of the diagonal cross rods which is equal to the diagonal cross rod area times the cosine of the angle between the diagonal cross rod and side rod.

Safety Information

DUR-O-WAL masonry products are intended for use by trained, qualified and experienced workmen only. Misuse or lack of supervision and/or inspection can contribute to serious accidents or deaths. Any application other than those shown in this publication should be carefully tested before use.

The user of DUR-O-WAL products must evaluate the product application, determine the safe working load and control all field conditions to prevent applications of loads in excess of a product's safe working load. The safety factors shown in this publication are approximate minimum values. The data used to develop safe working loads and/or usage rates for products displayed in this publication are a combination of actual testing and/or other industry sources. Recommended safe working loads and/or usage rates, if given for the products in this publication, must never be exceeded.

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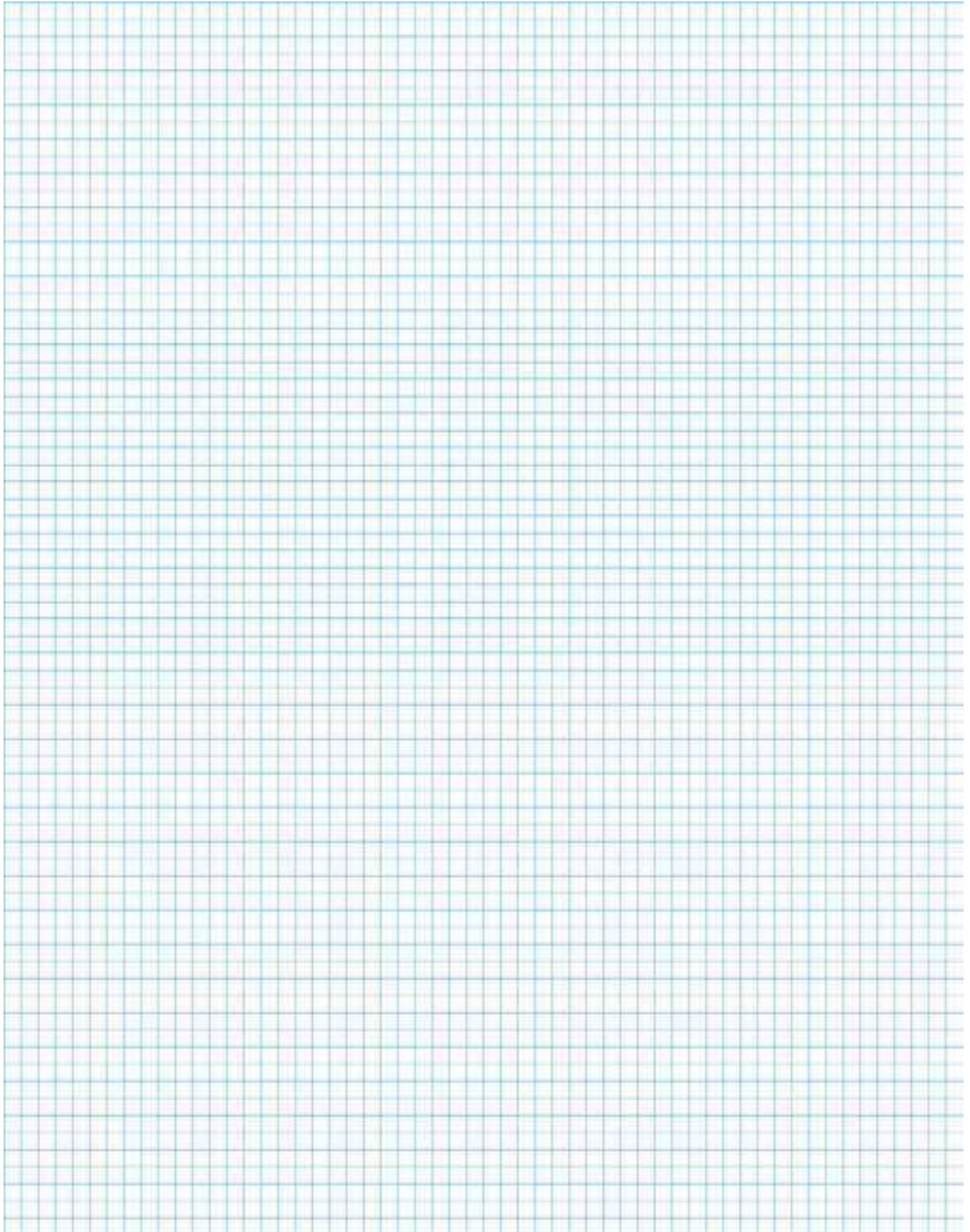
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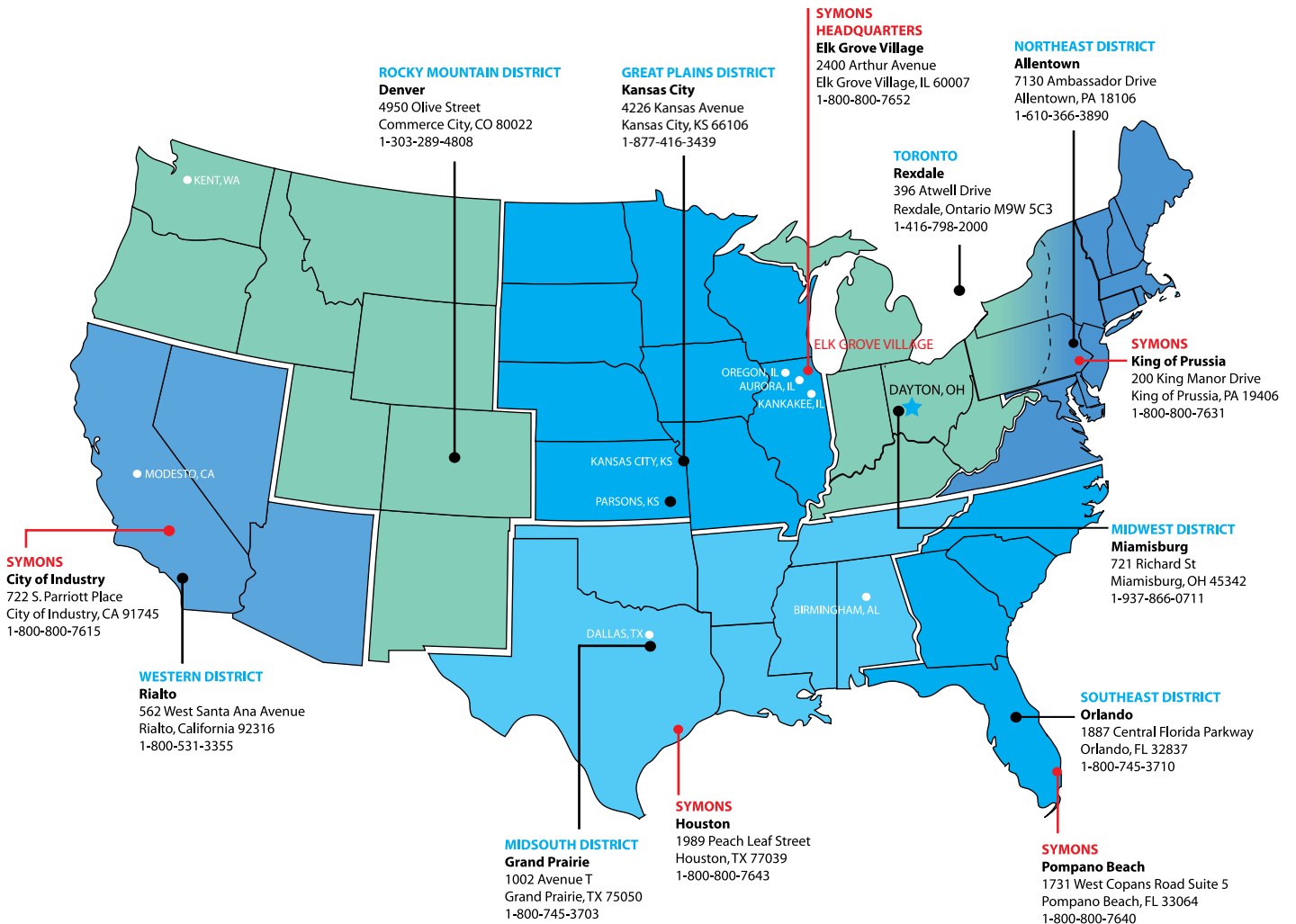
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