



Inspectors Guide

The basics that are required to build Thin Stone Veneer (Adhered Masonry Veneer) and Hardcoat Stucco correctly following the International Residential Code 2009 Version using exterior plaster

Interpretations of codes are those of the presenter.

Local code jurisdiction will take precedence over interpretations made in this guide.

Exterior Plaster IRC 2009 Section R703.6 is covered along with parts of ASTM C1063 and ASTM C926

Exterior plaster is the section we follow for Hardcoat Stucco and Thin Stone Veneer when applying directly to the structure with mortar

- **R703.6 Exterior Plaster. Installation of these materials shall be in compliance with ASTM C 926 and ASTM C 1063 and the provisions of this code.**

Our guide will review all that is in the Exterior Plaster Section of the code along with The most important aspects of ASTM C 926 and ASTM C 1063 That are listed in the code. We will address other codes that are also part of the overall system.

ASTM 1063 Standard specification for Installation of lathing and furring

ASTM 926 Standard specification for application of portland cement based plaster

Water Resistant Barriers

- Exterior Covering Section 703.
- **Exterior Plaster section Section 703.6**
- 703.6.3 Water Resistant Barriers. Water- resistant barriers shall be installed as required in section R703.2 and where applied over wood based sheathing, shall include a water resistive vapor-permeable barrier with a performance at least equivalent to **two layers of Grade D paper**

The code requires a minimum of 2 layers of a grade D Paper under the plaster. The 2 layers acts as a drainage plane. Grade D paper is tested for vapor permeability 5 perms or more and a minimum 10 minute water resistance. Felts do not meet the vapor permeability rating.

2 Layers

- Grade D is min 5 perm rating and a 10 minute water resistance.
- 2 layers could be both the same product or different products. They have to be equivalent to a grade D Paper. Felts do not meet the criteria ASTM D226 is not a grade D spec.



Exception for application of a rainscreen

- Exterior Covering Section 703.
- **Exterior Plaster section Section 703.6**
- 703.6.3 Water Resistant Barriers.
- **Exception:** Where the water resistive barrier that is applied over wood- based sheathing has **a water resistance equal to or greater than that of 60 minute Grade D paper** and **is separated from the stucco** by an intervening, substantially non watering-absorbing layer or **designed drainage space**.
- There is an exception in this section that says if the water resistive barrier has a 60 minute water resistance instead of 10 minute and is separated from the stucco only one layer is required. This is where a rainscreen material with fabric on outside such as keene rainscreen 020-1 applies. Furring strips could be used as well.

A Designed Drainage Space

Pictured is a drainage ventilation mat on top of a 60 Minute rated Grade D Paper. One layer provided we use a designed drainage space. Fabric on the entangled net rainscreen protects the cavity from filling with mortar. Lath is placed next.

Keene Rainscreen 020-1 on top of Grade D Paper 60 Minute rated



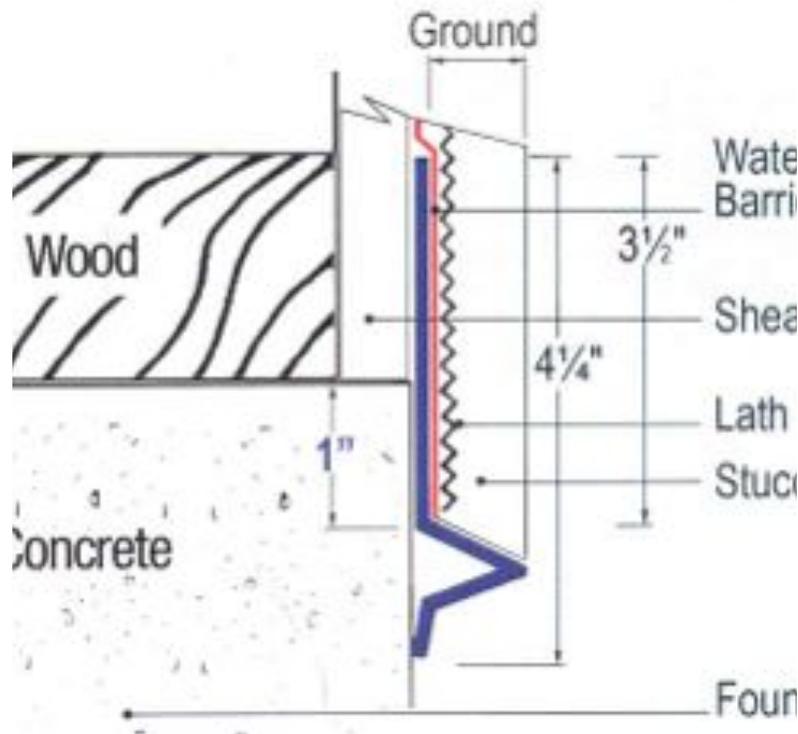
Weep Screed

An important flashing element for exterior plaster veneers that are often left out. They not only flash bulk water out of the wall but they stop moisture from wicking up from the ground.

- **703.6.2.1 Weep Screeds**
- Weep Screeds. A minimum 0.0019-inch (0.5mm) (no 26 galvanized sheet gage) corrosion-resistant weep screed or plastic weep screed with a **minimum vertical attachment flange of 3 1/2" inches (89mm) shall be provided at or below the foundation plate line on exterior stud walls in accordance with ASTM C926**
- The weep screed shall be placed a minimum **of 4 inches (102mm) above the earth or 2 inches (51mm) above paved surface areas** and shall be of a type that will allow trapped water to drain to the exterior of the building

Installed- details – always recommended to flash the leg of the weep screed. The water resistive barrier and rainscreen (if used) will come over top of the leg and flashing.

E.R. Long Associates Inc



Weep Screed provides a way for water to drain from the wall. Weep screed also provides a break at the foundation plate so moisture does not wick up into the sheathing and framing.

Code Violation



Code compliant



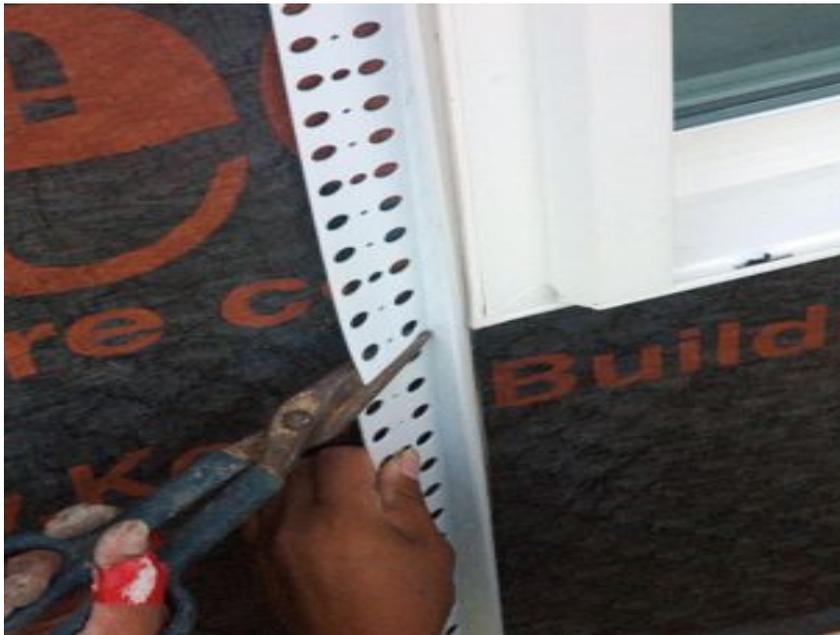
Casing Beads

ASTM1063

- 7.11.3 Non load-bearing members shall be **isolated from load bearing members, and all penetrating elements , with casing beads or other suitable means** to avoid transfer of structural loads, and to separate from dissimilar materials
- ASTM C926
- 7.1.4 Separation shall be provided where plaster abuts **dissimilar construction materials or openings**. (See A2.1.4.)

Casing Bead Install Amico (E-Z Bead)
Amico E-Z bead is a casing bead with an expansion flange and
bondbreaking tape that is ready to be caulked

E.R. Long
Associates Inc



Install around window

Down the Jamb



Under the sill



Casing Bead/Amico E-Z Bead Install

Up opposite jamb



Bring last piece down jamb



Amico E-Z Bead installed under drip cap ready to be caulked (Do not install E-Z Bead Above Window)

E.R. Long Associates Inc



Casing bead /Amico E-Z bead should be installed and caulked

Non Compliant



Code Compliant – Note Caulk Joint



Lath

(Table 3) ASTM C1063

Minimum 2.5LB (sq yd) Diamond Mesh (Us Nominal Weights) on Walls

ASTM C1063

Meet ASTM C847 (Specification for Lath) **Metal lath Shall have a G60 Coating**

IRC 703.6.1

Attach **every 6" on Vertical Framing Member** Fastener embedment $\frac{3}{4}$ " into Stud

ASTM C926

7.1.3 Portland –cement based plaster shall be applied **on furred metal plaster base** when the surface of solid backing consist of gypsum board, gypsum plaster, wood or rigid foam board or type products

Self furred lath- NOT FLAT

- Note dimples in the lath. Those dimples are to fur the lath off of the water resistant barrier. This allows the mortar to engage around the wire to protect and add structural integrity. Installation on walls must be furred lath not flat.



With self furred lath mortar engages with the lath



Amico metal self furred lath that is compliant. Has bands on each 10 pieces to ensure you know what is on the jobsite meets code with correct weight and ASTM C847 (Spec for lath)

E.R. Long
Associates Inc



How many coats of mortar and thickness IRC Code 2009

- R703.6.2 **Plaster**. Plastering with Portland cement plaster **shall not be less than three coats when applied over metal lath or wire lath** and shall not be less than two coats when applied over masonry, concrete, pressure-preservative treated wood or decay-resistive wood as specified in section R317.1 or gypsum backing. **If the plaster surface is completely covered by veneer or other facing material or is completely concealed, plaster applications need be only two coats** provided the total thickness is as set forth in table R702.1 (1)
- Table R702.1(1) 7/8" minimum over wire lath exterior

How many coats of mortar and thickness IRC Code 2009

- ASTM C926
- **Metal lath over vertical walls – 1st coat is 3/8” second coat is 3/8” and 3rd coat is 1/8”**
- **Stucco is 3 coats**
- **Thin Stone veneer is 2 coats**

Hardcoat Stucco 3 coats

- Hardcoat stucco is 3 coats. The first coat is called the scratch the 2nd coat is called the brown coat and the third coat is called the finish coat.



Adhered Thin Stone Veneer

- R703.6.2 Plaster
- . If the plaster surface is completely covered by veneer or other facing material or is completely concealed, plaster applications **need be only two coats** provided the total thickness is as set forth in table R702.1 (1)

The scratch coat in place is the first coat and the second coat is the mortar used on the back of the stone to adhere to the scratch coat



Curing of coats

- R703.6.5 **Curing.** The finish coat for two coat cement plaster shall not be applied sooner than seven days after application of the first coat. For three coat stucco cement plaster **the second coat shall not be applied sooner than 48 hours after application of the first coat.** The finish coat for three-coat cement plaster shall not be applied sooner than seven days after application of the of the second coat.
- 48 hours between first and second coat- then 7 days between brown and finish coat when applying stucco.
-

Control Joints ASTM C1063

- 7.11.4.1 **Control Joints**- Control (expansion and contraction) joints shall be installed in walls to delineate areas not more than 144 ft² (13.4m) and to delineate areas not more than 100ft² (9.30m²) for all horizontal applications, that is, ceilings, curves or angle type structures.
-
- 7.11.4.2 The distance between control joints shall not exceed 18 ft (5.5m) in either direction or a length-to-width ratio of 2 ½ to 1. A control joint shall be installed where the ceiling framing or furring changes direction.



Adhered Masonry Veneer Control Joints

This has been a controversial issue due to the feeling that Thin Veneer Stone does not require the same spacing as stucco due to thickness of veneer and the interlocking design of the stone. Go to the masonry veneer manufacturers associations article.

"Are Control Joints Needed with Adhered Concrete Masonry Veneer"

<http://www.multibriefs.com/briefs/ncmaorg/AreControlJointsNeededFINAL-%20ENewsSolutionCenterJun19.pdf>

Flashing Details that affect Exterior Plaster

703.8 Flashing

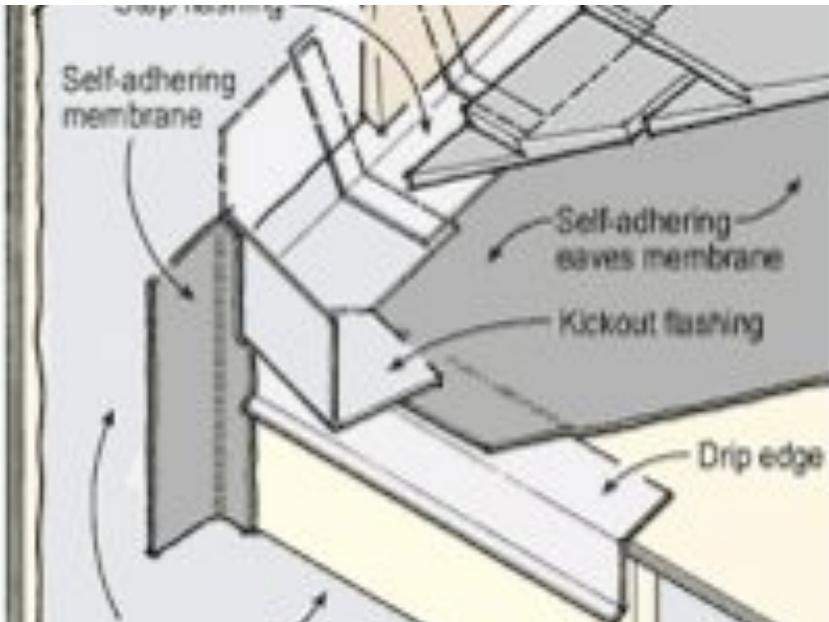
“Approved corrosion-resistant flashing shall be applied shingle-fashion in such a manner to prevent entry of water into the wall cavity or penetration of water to the building structural framing components”. “

“Flashing at exterior window and door openings shall extend to the surface of the exterior wall finish or to the water-resistive barrier for subsequent drainage”.

Heads of windows and doors we extend the flashing to the surface (drip caps) and at the window sill we extend the flashing to the water resistive barrier so it drains down the drainage plane.

Examples of flashing extending to the exterior of wall finish

Kick Outs- Roof and Wall intersections



Drip Cap Head of window



Sill Flashing extending to the water resistant barrier





For how to videos on applying the plaster veneer correctly when using hardcoat stucco and thin veneer stone visit our website at www.mas-con.com.

Thank You to
Alabama Metals (Amico Co/E-Z Bead)
Keene Building Products (Rainscreen)
For details and pictures.

Questions about codes contact Steve Long SL405@aol.com