CONSTRUCTION
MATERIALS
INC.

MASONRY
TRAINING

12/12/2014
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INTRODUCTION

This material is intended to serve as training and reference material to assist a distributor salesperson in selling Masonry (CSI Division 4) products to commercial Sub and General Contractors.

It is presented in basic format so that everyone in our training session can benefit not only from the presentation but also use the meeting material as reference for future encounters with masonry customers.

Selling Masonry Products requires a degree of professionalism and product knowledge uncommon to most distributor salespeople. This is not to say that it is beyond the grasp of a typical salesperson, it merely states that in order to sell Masonry Products you must understand the basic Masonry Terminology as well as be capable of recognizing Typical ASTM numbers which apply to Masonry Products.

Construction Materials has enjoyed great success in the sales of these products, primarily due to the product knowledge of its salespeople. Most of these salespeople are “Self Taught.” It is our hope that this session will give you a head start that they most likely did not have benefit of.

You are not expected to be an expert following one training session. It is our hope that you will at least leave this session with a working knowledge of Masonry Products and an understanding of how to find information you may require in the future. CM is fortunate to have a number of salespeople that possess great knowledge in this field and they are willing to assist you whenever needed.

“DO YOU HAVE THE WILL TO BE SUCCESSFUL ?”

“DO YOU HAVE THE WILL TO PREPARE TO BE SUCCESSFUL ?”
WHY IS SELLING MASONRY DIFFERENT?

Selling Masonry products is more complicated for the following reasons:

1. Most purchases are made by project managers in the customer’s office.
   - Project Managers are typically better educated.
   - Project Managers are less likely to furnish a shopping list.
   - Project Managers are more cost conscious. Pennies count.
   - Masonry Specifications are much more complicated than Div. 3.
   - Product errors can be very costly.

2. How do you make money selling Masonry?
   - Masonry Wire reinforcing is typically a low margin item,
   - You must sell the whole package in order to be profitable. If you are only selling wire then do not bother to quote it.
   - Masonry Product Knowledge is very rare. An informed Div. 4 Salesman will stand out from his competitors.
   - You have a distinct advantage if you can “Speak Masonry.”
   - Masonry products must be purchased well in order to sell at a profit.
   - Pre-Bidding Masonry is complicated but it is worth the effort. It will quickly set you apart from your competitor.
   - Competitive pricing information is imperative.
   - Three areas to find Masonry Products.
     a. Specifications
     b. Plans
     c. Implied (Many times things like fasteners for Termination Bar are not listed in the Specifications or shown on the plans. However, they are a necessity. If you do not sell them your competitor will.

3. How do I learn Masonry?
   - Understanding Masonry takes time. However, the clock doesn’t start until you do.
   - Understanding Masonry ASTM numbers is critical. It is the best place to start.
   - You cannot beat Observation & Repetition.
   - Invest the time to learn the vocabulary.
   - Start with small jobs and work your way up.
   - Make your first impression a good one.
   - Make “Cold Calls” with a Pre-Bid in hand so you can discuss job specifics.
ADJUSTABLE VENEER TIE: A two piece anchor and tie with the anchor either mechanically fastened, imbedded, or welded with a moveable tie to the back of the structure.

AGGREGATE. Inert material that is mixed with cement, lime and water to serve as a filler and increase compressive strength in the production of grout or mortar.

AIR SPACE: The space between the veneer wall and the insulation or back up wall.

ANCHOR: Any device, whether mechanically fastened, welded or imbedded in the back up wall that secures the veneer to the back-up wall.

COMMON MASONRY ASTM NUMBERS

ASTM A36 Refers to the composition and tensils strength of carbon steel products used as plates, bars and sheets used in commercial construction, and sheets-cold rolled:

ASTM A82 This specification covers the manufacturing procedures of wire to be used in masonry reinforcement. It refers to the tensile and yield strength testing.

ASTM C 150 The typical Portland Cement specification which relates to the chemical resistance and applications of Portland Cement.

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
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<tr>
<td>Type 1</td>
<td>Used when special properties are not required</td>
</tr>
<tr>
<td>Type 1 A</td>
<td>Type 1A with air entrainment</td>
</tr>
<tr>
<td>Type II</td>
<td>General purpose with moderate sulfate resistance.</td>
</tr>
<tr>
<td>Type II A</td>
<td>Type II with air entrainment</td>
</tr>
<tr>
<td>Type III</td>
<td>For use when high early strength is required.</td>
</tr>
<tr>
<td>Type III A</td>
<td>Type III with air entrainment</td>
</tr>
<tr>
<td>Type IV</td>
<td>For use when low heat of hydration is required.</td>
</tr>
<tr>
<td>Type IV A</td>
<td>Type IV with air entrainment</td>
</tr>
<tr>
<td>Type V</td>
<td>For use when high Sulfate resistance is required.</td>
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ASTM C270 This specification covers mortars for use in the construction of non-reinforced and reinforced unit masonry structures. Four types of mortar are covered in each of two alternative specifications: (1) proportion specifications and (2) property specifications.

<table>
<thead>
<tr>
<th>MORTAR TYPE</th>
<th>COMpressive STRENGTH</th>
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<tr>
<td>M</td>
<td>2500 PSI</td>
</tr>
<tr>
<td>S</td>
<td>1800 PSI</td>
</tr>
<tr>
<td>N</td>
<td>750 PSI</td>
</tr>
<tr>
<td>O</td>
<td>350 PSI</td>
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ASTM C90 -14  This specification covers hollow and solid concrete masonry units made from hydraulic cement, water, and mineral aggregates with or without the inclusion of other materials. There are three classes of concrete masonry units: normal weight, medium weight, and lightweight. These units are suitable for both load bearing and non-load bearing applications. Concrete Masonry Units shall be made from lightweight or normal weight aggregates, or both.

ASTM A 153 Class B HOT DIPPED GALVANIZED: (1.5 oz. zinc coating / ft2) ASCE 6 / ACI 530.1 / TMS 602

ASTM A 653 Class G60 MILL GALVANIZED: (0.6 oz. zinc coating / ft2) ASCE 6 / ACI 530.1 / TMS 602

ASTM C- 150 Specification for Portland Cement

ASTM A951 This specification covers masonry joint reinforcements fabricated from cold-drawn steel wires. It specifies that joint reinforcement consists of longitudinal wires welded to cross wires. Wire used in the manufacture of masonry joint reinforcement shall be round. Masonry joint reinforcement shall then assembled by automatic machines or by other suitable mechanical means that will assure accurate spacing and alignment of all members of the finished product. Longitudinal and cross wires shall be securely connected at every intersection by an electric-resistance welding process and then it shall be deformed. Tension, weld shear strength, and bend tests shall be performed on the samples. When corrosion protection of joint reinforcement has been provided, it shall be either zinc coated mill or hot-dip galvanized.

ASTM A 1008: This specification covers cold-rolled, carbon, structural, low-alloy, high-strength, low-alloy with improved formability, solution hardened, and bake hardenable steel sheet, in coils and cut lengths.

ASTM A 1008M (Same as Above)

FINISHES:

ASTM A 641 Mill Galvanized: (0.1 oz. zinc coating / ft2)
ASTM A 641 Class 1 (0.4 oz. / ft2)
ASTM A 641 Class 3 (0.8 oz. / ft2)
ASTM A 153 Class B-2 (HDG 1.5 oz. / ft2)

ASTM A 580 Stainless Steel Type 304:

ASTM C 518 This test method provides a rapid means of determining the steady-state thermal transmission properties of thermal insulations and other materials with a high level of accuracy when the apparatus has been calibrated appropriately.
ASTM C 578: Refers to the physical requirements such as thermal resistance, compressive resistance, flexural strength, water vapor permeance, water absorption, dimensional stability, and oxygen index of Cellular Polystyrene Insulation board.

BACK-UP WALL: A term used to identify the wall to which a veneer is attached.

BEAM TIE: A tie, usually rigid, which attaches to an I-Beam and a block wall. Sometimes referred to as a beam anchor.

BEARING PAD: A black, dense, molded compound with high compressive strength, superior hardness characteristics and cold weather flexibility. Applications include skid pads, bumpers, roof pads, vibration control for heavy machinery, bridges etc.

BED JOINT: The mortar joint between the long faces of brick

BOND BEAM: A grouted course of masonry units reinforced with longitudinal steel bars designed to take longitudinal and flexural tensile forces.

BOX TIE: A rectangular shaped wire tie which is used with an adjustable anchor.
BRICK LEDGE:  An extended portion of a concrete slab designed to support the addition of brick being used as a veneer.

BRICK TIE:  Any tie which ties the brick to the back-up structure, Usually A corrugated 22 gauge tie 7" long X 7 / 8" wide.

BUCK & FRAME ANCHOR:  An “L” shaped anchor, usually rectangular with corrugations on the long side used to anchor new masonry to existing Concrete, Structural Stone, existing masonry or door buck frame.

BUTT WELDING:  Welding of a cross rod to longitudinal wire

BYNA-TIE:   A Homann and Barnard product shaped like a triangular tie with an extra overlapping wire designed to snap on to a seismic clip.
BYNA-LOK SIESMIC TIE: New masonry veneer can be anchored to studs, existing Masonry, Concrete or Steel with the Byna-Lok Wire Tie

CAV CLEAR: A material designed to keep air spaces clear of mortar droppings so that moisture can flow down and out of the space.

CAVITY: The space between the back up wall and the veneer.

CAVITY CAP: A covering over an open block cell / cavity used to inhibit water seepage into the concrete block cavity. It can be metal, stone or masonry.
CAVITY VENT: An opening in the joints of veneer to allow the passage of air or moisture from the wall cavity to the exterior.

CAVITY WALL: An exterior wall, usually masonry construction, consisting of an inner and outer wythe with a continuous air space.

CAVITY WALL INSULATION: Used to reduce heat loss through a cavity wall by filling the air space with material that inhibits heat transfer.
CELL VENTS: A type of moisture vent from a cavity wall space to the outside face of the veneer.

CHANNEL SLOT: An anchor which is either embedded, welded, or mechanically fastened to the back up wall with a slot that accommodates channel slot anchors used to attach veneers.

CLASS – 1: Mill Galvanizing containing a minimum of .40 ounces of zinc per square foot of surface area.

CLASS – 3: Mill Galvanizing containing a minimum of .80 ounces of zinc per square foot of surface.

CLIMASEAL COATING: A Co-Polymer corrosion resistant coating for screws used to attach masonry anchors to metal studs or beams.
C M U: Concrete Masonry Unit in various shapes and sizes.
BEAM / COLUMN ANCHOR: Any anchor which attaches masonry to a structural steel column.

COLUMN FLANGE ANCHOR: An anchor made of either wire or a steel strap designed to attach masonry to the flange of an I-Beam. (See Above)

COLUMN TIE: Same as Beam / Column Anchor.

COMPOSITE WALL: A wall with the veneer placed directly against the back-up wall with no designed air space. (Shown with Composite Wall Anchor)

COMPRESSIBLE FILLER: Any material which can be compressed and pre-formed into a void for expansion purposes in masonry. Usually in shelf angles or brick expansion joints.

CONTINUOUS SCREW-ON: A steel anchor usually 12 gauge, which is screwed to metal or wood studs. They are bent in or out to receive either triangles or box ties that attach veneers to the studs.
CONTINUOUS WELD ON: A wire, usually ¼” thick which is welded to structural steel, bent in and out, to attach either triangles, web ties or box ties to masonry.

CORNERS: “L” shaped Masonry wire designed to unite masonry walls at the partition corners.

CONTROL JOINT: Extruded Rubber or PVC material designed to fit in a masonry block Joint between sash blocks to prevent shrinkage and cracking.

CONTROL JOINT ANCHOR: An anchor designed to span a control joint and provide lateral stability while maintaining side to side movement capability.
COPING BLOCK: A solid CMU intended for use as the top finished course in a wall.

CROSS ROD: Refers to the wire which runs in either a perpendicular or criss-cross design between longitudinal side rods in masonry wire reinforcing.

CURTAIN WALL: A curtain wall system is an outer covering of a building in which the outer walls are non-structural, but merely keep out weather.

Curtain Wall

CWT: Abbreviation for Corrugated Wall Tie


HB-213 (NOW HB213 SINCE DUR-O-WAL PURCHASED BY H & B)

NOTE: MUST USE NEW STYLE ANCHORS WITH H & B WIRE
DOUBLE WYTHE: A concrete or masonry wall with an attached Veneer.

DOVETAIL ANCHOR: An anchor which interlocks with an embedded anchor slot or the purpose of attaching veneer to concrete walls, columns or beams.

DOVETAIL ANCHOR SLOT: A pre-shaped receptacle embedded in concrete to receive dovetail anchors. 10’ Lengths

DOWEL: Steel reinforcement used to connect CMU to the concrete footing.

DUROMETER: An instrument used to measure shore hardness.

DW10HS: Used for anchoring brick veneer to metal stud, masonry, concrete or wood backup. Primarily for use when there is no insulation and little potential for wallboard deterioration.
ENVIRO BARRIER: A single component, fluid applied, elastomeric membrane to provide an air, water and vapor barrier when applied to above grade wall assemblies. It cures to form a resilient, monolithic, fully adhered elastomeric membrane which resists air leakage and water penetration plus acts as a vapor barrier.

EXPANSION JOINT: A separation between adjoining structures to allow for expansion and contraction of concrete block due to changes in ambient temperature. Fibrous, Asphalitic, synthetic rubber and other materials are used to fill these joints to allow for movement and still maintain a level and plumb surface.

EMSEAL EXPANSION JOINT

EXPANDED POLYSTYRENE: Expanded Polystyrene (EPS) is a rigid and tough, closed-cell foam (White Bead Board) ASTM E84
EXTRUDED POLYSTYRENE: Extruded polystyrene foam (XPS) consists of closed cells, offers improved surface roughness and higher compressive strength and reduced thermal conductivity. (Pink, Blue & Green Board)

( Foamular )

EXTRA HEAVY DUTY WIRE: Masonry wire with 3/16” side rods and 3/16” cross rods

FANFOLD: PROPINK® Fanfold Underlayment Board is a thin extruded polystyrene fanfold board faced on both surfaces with a plastic film facer. It is available in 1/4” & 3/8” thickness and is folded every 24”
Typical size is 1/4” X 48” X 50’

FINISH: The type of coating applied to the exterior of masonry wire and anchor products.

FLANGE: The top and bottom of an I-Beam.
FLASHING  PVC, Copper or Bituminous, Non- Bituminous self adhering materials used to prevent moisture retention in a wall cavity.

FOUR WIRE:  Refers to 4 longitudinal wires on masonry wire reinforcement rather than the usual two.

GALVANIZED:  The coating of any metal with zinc to prevent rust or corrosion. There are two types:

1. Mill Galvanized: Electro-Galvanized before the finished product is Fabricated.
2. Hot Dipped Galvanized: The process of dipping the finished product into hot zinc after fabrication.

GUAGE:  A measure of wire size or metal thickness. The smaller the gauge the thicker the material.

GRIPSTAY:  (See Channel Slot)

GRIPSTAY ANCHOR:  (See Channel Slot Anchor)
GROUT: A mixture of Portland Cement, water, and small aggregate (usually sand) used to fill void spaces in block cavities, door frames etc. Not to be confused with Construction Non-Shrink Grout which is used in load bearing applications.

GROUT SCREEN: A poly propylene screen or netting used to restrict the flow of Masonry grout or mortar in designated areas.

HDG: Abbreviation for “Hot Dipped Galvanized”

H & E: Abbreviation for “Hook & Eye”

HALF BLOCK: A block manufactured at half the size of a typical stretcher block to be used for ending block runs.

HEADER BLOCK: A masonry unit that is cut-a-way to connect two or more adjacent partitions of masonry. Also called a bonder.

HEAD JOINT: The mortar joint between ends of a brick

HEAVY DUTY WIRE: Masonry wire with 3/16” side rods and 9 Gauge cross rod.
HOOK AND EYE WIRE: A type of joint reinforcement designed to reinforce concrete block as well as allow for the attachment of a veneer. It can be of ladder or truss design with double eyes welded to the wire. The brick tie used (Pintle) is attached to the protruding eye proportion or hook of the embedded anchor.

JOINTS (MORTAR)

CONCAVE | VEE | FLUSH | RAKED

EXTRUDED | BEADED | STRUCK | WEATHERED

JOINT REINFORCEMENT: The wire reinforcing for horizontal joints in masonry Block and brick walls. Typically installed in every other Course of block. It can be of Ladder or Truss configuration and can be made from Plain, Mill Galvanized, Hot Dipped Galvanized or Stainless Steel Materials.
“L” ANCHOR: An anchor with one 90 degree bend.

LADDER / LADUR A type of wire joint reinforcing where the cross rods are perpendicular to the side rods. Resembling the configuration of a ladder.

LINTEL: A concrete beam or steel angle installed over a wall opening to support or carry a superimposed load.

LINTEL BLOCK: A “U” shaped CMU placed with the open side up to receive horizontal steel reinforcement and grout.

M.G.: Abbreviation for Mill Galvanized.

MASONRY: Having to do with concrete block, brick, stone or other materials bonded together with mortar. Includes Concrete in some markets.
MESH TIES:  Pieces of hardware cloth used in mortar joints to join block and brick veneers at intersecting block walls.

MILL GAL.:  The zinc finish applied to steel or wire prior to fabrication.
  - Class 1: .40 ounces per square foot
  - Class 3: .80 ounces per square foot

MORTAR STOP:  A Dur-O-Wal product designed to prevent mortar from dripping into Masonry cavities, flashing or weeps.

MORTAR:  The cementious mixture of sand, cement, water and admixtures used to bond concrete block and bricks.  ASTM C 270
  Type S: Structural or High Strength Mortar
  Type N: General Purpose or Light Strength Mortar
  Type M: Used in below grade masonry
Typically packaged in 70 – 75 lb bags

MORTAR NET:  A product designed to prevent mortar from dripping into Masonry cavities, flashing or weeps and inhibiting drainage.

MORTARPROOF:  A mortar admixture that prevents moisture from penetrating mortar joints.
PARAPET WALL: The portion of a wall extending above the roof level.

Parapet Wall

PILASTER: A vertical beam or column cast or built within a wall to add structural integrity to the wall. It can be composed of concrete or CMU.

PORTLAND CEMENT: The most common type of cement in general use around the world, used as a basic ingredient of concrete, mortar, stucco, and most non-specialty grouts. Types 1, II and III. Type I is most common

PTA-310; Partition Top Anchors with a 3/8” threaded rod. It is also available in a “Dovetail Partition Top Anchor”
PTA-420: A Homann & Barnard anchor used most commonly on top of a block wall. Often found on structural drawings and not in specifications.

PINTLE: The adjustable portion of an adjustable veneer anchor. Must be at Least 3 / 16” in diameter.

PLUS JOINT: Another name for standard PVC or Rubber control joint.

POINTING: The terms Pointing, Re-pointing and Tuck-pointing are used interchangeably and all refer to the tooling of a masonry mortar joint. The joint is typically tooled to a Concave, Flush or a Vee joint. This is a Concave joint. (See Joints)

POLYMER COATING: Corrosion resistant coating for screws and other metals.

POS-I-TIE: A two piece system for attaching Brick and Stone Veneer to existing Backup walls. It incorporates a barrel-screw piece which allows easy installation using an ordinary drill with a special chuck adapter.

PVC: Poly Vinyl Chloride. A man made plastic material used for flashing and control joint in masonry applications.
QUADRO-VENT: Quadro-Vent’s honeycomb design allows passage of moisture from cavity to the building exterior while restricting ingress of insects and other debris.

CELL VENT

RAPID CONTROL JOINT: Dur-O-Wal’s designation for control joint.

RAPID EXPANSION JOINT: Neoprene expansion joint (3/8” X 3”) and neoprene shelf anchors with adhesive on one side.

REBAR POSITIONERS: A wire apparatus designed to center vertical rebar in the cavity of a concrete block. They are available in Single or Double Loop and MG or HDG finish.

RESTORATION ANCHOR: An anchor designed to secure existing veneers to an existing system. It typically includes an expansion anchor to fasten the anchor to the existing surface.
REGLET: A groove or emplacement in mortar joint of masonry backup wall to accept flashing.

REGULAR CONTROL JOINT: Standard size PVC or Rubber control joint.

RIGID ANCHORS: Metal plates cut to specified widths and thicknesses used to connect intersecting block walls or veneer. Available in Plain Mill Galv., or HDG finishes.

RIGID INSULATION: Any material designed to stand flush against either the inside of a concrete block, which may be covered with sheetrock or flush against the exterior surface of concrete block in the cavity between the block and the veneer.

SASH BLOCK: A Block specifically formed for a door or window jamb with vertical slots receive window and door frames. (Also called a Jamb Block)

SCREW-ON: A masonry anchor which is usually 12 gauge and either 3/4" X 9" or 3/4" X 5" that attaches to back up walls with screws. It will accommodate a triangle, rectangle or trapezoid shaped wire tie for veneers or block wall anchors. It is screwed into the back wall.
SEISMIC CLIP: Referring to veneer applications where earthquakes are a consideration. The 345-BL is comprised of a Byna-Lok™ Wire Tie with a wrap around metal strap. New masonry veneer can be anchored to metal studs or to existing masonry.

SEISMIC ANCHORS: Anchors designed to accommodate a continuous wire for reinforcement of masonry veneers during earthquakes.

SHEAR WALL: A structural wall designed to withstand lateral movement as a result of Wind, earthquakes or other factors. It is typically constructed of plywood, sheathing or CMU. Plywood and sheathing are reinforced by vertical wood or steel members.

SHORE HARDNESS: A measure of hardness or resistance to permanent indentation in polymers, plastics, and rubbers. The scale was invented by Albert Shore.

SIDE ROD: The longitudinal wire in all masonry wall reinforcement.

SINGLE WYTHE: A concrete or masonry wall with no veneer.

SOFT JOINT: 1/4” X 2 3/4” neoprene used on shelf anchors.

SPACING: The vertical and horizontal placing of veneer anchors. National Building Code requires that wall ties must be installed at not less than one per three square feet of wall area and not more than 24” apart horizontally, and not more than 16 inches apart vertically.

EXAMPLE: a 100’ X 12’ Wall = 1,200 Sq Ft / 3 = 400 anchors
SPLIT FACE BLOCK: A block with one or more faces purposely fractured to produce a rough surface. Often used in place of a veneer wall.


STEM WALL: Stem walls are supporting structures that are used as a means of joining the foundation of a building with the vertical walls constructed on the foundation.

SURE KLEAN: Trade name for a Masonry Chemical products manufactured by ProSoCo. Most popular products are 600 Detergent for Cleaning And Siloxane PD for Sealing

TAB-TYPE: Wire wall reinforcement with rectangular box shaped ties welded to the side rods of the back of the wire.
**TEE:** Wire reinforcement used to join intersecting CMU walls.

**TEE JOINT:** A rubber or PVC control joint shaped like a “T”.

**TERMINATION BAR:** An aluminum, plastic or stainless steel bar which is extruded in a continuous 8’ - 10’ flat bar approximately 3 / 32” thick which is used at the top of flashing to mechanically fasten it to the back up wall.

**TIES:** Refers to the type anchor which embeds in a veneer and fastens to a back up wall.
TRI ROD: Masonry reinforcement wire with three longitudinal rods.

TRIANGLES: Wire formed in the shape of a triangle either 3 / 16” or 1 / 4” thick used as a tie to connect either a screw on or weld on anchor to the veneer. Available in varying lengths.

TRUSS WIRE: Wire reinforcement where the cross rods are welded in a zig zag pattern.

VEE-TIE: Another name for triangle shaped ties.

VENEER: A Non-Structural layer of material (Usually Brick) placed over a base material (Usually Block)

VENEER TIES: Any tie which anchors a veneer wall to a back up wall.

VOIDS: Empty spaces in sand, mortar, or grout.

WALL TIE: Usually refers to a “Corrugated Wall Tie” 7 / 8” X 7”

WEB SITES: Hohmann & Barnard: www.h-b.com
            Wire Bond:   www.wirebond.com
            Mortar Net:  www.mortarnet.com
            Prosoco:     www.prosoco.com
WEB TIE: A wire tie designed to connect a concrete block to a steel beam with the use of a weld on anchor.

WEEP: Can be made of cotton rope or a plastic or metal tube, Cell Vent, Mortar Net, Cav-Clear designed to allow moisture to escape a cavity wall. (See Weep Rope)

WEEP HOLE VENTILATOR: A plastic weep hole tube. Usually 3/8” X 4”.

WEEP ROPE: A cotton cord, usually 1/4” or 3/8” in diameter cut in short lengths which acts as a wick to draw moisture from a cavity wall to the exterior of the block cavity.

WEEP TUBE: (See Weep Hole Ventilator)
**WELD-ON TIE:** A 1/4” wire crimped to receive a veneer triangle or other type of wire tie which is welded to a steel column or beam.

**WIDE FLANGE CONTROL JOINT:** PVC or rubber control joint designed to fit in sash blocks and extend to within 1” of the block facing.

**WYTHE:** Pertains to wall make up in terms of a veneer wall or not.
- Single Wythe: A block wall without a veneer.
- Double Wythe: A block wall with a veneer.

**X-SEAL:** A self sealing tape designed as a gasket between screws on veneer anchors.

**Z-ANCHORS:** Z shaped rigid anchors.

**Z-TIE:** 3/16” or 1/4” wire with two bends in opposite direction.
MASONRY WALL MAKE UPS

8 – 1 – 2 – 4: 8” Block - 1” Insulation – 2” Air Space – 4” Brick
8 – 2 – 2 – 4: 8” Block - 2” Insulation - 2” Air Space - 4” Brick
12 – 1 – 1 – 4: 12” Block – 1” Insulation – 1” Air Space – 4” Brick
12 – 2 – 2 – 4: 12” Block – 2” Insulation – 2” Air Space – 4” Brick

WIRE SIZES

HEAVY DUTY 3 / 16” X 9 Ga 3 / 16” Side rods and 9 Gauge Cross rods.
EXTRA HEAVY DUTY 3 / 16” X 3 / 16”: 3 / 16” Side rods and 3 / 16” Cross rods

NOMINAL THICKNESS OF CONCRETE BLOCK

4” BLOCK: 3 5/8”
6” BLOCK: 5 5/8”
8” BLOCK: 7 5/8”
10” BLOCK: 9 5/8”
12” BLOCK: 11 5/8”

NOMINAL BRICK SIZES

4” COMMON BRICK: 3 1/2” X 3 1/2” X 11 1/2”
4” MODULAR BRICK 3 5/8” X 2 1/4” X 8”

MASONRY CALCULATIONS

(INTERNET CALCULATORS)
http://www.consultationdirect.com/masonry_calculator

FOUNDATION VENTS: Linear Footage X 2.9
Square Footage X .49
Add Sums Together and Divide by 68 Square Inches

ANCHOR BOLTS: 1 Anchor Bolt Every Four L.F. of Foundation Wall
1 Foot off of Corner / 1 Foot Off of Every Seam or Sill Plate

WALL AREA: Length of Wall X Height of Wall

UNIT QUANTITIES OF BRICK: Face Brick Modular – 7 Brick per Sq. Ft. of Wall
Oversize Brick - 6 Brick per Sq. Ft. of Wall
Utility Brick - 3 Brick per Sq. Ft. of Wall
Brick Per L.F. L.F. / 0.667

HORIZONTAL WIRE: Block = Sq. Ft. / 1.33 Every Other Course or every 16” Vertical
METAL WALL TIES: Every 16” Vertical X 24” Horizontal (Mfg. Recommend 16”)

**MASONRY CHEMICALS**

**NEW CONSTRUCTION CLEANERS**

101 LIME SOLVENT: Scours excess mortar and construction dirt from dark-colored brick and tile.

SURE KLEAN 600: General purpose cleaner removes excess mortar and construction dirt from brick, masonry, tile and most concrete surfaces.

BURNISHED CUSTOM MASONRY CLEANER: Non-etching cleaner gives depth to color, brightens white matrices, and takes off rust, oil, mud, mortar smears and more - without changing surface texture. Ideal for smooth surface

CONCRETE BRICK CLEANER: Non-etching cleaner removes excess mortar and construction dirt from concrete brick, and other architectural concrete surfaces.

CUSTOM MASONRY CLEANER: Dramatically improves color uniformity while Ridding architectural concrete and concrete block of excess mortar, efflorescence, mud and more.

MANUFACTURED STONE CLEANER: Non-etching cleaner removes excess mortar and common construction soiling from new installations of manufactured stone.

SAFETY KLEAN: Safely Klean dissolves excess mortar, grout smears and job dirt on new masonry without traditional acidic components.

VANA TROL: Removes excess mortar, grout smears and construction dirt from light-colored brick and natural stone without creating green vanadium or brown manganese staining.
RESTORATION CLEANERS

HEAVY DUTY RESTORATION CLEANER: Dissolves the heaviest carbon stains and grime on brick, terra cotta, sandstone and more. Not for limestone, marble or concrete.

HEAVY DUTY RESTORATION CLEANER - NE: Specially formulated to dissolve the worst carbon staining and grime an urban environment can produce. Not for limestone, marble or concrete.

LIGHT DUTY RESTORATION CLEANER: Packs the cleaning power of conventional restoration cleaners - with drastically reduced corrosiveness. Scours stains off of architectural concrete, brick, dense stone and more.

RESTORATION CLEANER: Cleans like new: old brick, granite, terra cotta, sandstone and other masonry. Not for limestone, marble or concrete.

MASONRY SEALERS & WATER REPELLANTS

BLOK – GUARD & GRAFFITI CONTROL: Silicone elastomer, weatherproofs concrete block and porous masonry and provides a graffiti-resistant barrier.

BLOK-GUARD & GRAFFITI CONTROL15: Silicone elastomer weatherproofs concrete block and porous masonry and provides a graffiti-resistant barrier.

BLOK-GUARD & GRAFFITI CONTROL ULTRA: Silicone elastomer weather-proofs concrete block and porous masonry and provides a graffiti-resistant barrier.

CUSTOM MASONRY SEALER: Weatherproofs porous masonry without altering its natural appearance. Ideal for CMU, it also helps control moisture-related stains.

SILOXANE PD: Deeply penetrating protective treatment weatherproofs masonry.

SILOXANE WB CONCENTRATE: Deeply penetrating protective treatment weatherproofs dense & porous masonry. Economical concentrate lessens transport, storage and disposal requirements.
Thru Wall Flashings are critical to the performance of any Masonry wall. Their primary purpose is to prevent leakage of water through a façade into a cavity wall.

LOCATIONS:
- WALL BASES
- WINDOW & DOOR HEADS
- SHELF ANGLES
- OVERWALL FLASHINGS
- MASONRY COPINGS
- WINDOW & DOOR SILLS
- WINDOW & DOOR JAMS
- BELOW WALL FLASHING
- CAVITY WALL FLASHING

TYPES | WEIGHT | SIZES
---|---|---
SHEETMETAL
- Copper 3 oz., 5oz., 7oz., 12”, 16”, 18”, 24” 36”
- Aluminum
- Stainless Steel
- Galvanized

COPPER FABRIC: Copper Sheet Metal between Asphalt impregnated Kraft Paper.
- 3 oz., 5oz., 7oz., 12”, 16”, 18”, 24” 36”

PVC:
- 20 Mil., 30 Mil., 40 Mil., 56 Mil. 12”, 16”, 18”, 24” 36”, 48”

BITOMINOUS

NON-BITOMINOUS

SELF ADHERING

PVC FLASHING

COPPER FLASHING
COPPER FABRIC FLASHING

FLASHING DETAILS

ABOVE WALL / CAP FLASHING

DETAIL 3: Flashing at Copings/Caps
BELOW WALL FLASHINGS

CAVITY WALL FLASHING

NOTE:
The above flashing detail also applies to brick work above openings, such as windows and doors.
<table>
<thead>
<tr>
<th>Material</th>
<th>Minimum Thickness</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless Steel</td>
<td>.01 in (0.25 mm)</td>
<td>Extremely durable, non-staining</td>
<td>Difficult to solder and form</td>
</tr>
<tr>
<td>Cold Rolled Copper</td>
<td>10 oz. per sq. ft.</td>
<td>Durable, easily formed, easily joined</td>
<td>Stains adjacent masonry</td>
</tr>
<tr>
<td>EPDM</td>
<td>30 mils (0.8 mm)</td>
<td>Flexible, easy to form, easy to join, non-staining</td>
<td>Metal drip edge required, more easily torn</td>
</tr>
<tr>
<td>Rubberized Asphalt</td>
<td>30 mils (0.8 mm)</td>
<td>Self-healing, flexible, easy to form, easy to join</td>
<td>Dimensional instability, incompatibility with sealants, metal drip edge required</td>
</tr>
<tr>
<td>Copper Laminates</td>
<td>5 oz. per sq. ft.</td>
<td>Easy to form, easy to join, non-staining</td>
<td>Metal drip edge required, more easily torn</td>
</tr>
<tr>
<td>PVC</td>
<td>30 mils (0.8 mm)</td>
<td>Easy to form, easy to join, non-staining, low cost</td>
<td>Questionable durability, easily torn, metal drip edge required</td>
</tr>
<tr>
<td>Galvanized Steel</td>
<td>0.015 in. (0.38 mm)</td>
<td>Easy to paint, relatively easy to form</td>
<td>Difficult to solder, subject to early corrosion at bends</td>
</tr>
</tbody>
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