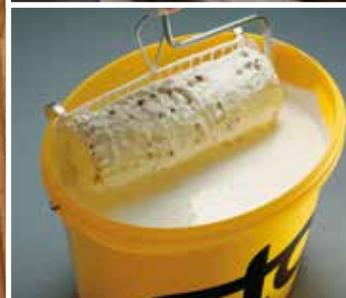


# Restoration of Building Facades

EIFS

STUCCO

CONCRETE/MASONRY



A comprehensive repair guide for facade restoration professionals



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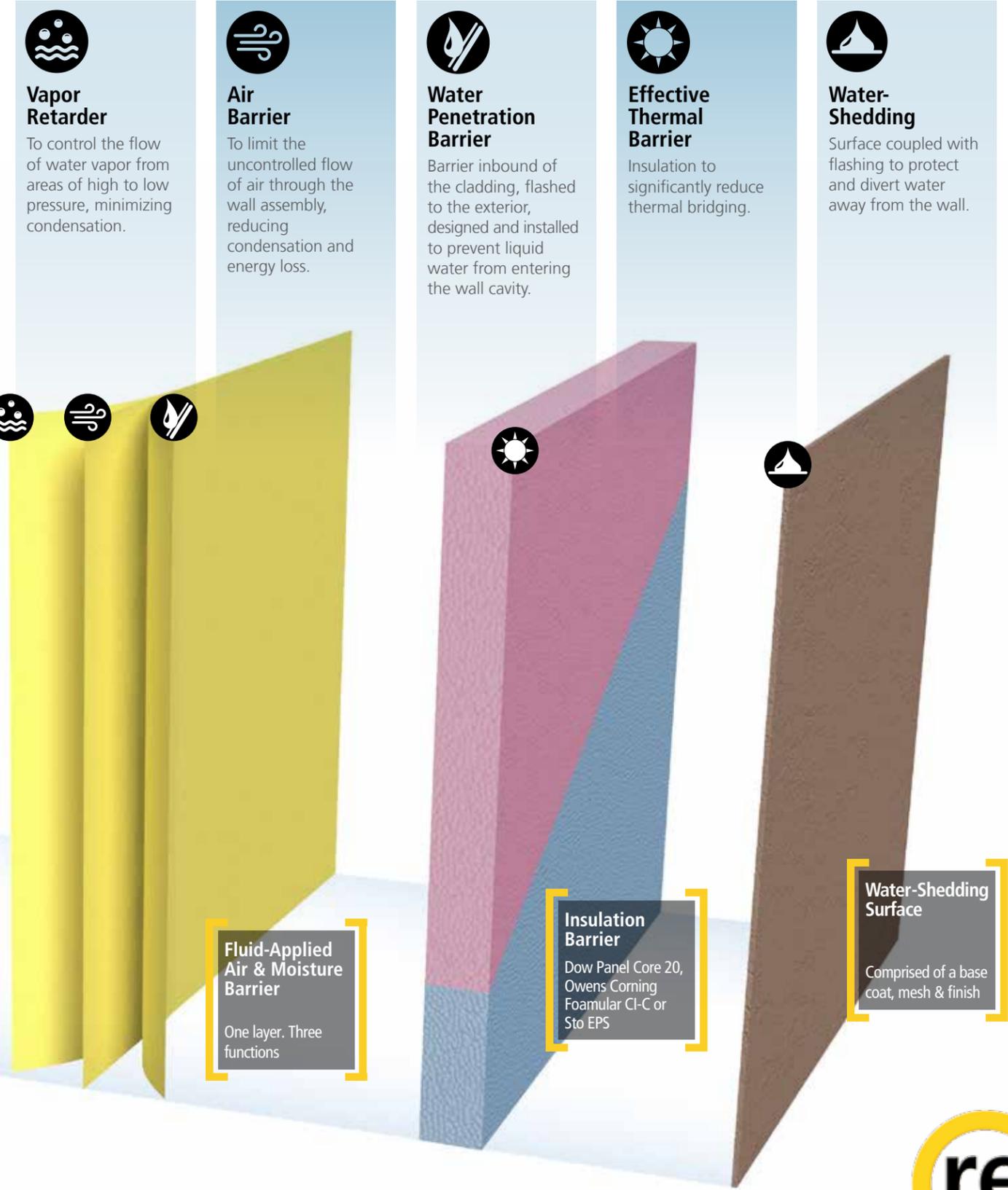
# The Perfect Wall

THE FIVE PLANES OF CONTROL FOR THE IDEAL BUILDING ENVELOPE

The ideal building envelope has five planes of control that must be properly connected and integrated with other building elements. All restoration should be undertaken with an understanding of how each of these layers may be affected.

FOUR LEVELS

FOUR LEVELS



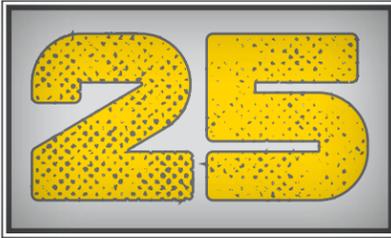
# The Four Levels of reStore

DON'T IGNORE IT. RESTORE IT.



FOUR LEVELS

FOUR LEVELS



**This comprehensive repair guide offers instructions for how to remedy 25 of the most common restoration problems.** While most of these scenarios fall under our Level Two solution, reStore has a program to help you regain the value of your investment no matter what the current condition of your building may be. If you discover you need help at any stage of the restoration, you'll find additional resources at the bottom of each page. If you would rather speak to a Sto associate, call **877-712-6284** anytime!



*"You have to look at the realistic affordability of doing such a big job and then at the consequences of not doing it. If you keep patching, it never cures the problems."*

— **Parish Merriweather**, Past President of Lido Beach Towers Condominium Association



# The Four Levels of reStore

DON'T IGNORE IT. RESTORE IT.

Whatever condition your building exterior is in, reStore has a program to help you regain the value of your investment. Whether simple maintenance is needed to remove dirt and mildew, or a complete facade restoration, there is a reStore solution that provides the products and support you need.

## LV1 CLEAN & RECOAT



A surface-level solution to remove dirt, mold and mildew, while refreshing or updating the color of the facade.

## LV2 REPAIR & REFINISH



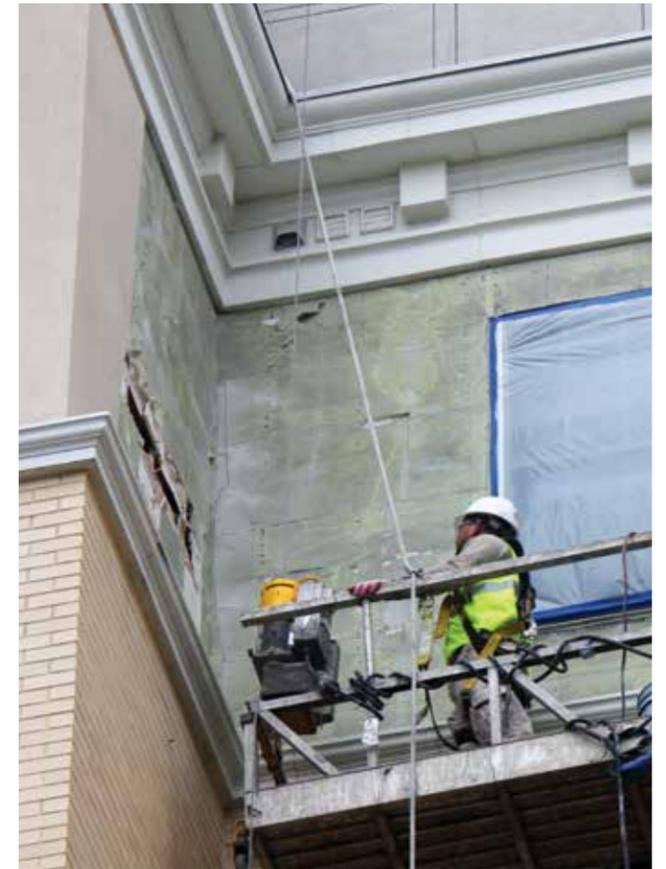
A proven solution designed to keep minor damage to EIFS, stucco, or concrete facades from becoming a major problem.

## LV3 OVERCLAD



A cost-effective solution to address moisture intrusion, energy waste, occupancy comfort and updating an older building's aesthetic appeal.

## LV4 REMOVE & RECLAD



A practical solution when a replacement facade is needed to reStore a building in severe distress and to cost effectively deal with all current building code requirements.

# Damage in Field of EIFS Wall

CONDITION



IMPACT DAMAGE

**When EIFS with standard mesh is punctured or cracked, the system is vulnerable to water intrusion.** If the EIFS is a barrier system, water penetration will not drain and may damage the substrate. The risk of water damage is reduced if the EIFS is a drained system in which the water-resistive barrier provides additional protection. However, either system should be repaired as soon as possible.

**A Level 2 project will repair the damage and restore the integrity of the water-shedding surface.** This repair can be made either as part of regular EIFS maintenance or as preparation for refinishing. The scope of work does not address water-related damage inbound of the EIFS.

**When the damaged EIFS is cut away for repair, the underlying substrate or water-resistive barrier can be examined.** If there is no evidence of water penetration or impact damage to these layers, the repair can proceed. If the repair is part of a complete refinish, an additional application of Sto base coat with Sto Armor Mat embedded will greatly increase impact protection.

**If there is water penetration into the wall assembly or structural impact damage,** a third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.



SOLUTION

# Damage in Field of EIFS Wall

LV2 reStore — DAMAGE REPAIR AND APPEARANCE RESTORATION



- 1 **Cut out** the damaged portion of the EIFS.
- 2 **Repair** the EIFS as per Sto Detail 74.06.
- 3 **Optional:** For added impact resistance, recoat the wall with Sto base coat and Sto Armor Mat. Allow to cure.
- 4 **Apply Sto base coat and mesh** to the prepared surface. Allow to cure.
- 5 **Apply tinted Sto primer** appropriate for the finish selected.
- 6 **Refinish the wall** with the specified Sto materials.

IMPORTANT: REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES	
RESOURCES	1. 72.02: Sto reStore – Resurfacing EIFS 2. 72.03: Sto reStore – Base coat and finish repair 3. 74.06: Sto reStore – Puncture or crack repair



# Damage to EIFS Corners

CONDITION



## IMPACT DAMAGE TO CORNERS

**Standard double-wrapped EIFS corners at grade are more vulnerable to damage and water intrusion than walls reinforced with high impact mesh.** In an EIFS barrier system, water penetration will not drain and may damage the substrate. The risk of water damage is reduced if the EIFS is a drained system. However, with either system the corner should be repaired as soon as possible.

**A Level 2 project will repair the damage and restore the integrity of the water shedding surface.** The repair can be made either as part of regular EIFS maintenance or as preparation for recoating. The scope of work does not address water-related damage inbound of the EIFS.

**With the damaged EIFS corner is cut away, the underlying substrate or water-resistive barrier can be examined.** If there is no evidence of water penetration or impact damage to these layers, the repair can proceed. If the repair is part of a complete recoat, an additional application of Sto base coat with Sto Armor Mat embedded will greatly increase impact protection.

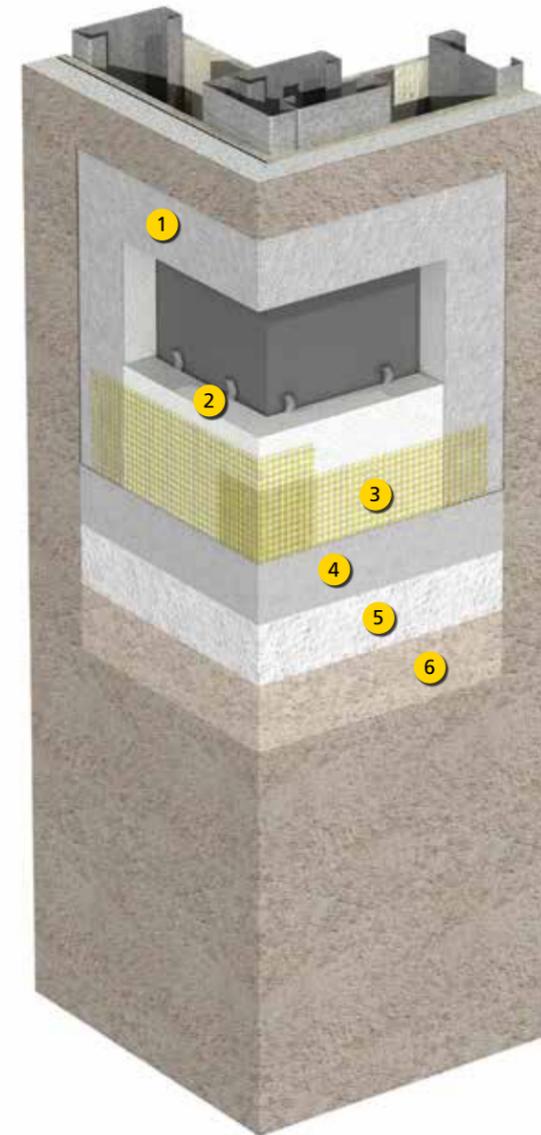
**If water penetration into the wall assembly or structural impact damage are present,** a third-party envelope professional should be retained to evaluate conditions and make recommendations.



SOLUTION

# Damage to EIFS Corners

## LV2 reStore — REPAIR AND RESTORATION OF CORNER



- 1 **Cut out** the damaged EIFS corner back to the substrate.
- 2 **Repair** the EIFS as per Sto Detail 74.08.
- 3 **Optional:** For added impact resistance, recoat the wall with Sto base coat and Sto Armor Mat Mesh. Allow to cure.
- 4 **Apply Sto base coat and mesh** to the prepared surface. Allow to cure.
- 5 **Apply tinted Sto primer** appropriate for the finish selected.
- 6 **Refinish the wall** with the specified Sto materials.

IMPORTANT : REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES	
RESOURCES	1. 72.02: Sto reStore – Resurfacing EIFS 2. 72.03: Sto reStore – Base coat and finish repair 3. 74.06: Sto reStore – Puncture or crack repair



# Separation Between Roof and EIFS CONDITION

INADEQUATE SEPARATION BETWEEN ROOFING AND EIFS

**Traditional EIFS detailing recommends that the system terminate 2" (50 mm) above finished roofing.** This clearance allows re-roofing to take place without damaging the EIFS. In addition, the clearance allows for leaves and other natural debris to be cleared by wind or regular maintenance, preventing moisture retention in the debris from staining and deteriorating the finish.

**As part of a Level 2 restoration, the EIFS will be modified in compliance with industry recommendations.** This repair may be undertaken as part of regular EIFS maintenance, as preparation for re-roofing, or as a restoration of the finish.

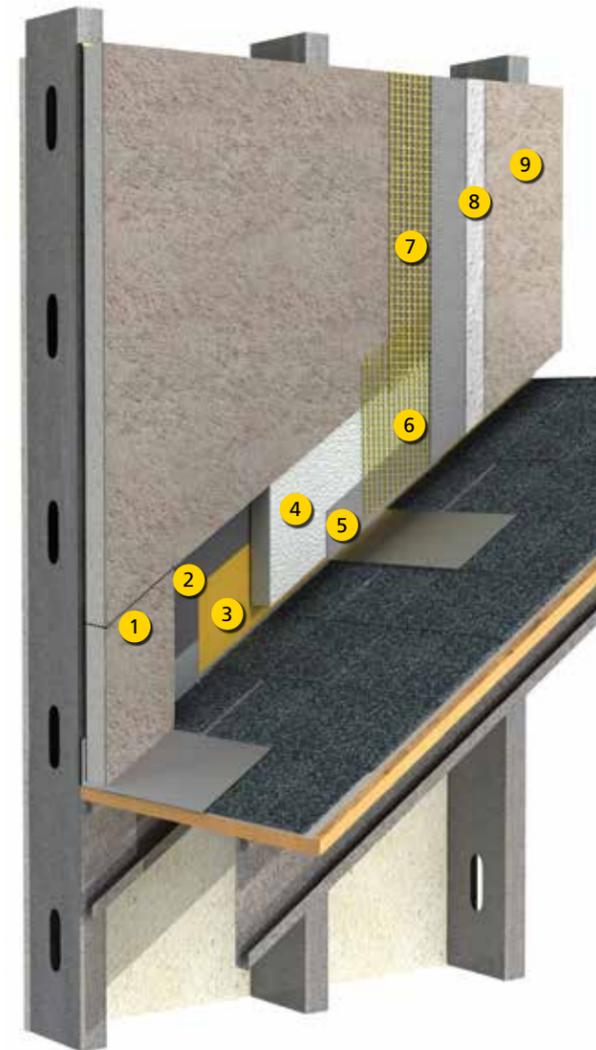
**The EIFS termination will be cut away and refinished with the required separation above the roofing.** The repairs may require incorporating the roof step flashing into the waterproof air barrier behind the EIFS. Modifications to the diverter flashing at the bottom of the slope may also be required.

**When the EIFS has been cut back, the substrate can be examined for signs of water penetration and damage.** If these are present, a third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.



# Separation Between Roof and EIFS SOLUTION

LV2 reStore — RESTORE SEPARATION AND REPAIR EIFS



- 1 Cut the EIFS back to the water-resistive barrier,** and to a height of 8" to 12" (200 to 300 mm) above the finished roof.
- 2 Remove old adhesive** from the substrate.
- 3 Integrate the water-resistive barrier** (or in the case of a barrier system, the substrate) with the roof step flashing by applying Sto RapidSeal to the WRB or substrate and lapping it onto the upturned edge of the flashing.
- 4 Cut insulation to fit the gap,** dimensioning it to leave 2" (50 mm) clearance above the roof following installation. Pre-wrap the bottom edge with Sto base coat and mesh.
- 5 Install the prewrapped insulation pieces** as per Sto specifications and details.
- 6 Apply Sto base coat and mesh** over the prewrapped insulation, lapping onto the old finish. Allow to cure.
- 7 Apply a second layer of Sto base coat and mesh** to the prepared surface. Allow to cure.
- 8 Apply tinted Sto primer** appropriate for the finish selected.
- 9 Refinish the wall** with the specified Sto materials.

<b>RESOURCES</b>	<b>IMPORTANT: REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES</b>
	<ol style="list-style-type: none"> <li>1. 72.02: Sto reStore – Resurfacing EIFS</li> <li>2. 72.05</li> </ol>



# Diverter Flashing Installed Incorrectly

CONDITION reStore

## MISSING OR INCORRECTLY INSTALLED DIVERTER FLASHING

A diverter or 'kick-out' flashing is the termination of the roof step flashings. If the diverter is missing, inadequate or installed incorrectly, there is a potential for water to drain off the roof into the cladding assembly below. Often, sealant is used as an inappropriate alternative to a diverter flashing.

Installing a diverter flashing adds an essential component to the water-shedding system at the roofline. If the repair is made in good time, i.e., before sealant fails, damage from water penetration into the wall can be avoided.

As part of a Level 2 restoration, installation of an appropriate diverter flashing will be required. The new flashing should be designed to accommodate the roof slope, the thickness of the insulation, and the volume of water shed from the roof. Ultimately, water diverted by the flashing should be collected in a gutter and drained away from the building. The EIFS will have to be reconfigured to fit around the diverter.

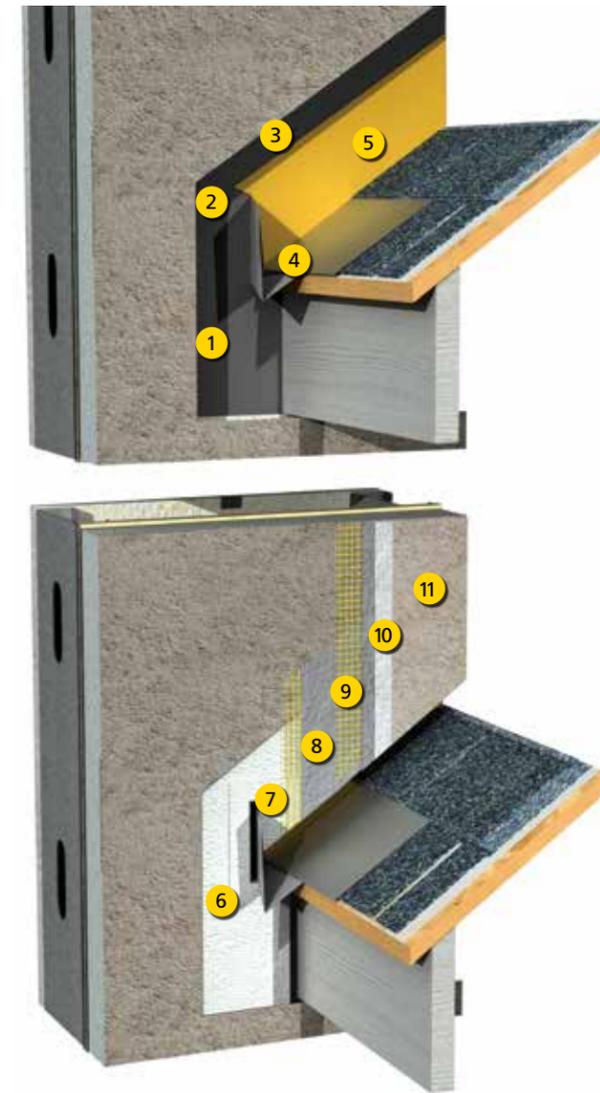
If there is any indication that water has penetrated into the wall assembly, a third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.



# Diverter Flashing Installed Incorrectly

reStore SOLUTION

## LV2 reStore — DIVERTER INSTALLED AND EIFS REPAIR



- 1 Remove EIFS approximately 12" (300 mm) all around the position where the new diverter will be installed.
- 2 Remove old adhesive from the substrate.
- 3 Repair any damage to the water-resistive barrier.
- 4 Slide the new diverter flashing under the step flashing and roof edge flashing.
- 5 Integrate the waterproof air barrier with the roof step and diverter flashings by applying Sto RapidSeal to the substrate and lapping it onto the upturned edge of the flashing.
- 6 Cut a piece of insulation to fit around the diverter. Pre-wrap the exposed edge with Sto base coat and mesh. Leave 1/2" (13 mm) gap outbound of the flashing for backer rod and sealant.
- 7 Install the prewrapped insulation and allow the adhesive to cure.
- 8 Apply Sto base coat and mesh over the prewrapped insulation, lapping them onto the old finish. Allow to cure.
- 9 Apply a second layer of Sto base coat and mesh to the prepared surface. Allow to cure.
- 10 Apply tinted Sto primer appropriate for the finish selected.
- 11 Refinish the wall with the specified Sto materials.

IMPORTANT: REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES	
RESOURCES	1. 72.02: Sto reStore – Resurfacing EIFS
	2. 72.05
	3. 52s.62: StoTherm® G – Diverter Flashing at Roof/Wall Abutment
	4. 53s.62



# Deck Connection Flashing Restored

CONDITION reStore

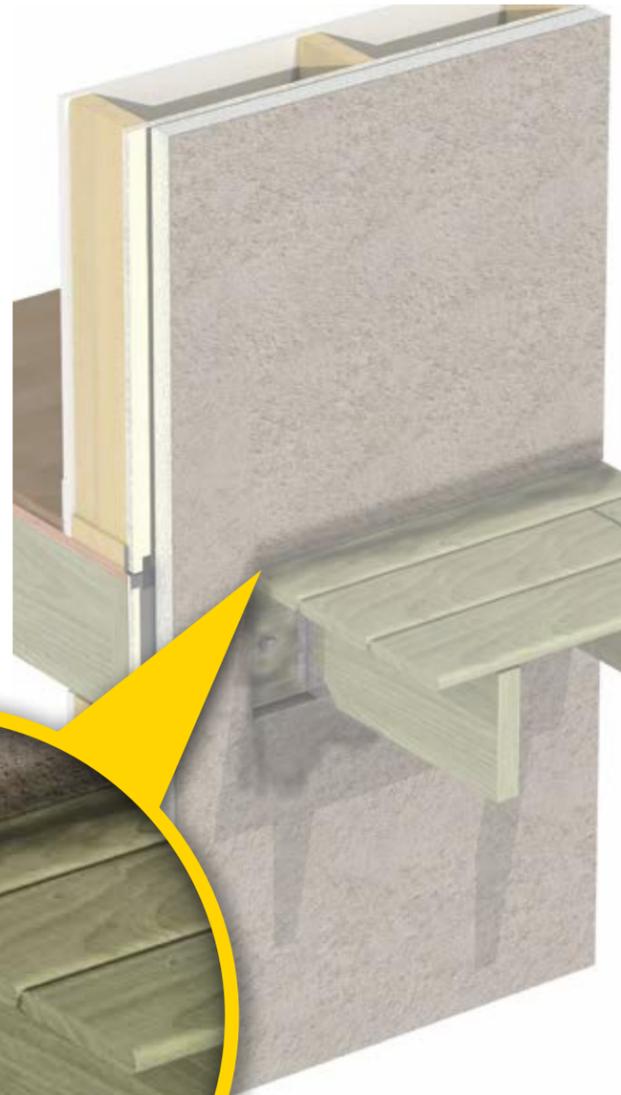
DECK ATTACHED WITHOUT FLASHING

**Wood decks installed directly against a house are extremely difficult to waterproof properly.** EIFS installed down to the deck surface may restrict ventilation and drying at the deck connection. Water accumulation in the area of the connection can result in deterioration of the deck and potential penetration into the house framing.

**A Level 2 restoration is limited to repairing the EIFS around the deck and recoating the wall.** Structural work to the deck or connections to the house are outside the scope of the EIFS restoration but should be coordinated as required with the EIFS work.

**The solution involves cutting the EIFS away from the deck and installing flashing to direct water away from structural connections.** This may require deck modifications to properly waterproof and flash the connection to the house.

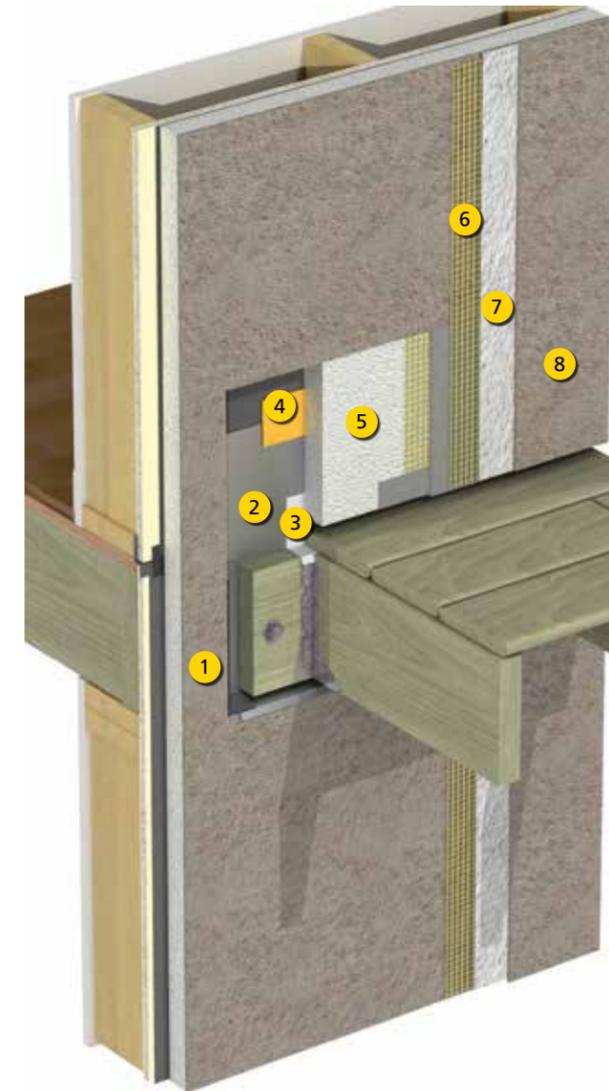
**If water has penetrated the building structure, deterioration may have resulted.** If there is indication of water penetration and damage to sheathing or house framing, a third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.



reStore SOLUTION

# Deck Connection Flashing Restored

LV2 reStore — FLASHING INSTALLED AND EIFS REPAIR



- 1 **Cut back** the EIFS far enough from the deck to accommodate installation of flashing and repair of the EIFS.
- 2 **Integrate the installation** of flashing with any required deck remediation.
- 3 **Install flashing** to protect the substrate and direct water away from the deck connection.
- 4 **Integrate the flashing** with the StoGuard air and moisture barrier.
- 5 **Repair** the EIFS terminations as per Sto Detail 72.50.
- 6 **Apply Sto base coat and mesh** to the prepared surface. Allow to cure.
- 7 **Apply tinted Sto primer** appropriate for the finish selected.
- 8 **Refinish the wall** with the specified Sto materials..

IMPORTANT : REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES	
RESOURCES	1. 2.32: StoTherm® ci – Deck Connection over Wood Frame
	2. 2.50: StoTherm® ci – Floor Line Joint over Wood Frame
	3. 72.02: Sto reStore – Resurfacing EIFS
	4. 72.05
	5. 74.28: Sto reStore – Adding an Opening



# Repair of EIFS Parapet Cap

CONDITION



DAMAGED PARAPET CAP

**EIFS parapet caps were popular design features when EIFS were introduced.** The sharp top edge is subject to physical damage, and the sloped surface endures more weathering than the vertical walls, increasing maintenance requirements. If this is a barrier installation, damage to the EIFS lamina could result in water penetration from the outside and increased air leakage from the interior. All damage to the cap should be repaired as soon as possible.

**A Level 2 project will repair the damage and restore the integrity of the water-shedding surface.** The repair can be made as part of either a Level 2 restoration or an integrated parapet cap replacement. The scope of work does not address water-related damage inbound of the EIFS nor does it include repairs to the roof or the roof membrane counter-flashing.

**There are two potential solutions for the parapet repair.** The preferred, long-term solution will involve replacement of the parapet cap with an airtight, waterproof membrane and metal cap flashing. The alternative is to restore the existing EIFS parapet cap with layers of water-resistant coatings that will minimize water penetration, improve durability and reduce maintenance.

**A parapet cap restored to its original appearance will require additional long-term maintenance.** Replacing the EIFS cap with a metal cap flashing will increase protection from physical damage, and reduce maintenance by deflecting water away from the wall surface. If evidence of water penetration is present or the repair is complicated by the roofing interface, a third-party envelope professional should be retained to evaluate conditions and make recommendations.



SOLUTION

# Repair of EIFS Parapet Cap

LV2 reStore — REPLACED OR RESTORED PARAPET CAP



## PARAPET CAP REPLACEMENT

- 1 **Remove the EIFS parapet cap and cladding** to a level 8" to 12" (200 to 300 mm) below the top edges of the substrate.
- 2 **Remove old adhesive** from the substrate.
- 3 **Wrap the substrate cap** with an airtight, water-resistant barrier.
- 4 **On both sides of the parapet, install insulation**, either prewrapped or backwrapped aligned with the substrate top edges.
- 5 **Apply a layer of base coat and mesh** over the wrapped insulation, lapping onto the old finish. Allow to cure.
- 6 **Prime the base coat** with a tinted Sto primer appropriate for the finish coat specified.
- 7 **Install the support or blocking** for the new parapet cap flashing.
- 8 **Wrap the cap support or blocking with Sto Transition membrane.** Lap onto the primed base coat on the front and back of the parapet.
- 9 **Refinish the wall** with the specified Sto materials.
- 10 **Install cap flashing**, overlapping the EIFS face a minimum of 2.5" (65 mm). Flashing functions best with a 3/4" (20 mm) or greater drip edge.

## EIFS PARAPET CAP RESTORATION

- 1 **Clean and repair** existing parapet cap following Sto's maintenance instructions.
  - 2 **Apply a layer of Sto Flexyl and mesh** to the exposed surface, lapping onto the vertical wall surfaces 3" to 6" (75 to 150 mm). Allow to cure.
  - 3 **Apply tinted Sto primer** appropriate for the finish selected.
  - 4 **Apply Stolit Freeform** to the primed sloped surface and trowel to a smooth finish. Protect from the elements until dry.
- Integrate the parapet cap repairs** with the restoration of the EIFS finish below the parapet.
- 5 **Coat the Stolit Freeform** with StoColor Acryl Plus.

## RESOURCES

1. 72.10.00: reStore Stucco – Clean and Recoat (cracks ≤ 1/32-in. (1 m))
2. 72.20.81: reStore Stucco – Repair of Stucco Parapets and Un-capped Walls

**IMPORTANT: REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES**



# Horizontal Reglets

CONDITION



## DETERIORATED STUCCO AT HORIZONTAL REGLET INTERFACE

**Metal one-piece reglets, designed to be decorative elements, have no movement capability and cannot be used as stress relief joints in stucco.** If used for this function, cracking will occur at the stucco/reglet interface. In addition, these metals (anodized aluminum or galvanized steel) are vulnerable to corrosion, especially in coastal environments, if the protective coating is damaged.

**The purpose of this repair, as part of a Level 2 restoration, is to protect the stucco around the reglets from further deterioration.** There should be no sign of water penetration into the cladding assembly. Deterioration of the reglets should be cosmetic only (i.e., surface corrosion or discoloration, but no cracking or splitting).

**A foam build-out overclad will avoid removal and replacement of the horizontal reglet while extending the life cycle of the stucco cladding assembly.** Repair should be undertaken in conjunction with the Level 2 restoration of the stucco wall to ensure protection of the water-shedding surface. If both horizontal and vertical one-piece reglets were utilized then a Level 3 overclad is recommended.

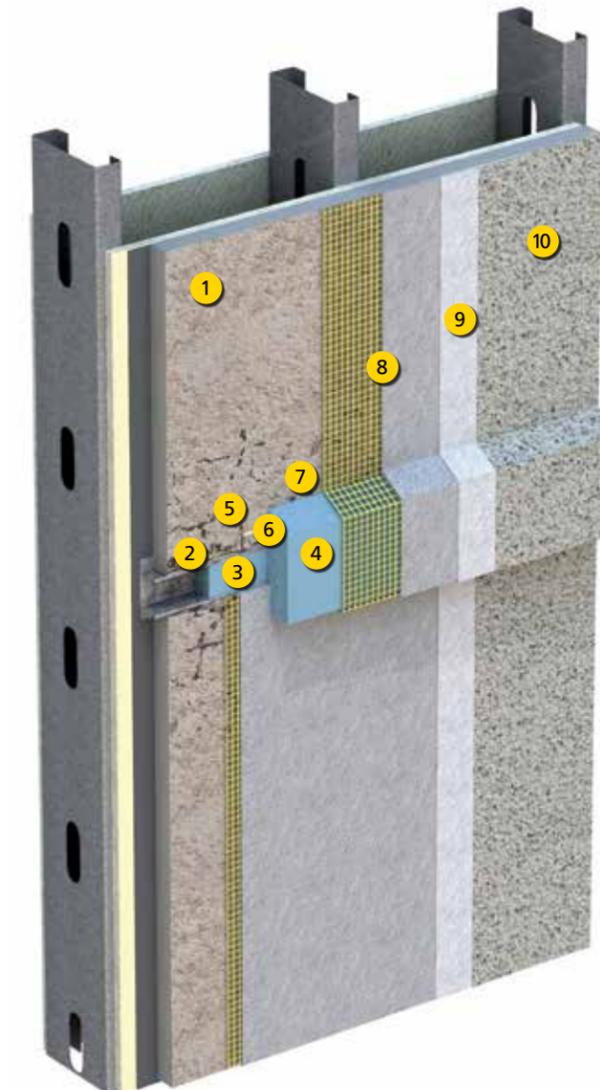
**If there are indications of water intrusion, removing the reglet and replacing it with a functional joint may be necessary.** A third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.



SOLUTION

# Horizontal Reglets

## LV2 reStore — FOAM BUILD-OUT OVERCLAD



- 1 **Clean entire stucco surface** to remove all contaminants and loose materials.
- 2 **Seal stucco cracks** along the reglet with an acrylic sealant.
- 3 **Install a tightly fitting foam insert** into the reglet cavity so that it fits flush with the existing surface.
- 4 **Prepare a protective build-out** as per Sto Detail 72.20.71 to be installed over the reglet.
- 5 **Mark horizontal lines** on either side of the reglet to define the outer edge of the foam build-out.
- 6 **Apply primer and sealant** inside the marked horizontal lines, following sealant manufacturer's instructions.
- 7 **Press the new joint cover batten into the sealant.** Tool any excess sealant to provide a neat seal at the foam build-out/wall surface interface. Control the amount of sealant so the stucco can still move at the joint under the foam build-out.
- 8 **Apply Sto base coat and mesh** to the prepared surface, overlapping the new foam build-out. Allow to cure.
- 9 **Apply tinted Sto primer** appropriate for the finish selected.
- 10 **Refinish the wall** with the specified Sto materials.

IMPORTANT : REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES	
RESOURCES	1. 72.02: Sto reStore – Resurfacing EIFS
	2. 72.05
	3. 72.20.70: reStore Stucco – Adding foam Architectural Shapes
	4. 72.20.71: reStore Stucco – Horizontal Reglet Repair
	5. 72.20.72: reStore Stucco – Vertical Reglet Repair
	6. 53s.04: StoTherm® ci XPS – Aesthetic Feature Band
	7. ASTM C 926: Standard Specification for Application of Portland Cement-Based Plaster
	8. ASTM C 1063: Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster



# Vertical Reglets

CONDITION



SOLUTION

# Vertical Reglets

DETERIORATED STUCCO AT REGLET INTERFACE

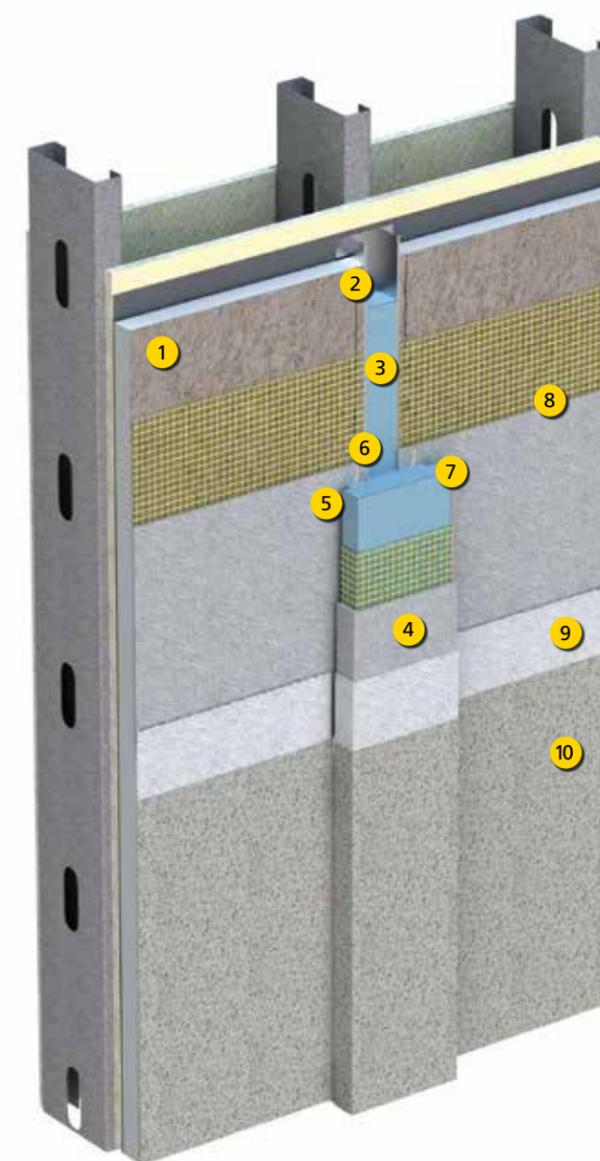
LV2 reStore — FOAM BUILD-OUT OVERCLAD

**Metal one-piece reglets, designed to be decorative elements, have no movement capability and cannot be used as stress relief joints in stucco.** If used for this function, cracking will occur at the stucco/reglet interface. In addition, these metals (anodized aluminum or galvanized steel) are vulnerable to corrosion, especially in coastal environments, if the protective coating is damaged.

**The purpose of this repair, as part of a Level 2 restoration, is to protect the stucco around the reglets from further deterioration.** There should be no indication of water penetration into the cladding assembly. Deterioration of the reglets should be cosmetic only (i.e., surface corrosion or discoloration without evidence of cracking or splitting).

**A foam build-out overclad will avoid removal and replacement of the vertical reglet while extending the life cycle of the stucco cladding assembly.** Repair should be undertaken in conjunction with the Level 2 restoration of the stucco wall to ensure protection of the water-shedding surface. If both horizontal and vertical one-piece reglets were utilized then a Level 3 overclad is recommended.

**If there are indications of water intrusion, removing the reglet and replacing it with a functional joint may be necessary.** A third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.



- 1 **Clean entire stucco surface** to remove all contaminants and loose materials.
- 2 **Seal stucco cracks** along the reglet with an acrylic sealant.
- 3 **Install a tightly fitting foam insert** into the cavity of the reglet so that it fits flush with the existing surface.
- 4 **Prepare a protective foam build-out** as per Sto Detail 72.20.72 to be installed over the reglet.
- 5 **Mark vertical lines** on either side of the reglet to define the outer edge of the foam build-out.
- 6 **Apply primer and sealant inside** the marked horizontal lines, following sealant manufacturer's instructions.
- 7 **Press the new joint cover foam build out into the sealant.** Tool any excess to provide a neat seal at the foam build-out/wall surface interface. Control the amount of sealant so the stucco can still move at the joint under the foam build-out.
- 8 **Apply Sto base coat and mesh** to the prepared surface, overlapping the new foam build-out.
- 9 **Apply tinted Sto primer** appropriate for the finish selected.
- 10 **Refinish the wall** with the specified Sto materials.

**NOTE:** Where both vertical and horizontal reglets are being covered, a Level 3 Sto ci overclad is recommended.

IMPORTANT : REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES	
RESOURCES	1. 72.02: Sto reStore – Resurfacing EIFS
	2. 72.05
	3. 72.20.70: reStore Stucco – Adding foam Architectural Shapes
	4. 72.20.71: reStore Stucco – Horizontal Reglet Repair
	5. 72.20.72: reStore Stucco – Vertical Reglet Repair
	6. 53s.04: StoTherm® ci XPS – Aesthetic Feature Band
	7. ASTM C 926: Standard Specification for Application of Portland Cement-Based Plaster
	8. ASTM C 1063: Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster



# Horizontal and Vertical Reglets

CONDITION



DETERIORATED STUCCO AT REGLET INTERFACE

**Metal one-piece reglets, designed to be decorative elements, have no movement capability and cannot be used as stress relief joints in stucco.** If used for this function, cracking will occur at the stucco/reglet interface. In addition, these metals (anodized aluminum or galvanized steel) are vulnerable to corrosion, especially in coastal environments, if the protective coating is damaged.

**The purpose of this repair, as part of a Level 3 restoration, is to protect the stucco from further deterioration around the reglets.** This repair is indicated where deterioration of the reglets is cosmetic only (i.e., surface corrosion or discoloration without evidence of cracking or splitting), and there is no indication of water penetration into the cladding assembly.

**A StoTherm ci overclad will avoid removal and replacement of the reglet while extending the life cycle of the cladding assembly.** StoTherm ci will also enhance the wall's thermal control by reducing thermal bridging and air leakage. The repair must link to the corresponding protection planes of adjacent enclosure assemblies.

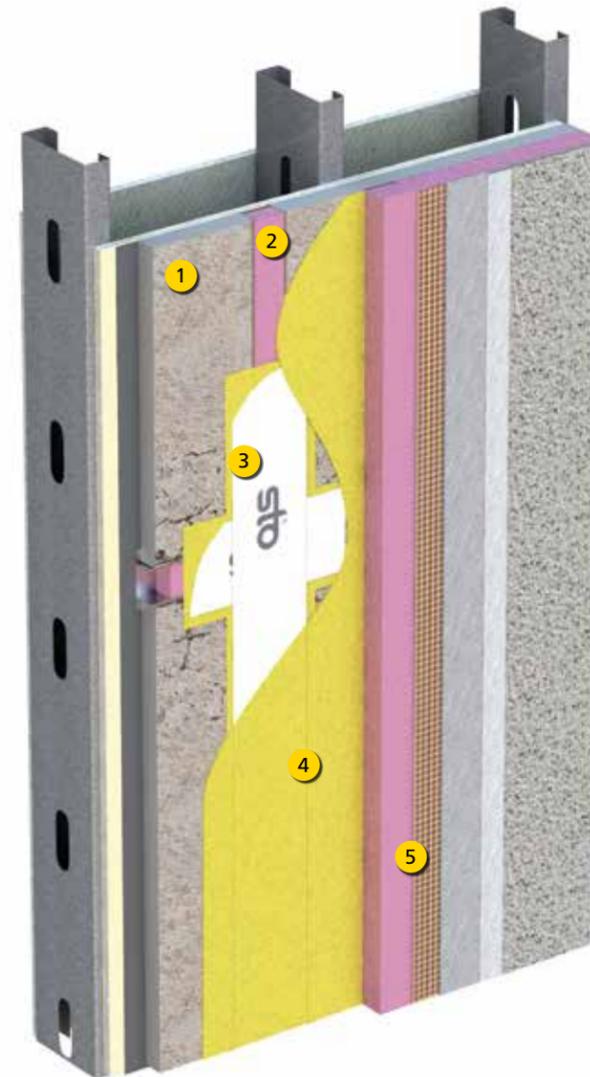
**If there are indications of water intrusion, a more comprehensive restoration may be necessary.** A third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.



SOLUTION

# Horizontal and Vertical Reglets

LV3 reStore — STOTHERM CI OVERCLAD



- 1 **Clean entire stucco surface** to remove all contaminants and loose materials.
- 2 **Install a tightly fitting foam insert** into the cavity of the reglet so that it fits flush with the existing surface.
- 3 **Install Sto barrier membrane** over the reglets as per Sto specifications and details.
- 4 **Apply StoGuard® air and moisture barrier system** over the stucco surface.
- 5 **Install StoTherm ci** over the wall surface with the specified Sto decorative finish.



IMPORTANT : REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES	
RESOURCES	1. 72.20.71: reStore Stucco – Horizontal Reglet Repair
	2. 72.20.72: reStore Stucco – Vertical Reglet Repair
	3. 21.00a: StoGuard® Waterproof Air Barrier Masonry Construction Components and Surface Preparation: Option 1
	4. 21.00b: StoGuard® Waterproof Air Barrier Masonry Construction Components and Surface Preparation: Option 2
	5. 21.00e: StoGuard® Waterproof Air Barrier Masonry Construction – Continuous Insulation
	6. ASTM C 926: Standard Specification for Application of Portland Cement-Based Plaster
	7. ASTM C 1063: Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster

# Rejuvenating Commercial Facilities

CONDITION



DETERIORATED APPEARANCE OF THE WALL

28

**A building facade sustains normal wear and tear over time.** A regular program of cleaning and repair will refresh the building's appearance and prevent potential problems from developing. In a commercial property, signage and branding may benefit from an update to keep pace with market trends.

**A Level 2 restoration is indicated when the water-shedding surface is basically sound.** Surface cracking and dirt accumulation have not affected the performance of the cladding. Joints are tight. Walls have been properly repaired after changes in signage.

**Surface repairs and recoating will extend the life cycle of the wall.** Adding three-dimensional profiles and a recoat that showcases fresh colors and finishes will significantly update the building's appearance.

**Updating or removal of signage and other changes that affect integrity of the stucco can result in damage to the wall's inner planes of protection.** If there are signs of water penetration or deterioration behind the stucco, repairs to the substrate may be required before proceeding. A third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.

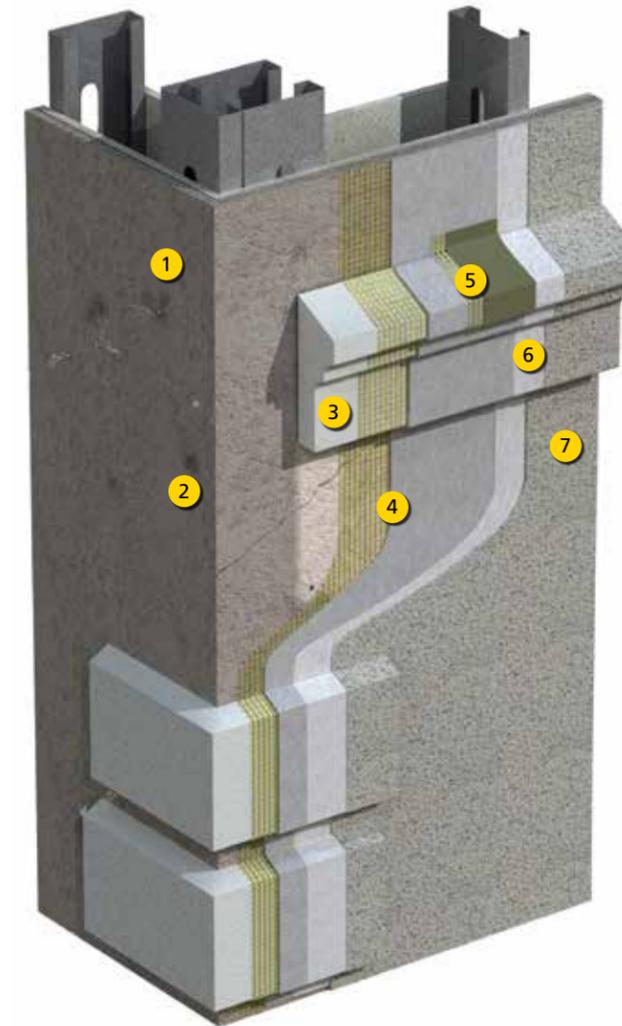


SOLUTION

# Rejuvenating Commercial Facilities

LV2 reStore — MAINTENANCE AND AESTHETIC UPGRADE

29



**1 Clean the surface**, remove damaged or loose finish, repair cracks and damage as per Sto Maintenance Guide.

**2 Fill old sign holes** with low expansion foam. When cured, trim flush.

**3 Bond foam profiles** to the prepared surface with Sto adhesive. Slope horizontal surfaces a minimum of 1:2 (27°) to drain water and dirt. In climates where snow and ice may accumulate, increase slope to 1:1 (45°).

**4 Apply Sto base coat and mesh** to the prepared surface and foam profiles. Allow to cure.

**5 Apply a layer of Sto Flexyl and mesh** to the exposed upper surface of the profiles, lapping a minimum of 2.5" (65 mm) onto the vertical wall surface. Feather the Flexyl edges.

**6 Apply tinted Sto primer** appropriate for the finish selected.

**7 Refinish the wall** with the specified Sto materials.

**NOTE:** New signage and electrical penetrations must be roughed in and weather-sealed prior to the resurfacing of the wall. Coordinate sequence of installation with other trades.

IMPORTANT : REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES	
RESOURCES	1. 4.70: StoPowerwall® - Buildouts
	2. 72.02: Sto reStore – Resurfacing EIFS
	3. 74.03a: Sto reStore – Cracks in reveals - hairline
	4. 72.20.70: reStore Stucco – Adding foam Architectural Shapes



# Corner Repair

CONDITION



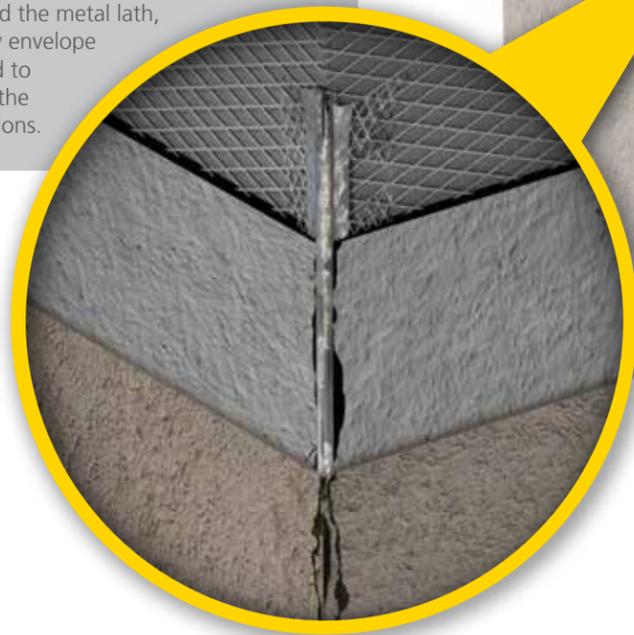
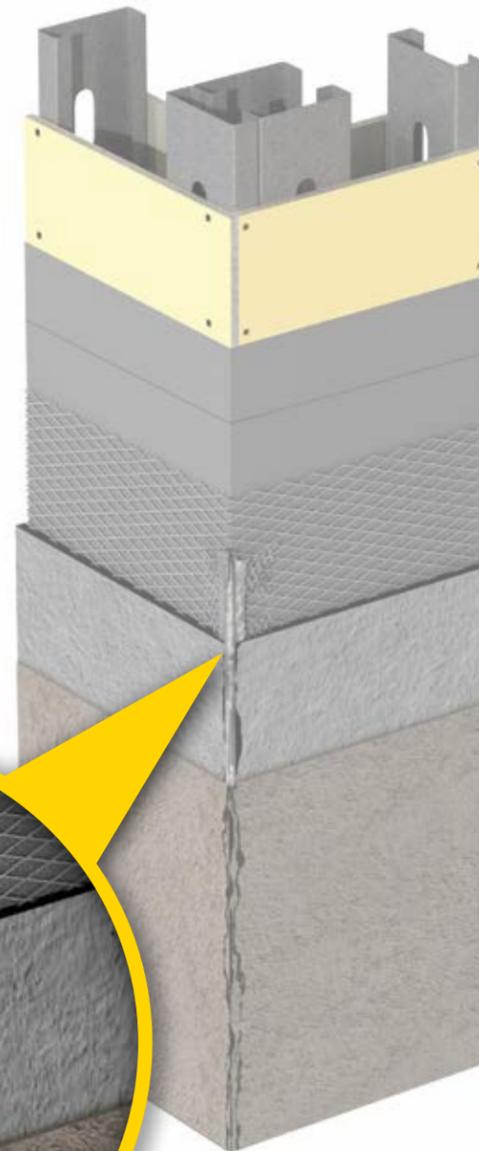
DETERIORATION OF CORNER

**Impact damage to stucco and corner beads is normal in high traffic areas.** Once exposed to the environment, the steel bead is vulnerable to corrosion, especially in a salty coastal climate. The bead will corrode more rapidly if its galvanized finish has been damaged during installation or service.

**A Level 2 restoration of the corner will repair the damage and prevent further deterioration.** This repair is normally undertaken either as part of regular stucco maintenance or as preparation for recoating. The scope of work does not address water-related damage inbound of the stucco.

**The damaged corner bead will require replacement. The bead must be removed without damage to underlying layers of lath and WRB.** The new overlaid of base coat, reinforcing mesh and finish will provide added protection to the replacement corner bead and improve the appearance of the cladding.

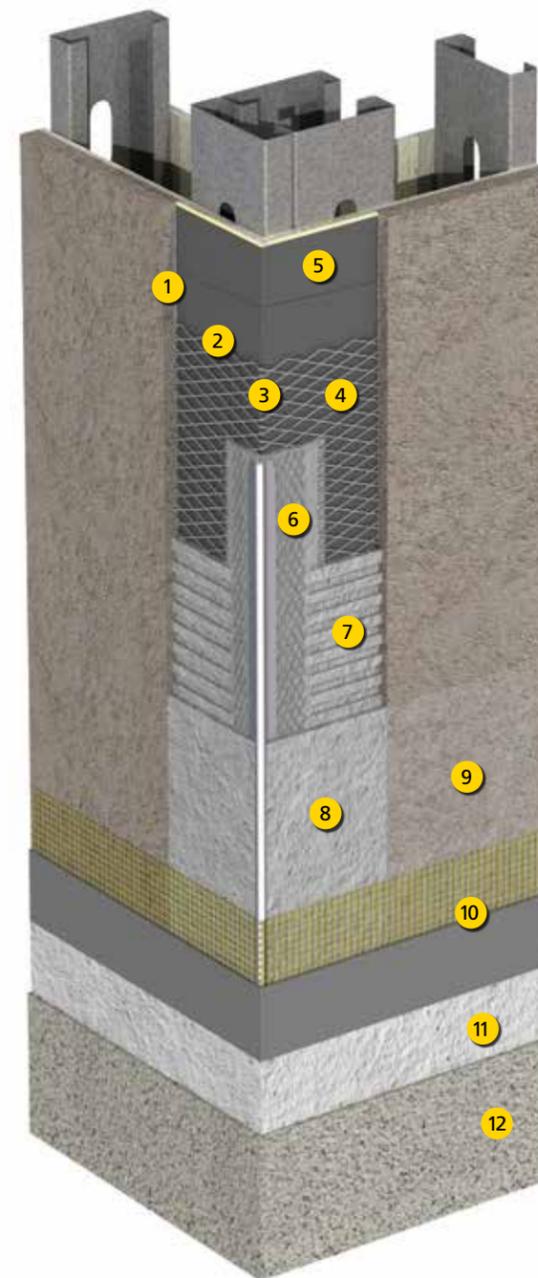
**Care should be taken to ensure that the layers inbound of the corner bead are sound.** If water penetration behind the stucco has damaged the metal lath, WRB or substrate, a third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.



SOLUTION

# Corner Repair

LV2 reStore — CORNER BEAD RESTORATION



- 1 **Cut the stucco back** to the lath approximately 6" (150 mm) on each side of the corner. Remove the stucco down to the lath.
- 2 **Carefully remove fasteners** or ties supporting the corner bead.
- 3 **Remove the damaged corner bead and the stucco** behind the bead, leaving the underlying lath exposed.
- 4 **Clean all loose materials** from the lath.
- 5 **Repair any holes** in the water-resistive barrier and sheathing.
- 6 **Apply fresh stucco** onto the corner and immediately embed the new corner bead. Fasten in accordance with ASTM C 1063. Allow to cure.
- 7 **Install a stucco scratch coat** to the lath, lapping onto the new corner bead. Allow to cure.
- 8 **Install stucco brown coat**, leveling the surface of the repair. Allow to cure.
- 9 **Clean and prepare the wall surface** for recoating as per Sto Maintenance Guide.
- 10 **Apply Sto base coat and mesh** to the prepared surface, wrapping over the new corner. Allow to cure.
- 11 **Apply tinted Sto primer** appropriate for the finish selected.
- 12 **Refinish the wall** with the specified Sto materials.

RESOURCES

1. 72.10.00: reStore Stucco – Clean and Recoat (cracks ≤ 1/32-in. (1 m))
2. 72.20.20: reStore Stucco – Corner Bead Repair

**IMPORTANT: REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES**



# Stucco on Frame Wall at Grade

CONDITION



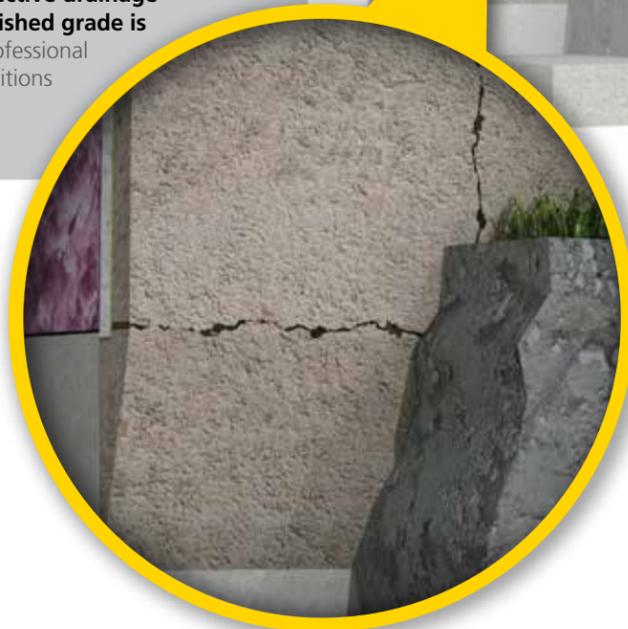
INCORRECT STUCCO TERMINATION BELOW FINISHED GRADE

**Code requires stucco to be flashed and drained near the top of the foundation, with finished grade terminating below.** Stucco that laps onto a foundation wall cannot be properly flashed and drained. In addition, differential movement between the structural frame and the foundation will cause cracks in the stucco through which water may penetrate. If landscaping was backfilled against the stucco, it will obscure the damage and may contribute to water entry.

**A minimum Level 2 restoration will bring the stucco termination into code compliance.** This repair requires that the stucco on the frame is in good condition with the exception of cracking at the foundation, and there is no evidence of water damage inbound of the stucco. Lowering the finished grade is mandated, and may require other trades to remove the soil to provide access for the stucco repair contractor.

**With landscaping removed, the stucco and sheathing can be cut away from the base of the wall and the stucco termination repositioned.** Repairs will use more damage-resistant materials and incorporate the required flashing. The repair will create a drainage path from behind the stucco and increase protection against water penetration.

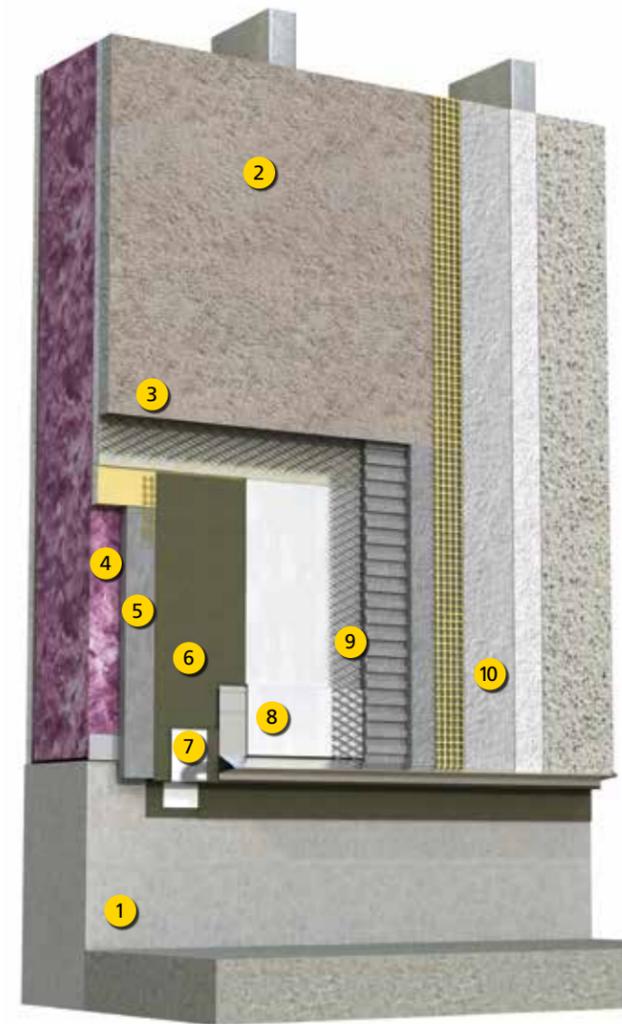
**If there is water damage inbound of the sheathing, or if it is not possible to maintain effective drainage away from the building after finished grade is lowered,** a third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.



SOLUTION

# Stucco on Frame Wall at Grade

LV2 reStore — STUCCO RESTORED ABOVE GRADE



- 1 **Clear away landscaping and soil** from the stucco and foundation.
- 2 **Remove loose finish and repair cracks** and surface damage as per Sto Repair and Maintenance Guide.
- 3 **At the foundation repair site, make a straight cut through stucco**, then lath, then WRB, leaving enough of each layer to tie in new materials.
- 4 **Cut away sheathing to expose studs and track**, leaving a strip between the WRB and the cut to allow for application of a new WRB. While the wall is open, inspect for damage.
- 5 **Install cement board**, covering the exposed studs and slightly overlapping the foundation.
- 6 **Coat the exposed sheathing**, cement board and foundation with Sto Flexyl waterproofing and mesh.
- 7 **Waterproof the sheathing-to-foundation interface** with StoGuard Transition Membrane, which accommodates the irregular interface of sheathing to foundation. Embed the StoGuard Transition Membrane in Sto Flexyl.
- 8 **Install flashing.** Follow with isolation sheet applied in shiplap manner between WRB and flashing.
- 9 **Install new lath.** Apply stucco scratch and brown coats.
- 10 **Refinish the wall** with the specified Sto materials.

IMPORTANT : REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES	
RESOURCES	1. 72.10.00: reStore Stucco – Clean and Recoat ( cracks ≤ 1/32-in. (1 m))
	2. 72.20.30: reStore Stucco – Through-Wall Flashing Repair/Installation



# Stucco on CMU Termination at Grade

CONDITION



STUCCO TERMINATION BELOW FINISHED GRADE

**Code requires stucco directly applied to masonry to be terminated above grade.** Without correct preparation, stucco that laps onto a foundation wall cannot be properly flashed, and differential movement between the masonry and foundation can cause cracking and potential water penetration. Landscaping, if backfilled against the foundation, will obscure the condition and may contribute to water entry.

**A minimum Level 2 restoration is necessary to place the stucco termination in code compliance.** This repair requires the stucco on the masonry to be in good condition with the exception of fine cracking at the foundation, and no evidence that might indicate the masonry has been damaged. Lowering the finished grade is mandated and may require other trades to remove the soil to provide access by the stucco repair contractor.

**With landscaping removed and the stucco termination cut away, the repair can be made as an integral part of refinishing the wall or as a stand-alone repair.** The new termination will include waterproofing layers and code-compliant flashing to direct water away from the wall. Keeping water away from the foundation is outside the scope of the repair, but will require regrading the landscape away from the building or adding drains.

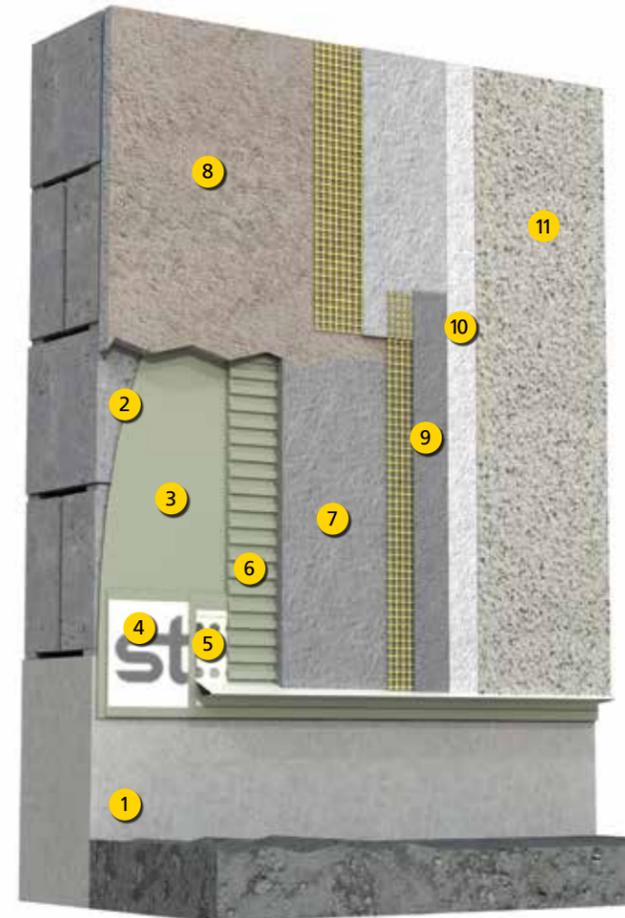
**If there is damage from water penetration inbound of the masonry, or if it not possible to maintain effective drainage away from the building after finished grade is lowered,** a third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.



SOLUTION

# Stucco on CMU Termination at Grade

LV2 reStore — FLASHING INSTALLATION AND IMPROVED WATER RESISTANCE



- 1 **Clear landscaping and soil** a minimum of 8" (200 mm) below the top of the foundation.
- 2 **Remove the stucco from the base of the wall** to a height of approximately 16" (400 mm) above the foundation. Remove all loose material and dust from the surface of the CMU and concrete foundation.
- 3 **Trowel a parge coat** of Sto ExtraSeal onto the exposed masonry and lapping onto the foundation.
- 4 **Embed Sto Transition Membrane** into the wet ExtraSeal at the transition between the wall and the foundation. Coat the membrane with ExtraSeal.
- 5 **Install stucco flashing** or weep screed at the new stucco termination.
- 6 **Apply a scratch coat** of Sto ExtraSeal over the parge coat and upturned leg of the flashing. Allow to cure.
- 7 **Level the repaired section of the wall** with a brown coat of stucco. Allow to cure.
- 8 **Clean the surface of the wall** above the repair area where new finish will be applied.
- 9 **Apply Sto base coat and mesh** to the prepared surface. Allow to cure.
- 10 **Apply tinted Sto primer** appropriate for the finish selected.
- 11 **Refinish the wall** with the specified Sto materials.

RESOURCES

1. 72.10.00: reStore Stucco – Clean and Recoat ( cracks ≤ 1/32-in. (1 m))
2. 72.20.30: reStore Stucco – Through-Wall Flashing Repair/Installation

**IMPORTANT : REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES**



# Concrete Parapet Cap

CONDITION



STAINING AT PARAPET CAP MORTAR JOINT

36

Masonry walls are often topped with concrete parapet caps, mortared together and secured by underlying pins. If the slope of the cap is inadequate, water will pool on top and collect dirt. At mortar joints, the low points along the cap, increased water flow can carry accumulated dirt down onto the wall surface. The cap overhang prevents dirt deposits from being washed away by rain.

A Level 2 restoration will increase protection for the wall and parapet. The cap will be modified to direct water away from the facade. This repair requires that the pins or attachment mechanisms for the parapet cap are sound. Accumulation of dirt on the facade is cosmetic only.

The slope of the cap can be modified so water drains towards the roof. Waterproof coatings, integrated with the new wall finish, will further improve the parapet's water resistance. Where specified, the inner face of the parapet wall may be refinished, integrating the waterproofing with roof membranes and flashings.

An escalation of the repair will be advisable if water penetration at the cap joints or through the parapet wall has led to deterioration of the cap connections. If the cap is loose or connections show signs of deterioration (e.g., spalling or rust staining), a third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.

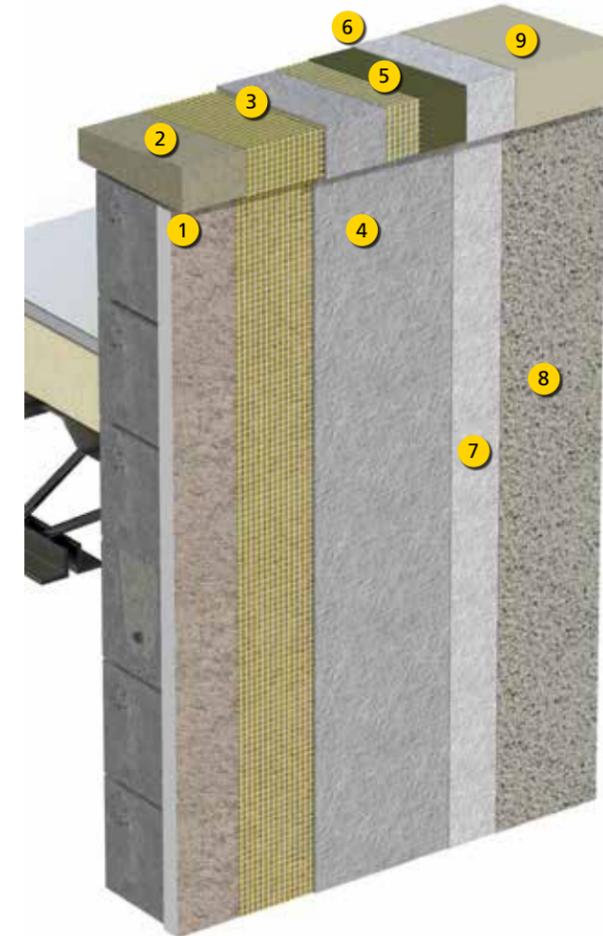


SOLUTION

# Concrete Parapet Cap

LV2 reStore — SEALING AND PROTECTING THE PARAPET CAP

37



- 1 Remove dirt accumulations on the parapet cap and on the face of the wall.
- 2 Clean and repair the cap mortar joints.
- 3 Using additional applications of Sto base coat, increase the slope of the parapet cap towards the roof.
- 4 Apply Sto base coat and mesh to the prepared surface, wrapping over the parapet cap and, ideally, terminating at the roof flashing. Allow to cure.
- 5 Install an application of Sto Flexyl and Sto Mesh over the recoated parapet cap.
- 6 Where specified, continue the Sto Flexyl to the back side of the masonry parapet and integrate with the roof membrane and flashing.
- 7 Apply tinted Sto primer appropriate for the finish selected.
- 8 Refinish the wall with the specified Sto materials.
- 9 Coat the parapet cap with two coats of StoColor Acryl Plus.

RESOURCES

1. 72.10.00: reStore Stucco – Clean and Recoat ( cracks ≤ 1/32-in. (1 m))
2. 72.20.80: reStore Stucco – Parapet Cap Repair

IMPORTANT: REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES



# Feature Profile

CONDITION



DECORATIVE PROFILE STAINED OR DAMAGED

38

**Profiles added to stucco walls often have flat horizontal ledges that collect dirt and retain snow and rainwater.**

The acrylic finish on this ledge will soften and deteriorate if it retains standing water. Where dirt accumulates on the ledge, water run-off will carry the dirt onto the profile and create streaks down the face of the wall.

**This project is part of a Level 1 aesthetic upgrade and restoration of the water-shedding surface of the wall.** No stucco modifications or replacement of profiles are planned. Only the water-shedding capability of the existing profile will be improved.

**The profile and wall will be cleaned and any loose finish removed prior to refinishing.** A simple foam wedge will be added to the top edge of the profile and incorporated into the new finish.

**If the profile is damaged or its bond to the stucco is compromised, the profile may require removal and replacement.** If the profile is large and unprotected, extending out from the stucco more than 4" (100 mm), a water-resistant base coat such as Sto Flexyl or a metal flashing may be required to improve long-term durability. Refer to Sto detail 72.20.73.



SOLUTION

# Feature Profile

LV2 reStore — PROFILE REPAIR AND WALL REFINISHING

39



- 1 **Clean the wall**, removing all dirt and loose material.
- 2 **Bond a foam wedge** to the top of the profile with Sto adhesive, increasing the slope to a minimum 1:2 (27°). In climates where snow and ice may accumulate, increase the slope to 1:1 (45°).
- 3 **Allow the adhesive to cure for 24 hours**, then rasp the foam wedge so that it is even with the face of the profile.
- 4 **Apply Sto base coat and mesh** to the prepared surface and foam profile. Allow to cure.
- 5 **Apply tinted Sto primer** appropriate for the finish selected..
- 6 **Refinish the wall** with the specified Sto materials.

RESOURCES

1. 72.10.00: reStore Stucco – Clean and Recoat ( cracks ≤ 1/32-in. (1 m))
2. 72.20.73: reStore Stucco – Projecting Feature – Flat Slope Repair

**IMPORTANT : REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES**



# Crack Through Stucco

CONDITION



STRAIGHT VERTICAL OR HORIZONTAL CRACKS

40

**A straight crack through stucco typically indicates stress relief.** Often the crack, whether vertical or horizontal, signals that a functional joint should have been installed at that location. If not repaired, the stucco will continue to deteriorate, creating an enlarged path for water intrusion.

**A Level 2 restoration is required to preserve the integrity of the water-shedding surface.** If the repair is made promptly, damage from water penetration will be minor, avoiding deterioration of the lath, mechanical connections or water-resistive barrier.

**It is likely that a functional joint will be required.** The joint, which will run the full height or width of the stucco panel, may be installed as a stand-alone repair or as part of a complete facade restoration.

**A more extensive problem exists if there is damage to the water-resistive barrier, or corrosion of the lath or mechanical connections.** If the damage has progressed beyond a Level 2 repair, a third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.

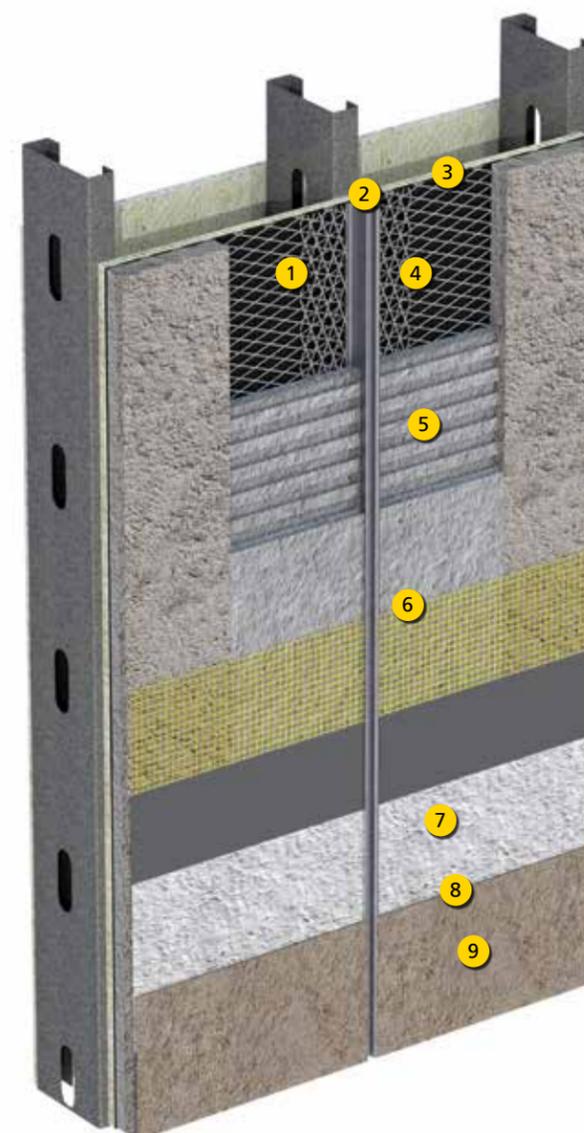


SOLUTION

# Crack Through Stucco

LV2 reStore — INSTALLATION OF EXPANSION JOINT IN EXISTING STUCCO

41



**1 Between horizontal joints,** remove stucco to a minimum width of 4" (100 mm) on each side of the crack, exposing the lath.

**2 Cut the lath vertically** where the new joint is to be installed.

**3 Repair any damage** to the water-resistive barrier that may have occurred during stucco removal and lath cutting.

**4 Tie in the new joint accessory** as per ASTM C1063. Set the joint terminations in sealant to prevent water penetration.

**5 Install stucco scratch and brown coats** flush with the existing stucco and the joint accessory, as per Sto installation instructions.

**6 Apply Sto base coat and mesh** to the prepared surface. Allow to cure.

**7 Apply tinted Sto primer** appropriate for the finish selected.

**8 If only the crack repair is being undertaken,** apply Sto base coat, mesh and matching finish between existing joints or architectural breaks.

**9 Refinish the wall** with the specified Sto materials.

RESOURCES

- 1. 72.10.00: reStore Stucco – Clean and Recoat ( cracks ≤ 1/32-in. (1 m))
- 2. 72.20.20: reStore Stucco – Corner Bead Repair

**IMPORTANT : REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES**



# Floor-Line Joints and Flashing

CONDITION



LACK OF FUNCTIONAL JOINT CAUSES DAMAGE

**Fully functional stucco joints are required at floor lines to accommodate structural movement.** If a shallow 'V' joint is used, floor line deflection can crush the joint, damaging the stucco. Moreover, without through-wall flashing, water penetration can drain only at the bottom of the wall.

**A Level 2 restoration will include replacing the damaged joint and stucco and installing flashing for drainage.** This level of repair is appropriate where the lath and water-resistive barrier are not damaged by water intrusion.

**An effective functional joint option is back-to-back casing beads with integrated flashing to direct water to the exterior.** The stucco and failed joint must be removed, and the lath cut for insertion of flashing behind the water-resistive barrier. The new joint can then be installed.

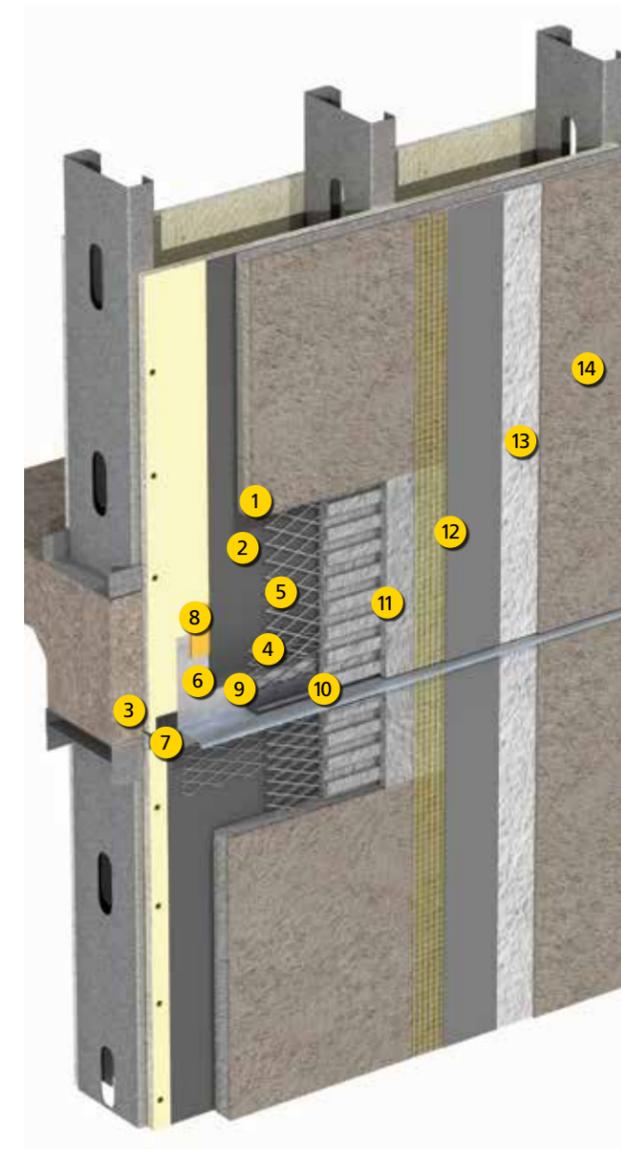
**If water has intruded behind the cladding, further evaluation is necessary to ensure that the lath and water-resistive barrier are not damaged.** If there is any evidence of water penetration behind the water-resistive barrier, a third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.



SOLUTION

# Floor-Line Joints and Flashing

LV2 reStore — ADDING A FUNCTIONAL JOINT AND FLASHING



- 1 **Cut the stucco** approximately 6" (150 mm) above and 4" (100 mm) below the joint. Do not cut the lath at these points.
- 2 **Remove the stucco** around the joint, leaving the lath intact.
- 3 **Remove** the shallow 'V' joint.
- 4 **Cut the lath** where the new stucco casing beads are to be installed.
- 5 **Remove any fasteners** securing the lath above the cut.
- 6 **Cut the water-resistive barrier** and remove any fasteners directly above the cut.
- 7 **Tape the cut edge** of the lower section of water-resistive barrier to the substrate.
- 8 **Hold the upper lath and water-resistive barrier** out from the wall and install a flashing against the substrate. Coat the top edge of the flashing with StoGuard RapidSeal.
- 9 **Reposition the lath and water-resistive barrier** over the upturned leg of the flashing in a shiplap manner.
- 10 **Install new stucco casing beads** above and below the flashing in accordance with ASTM C1063. Seal any holes with StoGuard RapidSeal.
- 11 **Install stucco scratch and brown coats** between the casing beads and cut edges of the stucco in accordance with Sto installation instructions.
- 12 **Apply Sto base coat and mesh** to the prepared surface. Allow to cure.
- 13 **Apply tinted Sto primer** appropriate for the finish selected.
- 14 **Refinish the wall** with the specified Sto materials.

IMPORTANT : REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES	
RESOURCES	1. 72.10.00: reStore Stucco – Clean and Recoat ( cracks ≤ 1/32-in. (1 m)) 2. 72.20.20: reStore Stucco – Corner Bead Repair 3. 72.20.30: reStore Stucco – Through-Wall Flashing Repair/Installation



# Refinishing with StoCreativ® Brick

CONDITION



DETERIORATED APPEARANCE OF STUCCO WALL SURFACE

Surface deterioration, patches and superficial cracking can give a dull or shabby look to a sound stucco wall. In a commercial property, surface repairs and an updated finish, in combination with regular maintenance, will improve the curb appeal of the building.

A Level 2 restoration is indicated when the water-shedding surface is basically sound. Surface cracking and minor repairs have not affected the performance of the cladding and the stucco wainscot is undamaged.

Recoating and adding a new finish will extend the life cycle of the cladding. A Sto Creativ Brick finish applied below the feature band and a new color above will deliver a cost-effective way of achieving a contemporary look.

Delayed maintenance can result in deterioration of the stucco's integrity and damage to the inner layers of protection of the wall. If there are signs of water penetration or deterioration behind the stucco, repairs to the substrate may be required before proceeding. A third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.



SOLUTION

# Refinishing with StoCreativ® Brick

LV2 reStore — REJUVENATION WITH STO CREATIV BRICK



- 1 **Repair cracks and damage** as per Sto Maintenance Guide. Clean the surface and remove loose or damaged finish.
- 2 **In the area above the wainscot**, prime the wall with Sto Primer tinted appropriately for the new finish color.
- 3 **Recoat the selected area** with StoColor Lotusan or StoColor Acryl Plus.
- 4 **Protect the exposed surface** of the wainscot with StoColor Acryl Plus.
- 5 **Apply Sto base coat and mesh** to the prepared surface below the wainscot. Allow to cure.
- 6 **Apply StoPrime UV tinted** to match the selected mortar color.
- 7 **Position the brick** template on the StoPrime UV.
- 8 **Trowel on the selected** Sto Creativ Brick finish and texture to match appearance desired.
- 9 **Remove** the brick template.
- 10 **Tint the finish** to match the selected color and appearance using StoTique.

RESOURCES

1. 72.10.00: reStore Stucco – Clean and Recoat ( cracks ≤ 1/32-in. (1 m))
2. 72. 20.73: reStore Stucco – Projecting Feature – Flat Slope Repair
3. [Add URL to Sto videos showing techniques.](#)

**IMPORTANT : REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES**



# Stucco Parapet Cap

CONDITION



CRACKED AND DETERIORATED CAP OVER MASONRY WALL

**In hot, dry climates, rounded 'adobe style' parapets are popular but require additional maintenance.** The exposed horizontal surfaces withstand greater than normal solar radiation and heat build-up, conditions that are hard on acrylic coatings. Cracks can result from differential movement between the masonry and the stucco 'cap' rounding the top of the wall.

**A Level 1 repair should be undertaken with special attention to the horizontal parapet top.** Deterioration of the coating, dirt accumulation and cracking are generally cosmetic conditions that require standard maintenance.

**The curvature of the parapet cap is easily modified with additional stucco so water and dirt will drain towards the roof and away from the visible wall.** Layers of water-resistant coatings (e.g., Sto Flexyl, StoColor Acryl Plus) will minimize water penetration, improve durability and reduce maintenance.

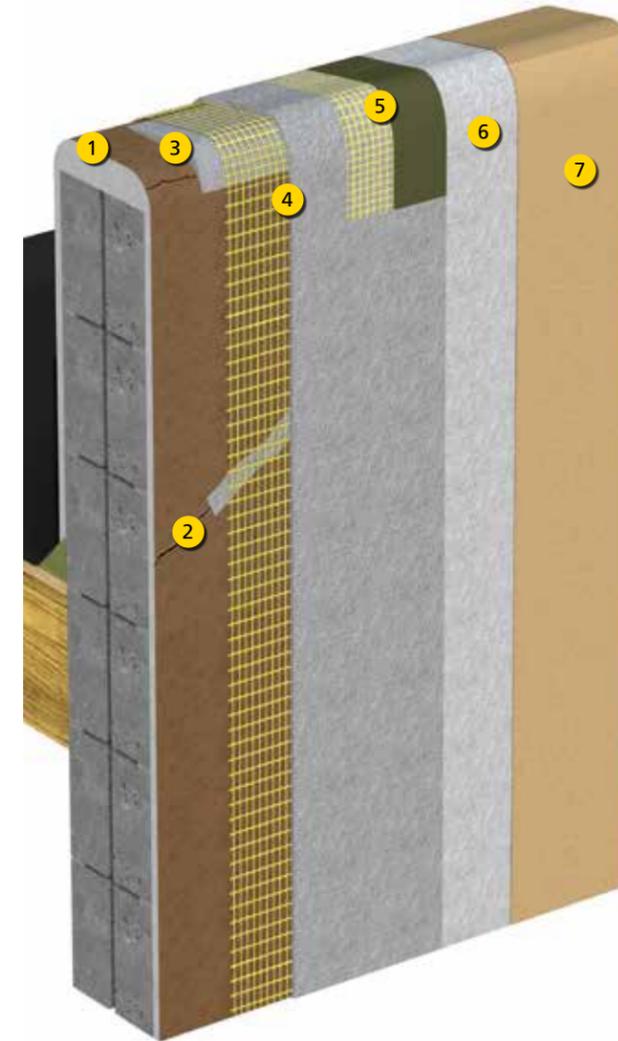
**This type of parapet cover should only be used in hot, dry climates and only under advisement.** For long-term durability and performance, a metal cap flashing is the preferred solution. Walls should be refinished with vapor-permeable materials. It is essential that stucco and masonry be dry before refinishing.



SOLUTION

# Stucco Parapet Cap

LV2 reStore — IMPROVED WATER RESISTANCE AND DURABILITY



- 1 **Remove all loose material and finish** from the top of the parapet. Clean the wall as per Sto's instructions.
- 2 **Repair** cracks.
- 3 **Direct drainage toward the roof** by modifying the slope of the cap, using additional stucco.
- 4 **Apply Sto base coat and mesh** to the prepared surface and over the modified parapet. Allow to cure.
- 5 **Install Sto Flexyl and mesh** over the parapet cap and down 6" (150 mm) on each face of the wall, feathering out the edges. Allow to cure.
- 6 **Apply tinted Sto primer** appropriate for the finish selected.
- 7 **Refinish the wall** with the specified Sto materials.
- 8 **For increased durability**, apply two coats of StoColor Acryl Plus to the exposed top surface of the parapet.

RESOURCES

1. 72.10.00: reStore Stucco – Clean and Recoat ( cracks ≤ 1/32-in. (1 m))
2. 72.20.81: reStore Stucco – Repair of Stucco Parapets and Un-capped Walls

**IMPORTANT : REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES**



# Deteriorated Precast Concrete

CONDITION



DETERIORATED APPEARANCE FOLLOWING REPAIR

**Even a concrete facade will show the effects of wear and tear over time.** Architectural finishes may deteriorate and minor repairs will contribute to an unsatisfactory appearance. In a commercial property, updating the appearance of the wall will improve curb appeal while extending the life cycle.

**A Level 2 restoration is indicated when the water-shedding surface is basically sound.** Surface cracking and dirt accumulation have not affected the performance of the cladding. Where signage has been changed, the walls are properly repaired. Sealant joints may need replacement, depending on product and age.

**Refinishing the wall will make a significant change in the building's appearance and perception of its value.** Adding three-dimensional profiles and a recoat that showcases fresh colors and finishes will transform the building.

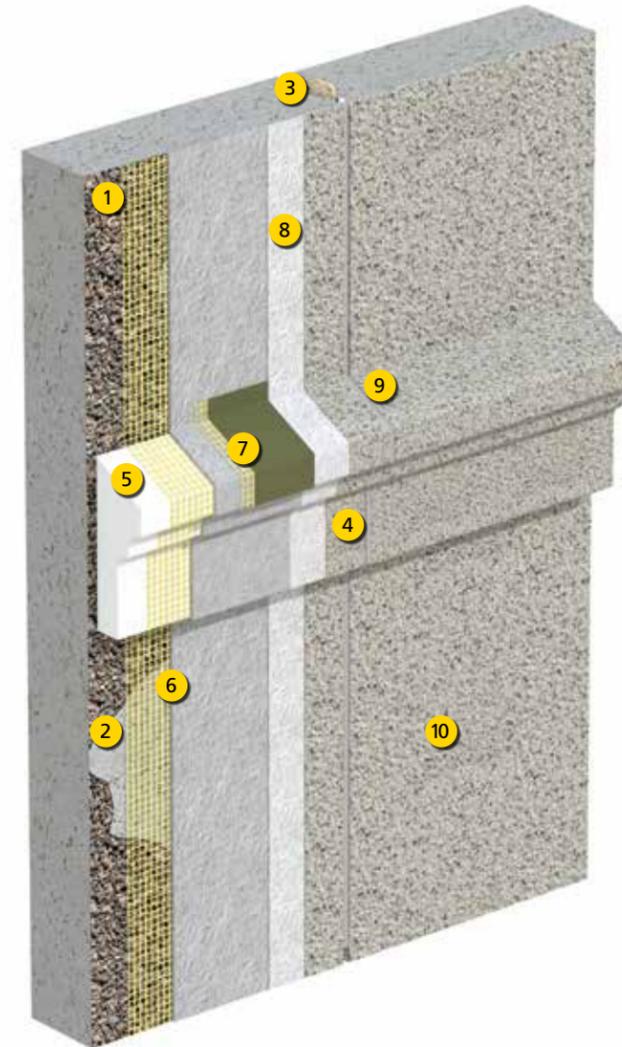
**Damage and deterioration of the concrete may have progressed to the steel reinforcing.** If there are signs of rust or distress in the concrete that may be related to structural reinforcement, further repairs to the concrete and reinforcement may be required. A third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.



SOLUTION

# Deteriorated Precast Concrete

LV2 reStore — PRECAST REFINISHED WITH ARCHITECTURAL FEATURES



- 1 **The surface of the concrete should be pressure washed** and any loose finish removed.
- 2 **Fill any holes** and level the surface with Sto Leveler.
- 3 **Replace sealant joints** in two stages, starting with an air seal material inbound of the wall surface. Follow air seal manufacturer's recommendations. The second stage will follow the recoating (9).
- 4 **Prewrap the ends** of foam profiles with base coat and reinforcing mesh where they coincide with a joint in the concrete.
- 5 **Bond foam profiles** to the prepared surface with Sto adhesive. Slope horizontal surfaces a minimum of 1:2 (23°) to drain water and dirt. In climates where snow and ice may accumulate, increase slope to 1:1 (45°).
- 6 **Apply Sto base coat and mesh** to the prepared surface and foam profile. Allow to cure.
- 7 **Apply a layer of Sto Flexyl and mesh** to the exposed upper surface of the profiles, lapping a minimum of 2.5" (65 mm) onto the vertical wall surface. Feather the Flexyl edges.
- 8 **Apply tinted Sto primer** appropriate for the finish selected.
- 9 **Reseal the joints** in the precast and new profile with backer rod and sealant. Allow drainage from the cavity between the new air seal (3) and the sealant.
- 10 **Refinish the wall** with the specified Sto materials.

RESOURCES

1. 72.10.00: reStore Stucco – Clean and Recoat ( cracks ≤ 1/32-in. (1 m))
2. 72.20.70: reStore Stucco – Adding foam Architectural Shapes

**IMPORTANT: REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES**



# Preservation of Concrete Profiles

CONDITION



DETERIORATED CONCRETE PROFILES

The projecting profiles on a facade may, over time, sustain damage. Accumulations of snow and ice or regular wetting from rain will accelerate deterioration. Aesthetically, the facade is compromised but the substrate is sound.

A Level 2 restoration is indicated when the precast remains structurally sound. Damage to the wall surface and projecting profile is limited to surface deterioration and has not progressed to the reinforcing steel.

Surface repairs and recoating will protect the underlying concrete from further deterioration.

Patching mortars will protect damaged areas and water resistant coatings will restore the water-shedding surface. A recoat with a new decorative finish will update the building's appearance while enhancing protection of the concrete profiles.

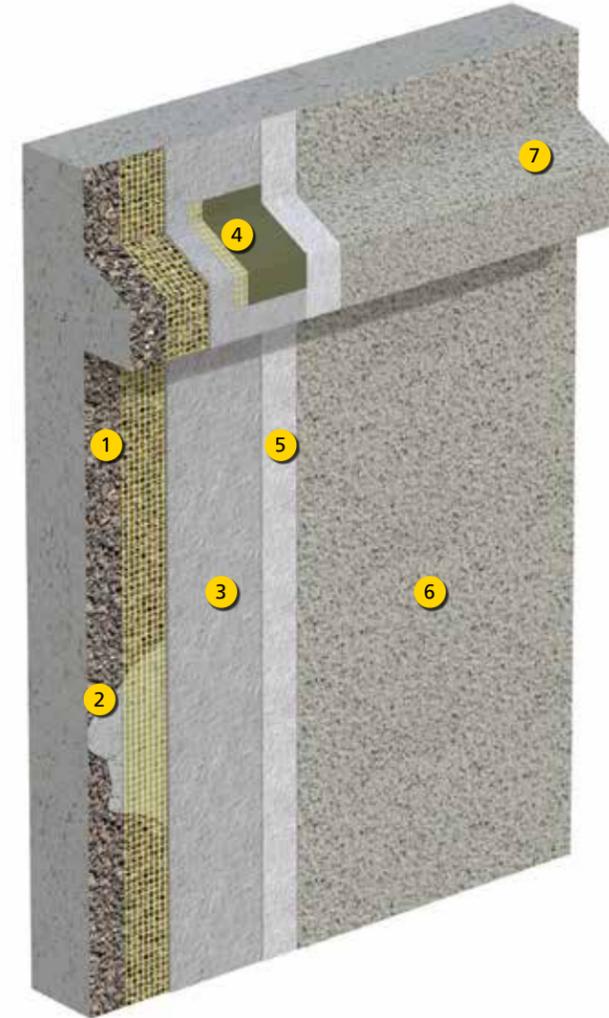
Signs of rust or spalling of the concrete indicate deterioration related to structural reinforcement. More comprehensive repairs to the concrete and reinforcement may be required. A third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.



SOLUTION

# Preservation of Concrete Profiles

LV2 reStore — CONCRETE PROFILE PROTECTED AND REFINISHED



- 1 **Pressure wash** the precast to remove loose finish and dirt.
- 2 **Patch areas** where the finish has been damaged to create a level surface.
- 3 **Apply Sto base coat and mesh** to the prepared surface. Allow to cure.
- 4 **Trowel an application** of Sto Flexyl and mesh onto the exposed surface of the concrete feature, lapping onto the wall above and the face of the profile. Allow to cure.
- 5 **Apply tinted Sto primer** appropriate for the finish selected.
- 6 **Refinish the wall** with the specified Sto materials.
- 7 **For extended durability** of the finish on the profile, coat the exposed surface with two applications of StoColor Acryl Plus tinted to match the finish.

RESOURCES

1. 72.10.00: reStore Stucco – Clean and Recoat ( cracks ≤ 1/32-in. (1 m))

**IMPORTANT : REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES**



# Replacement of Sealant Joints

CONDITION



BARRIER JOINTS REQUIRING MAINTENANCE

**Sealant joints in all claddings require replacement at the end of service life.** Barrier joints—a single bead of sealant with backer rod—connect all five planes of protection in the wall assembly. The sealant bead is both a water-shedding surface to keep rainwater out and an air barrier that keeps the interior environment in. The backer rod also provides some thermal protection. When the sealant fails, all planes of protection in the wall are compromised.

**Replacement of barrier sealant joints is an important component of a Level 2 restoration.**

As the sealant joints have not yet failed, the presence of water in the joint from leaking or condensation is minimized. Deterioration from freeze/thaw cycles or reinforcement corrosion remains minimal.

**The joints should be replaced with two-stage, drained rainscreen seals.** This will entail installation of a thermal, air and water barrier inbound of the wall surface to maintain the interior environment. A new exterior seal aligned with the restored exterior finish will maintain the water-shedding surface. A cavity between the two seals will allow any water penetration to drain to the exterior.

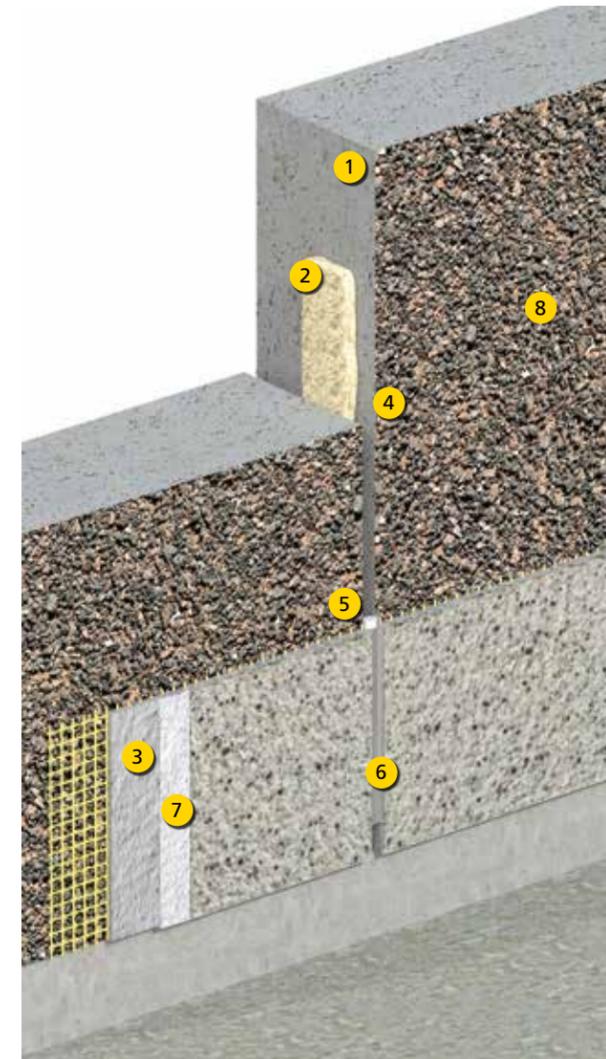
**If water penetration and condensation at the joint have resulted in deterioration of the concrete, the reinforcing steel may be compromised.** If there are signs of rust or distress in the concrete, further repairs may be required. A third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.



SOLUTION

# Replacement of Sealant Joints

LV2 reStore — AIR BARRIER AND DRAINED JOINTS INSTALLED



- 1 Remove all old sealant and backer rod.** Prepare the surface to receive new sealant as per the recommendations of the sealant manufacturer.
- 2 Install a spray polyurethane foam** interior barrier as per foam manufacturer's instructions.
- 3 Apply Sto base coat and mesh** to the prepared surface. Allow to cure.
- 4 Prime the joint surface** as specified by the sealant manufacturer.
- 5 Install the backer rod** as recommended, leaving a cavity between the airtight interior barrier and the backer rod.
- 6 Install the sealant** as per sealant manufacturer's instructions, leaving a gap to allow water to drain to the exterior and the cavity to pressure-moderate.
- 7 Apply tinted Sto primer** appropriate for the finish selected.
- 8 Refinish the wall** with the specified Sto materials.

RESOURCES

1. 72.10.00: reStore Stucco – Clean and Recoat ( cracks ≤ 1/32-in. (1 m))

**IMPORTANT: REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES**



# Preservation of Concrete Wall Base

CONDITION



CONCRETE DETERIORATED BY SNOW AND WATER

Winter weather or constant dampness can result in damage to the base of a wall. Snow, salt and slush routinely get piled against walls during sidewalk and driveway clearing. The damp, coupled with freeze/thaw conditions, will cause deterioration of finishes. Salt that penetrates the concrete will accelerate corrosion of reinforcing steel if not corrected.

A Level 2 restoration will waterproof the concrete base. The repair is undertaken ahead of any serious deterioration of the concrete.

As part of a Level 2 restoration the damaged areas will be repaired and refinished. Salt deposits will be cleaned and foundation waterproofing added.

Water and salt penetration may have resulted in deterioration of the concrete to the point where the reinforcing is compromised. If there are signs of rust or distress in the concrete that are related to structural reinforcement, further repairs to the concrete and reinforcement could be required. A third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.

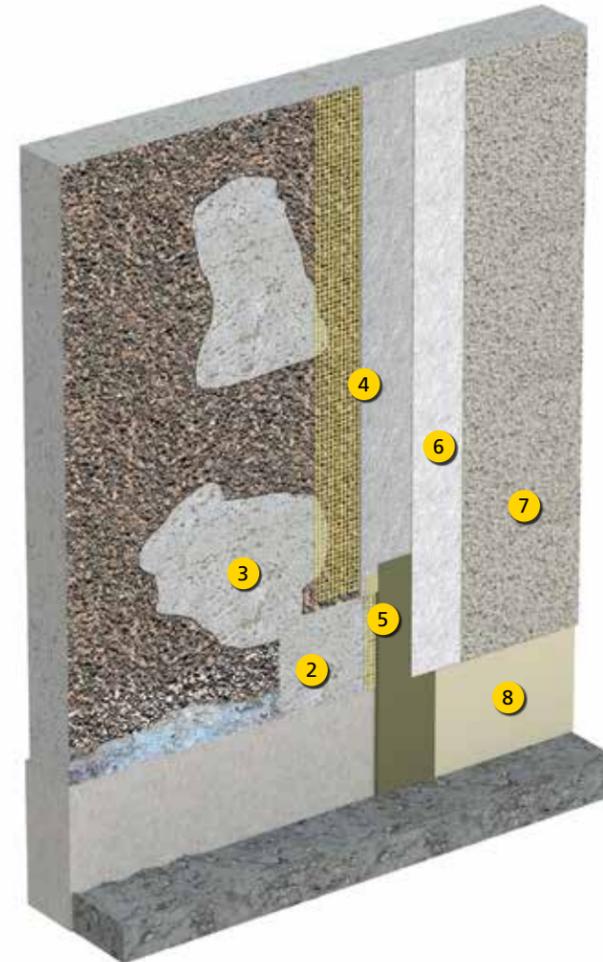


# Preservation of Concrete Wall Base



SOLUTION

LV2 reStore — CONCRETE BASE PROTECTED AND REFINISHED



- 1 **Pressure wash** the wall to remove dirt and loose finish.
- 2 **Remove efflorescence or salt stains** with a mild acid solution or cleaner following local environmental requirements.
- 3 **Patch and level** any locations where the finish has been removed.
- 4 **Apply Sto base coat and mesh** to the prepared surface. Allow to cure.
- 5 **Install Sto Flexyl and reinforcing mesh** over the area of the wall subject to snow buildup or wetness.
- 6 **Apply tinted Sto primer** appropriate for the finish selected.
- 7 **Refinish the wall** with the specified Sto materials.
- 8 **In areas subject to snow build-up or wetness**, apply one or two layers of StoColor Acryl Plus.

RESOURCES

1. 72.10.00: reStore Stucco – Clean and Recoat ( cracks ≤ 1/32-in. (1 m))

IMPORTANT: REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES



# Repair of Holes Through Concrete

CONDITION



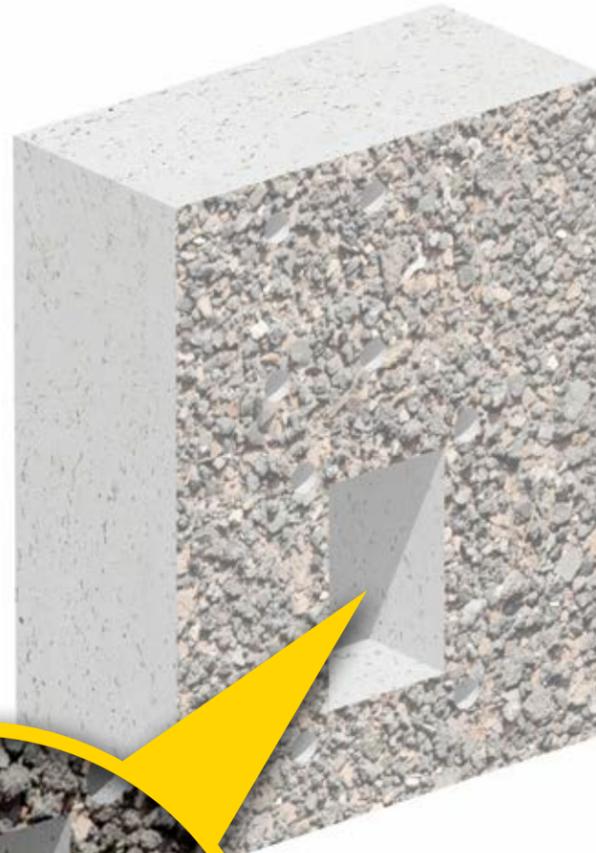
SERVICE PENETRATIONS THROUGH CONCRETE

**Building services, equipment and signage change.** Each installation creates holes in or through the concrete, and changes can leave access penetrations open. Temporary closure devices, such as plywood covers, are unsightly and may result in deterioration from water infiltration or air exfiltration.

**As part of a Level 2 restoration project, holes through the cladding must be properly closed and made air and watertight.** Surface damage to the wall is minor and cosmetic, and the openings have not resulted in damage from water penetration.

**Holes will be filled and penetrations into the concrete wall will be properly sealed.** Penetrations through the wall will be made airtight and waterproof before recoating and refinishing. Proper repairs before deterioration sets in will extend the service life of the building.

**Damage and deterioration of the concrete may have progressed to the reinforcing of the concrete.** If the concrete shows signs of rust or distress related to structural reinforcement, further repairs to the concrete and reinforcement may be necessary. A third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.

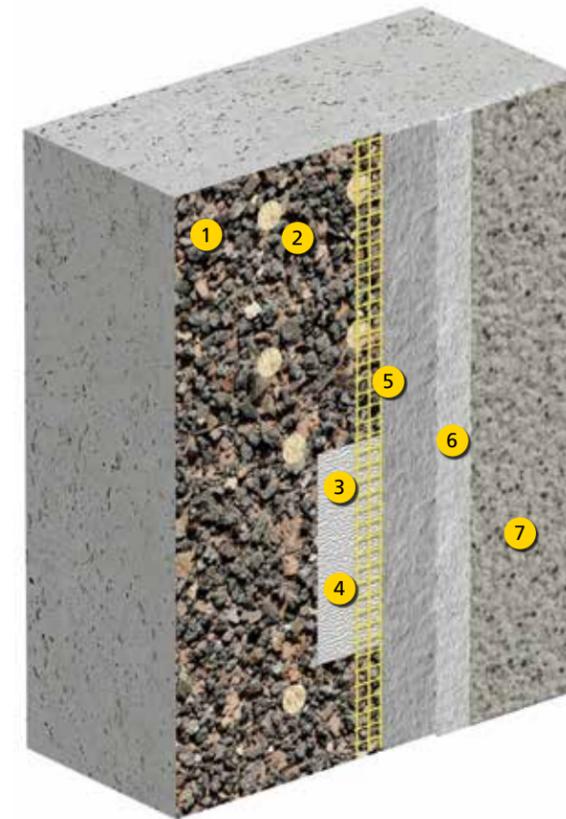


# Repair of Holes Through Concrete



SOLUTION

LV2 reStore — PENETRATIONS SEALED AND APPEARANCE RESTORED



- 1 **Pressure wash the wall surface** to remove any loose finish and dirt.
- 2 **Fill signage holes** with a low expansion foam insulation. Trim the excess flush with the wall surface.
- 3 **Fill through-wall penetrations** with blocking appropriate for the opening size. Set blocking into opening approximately 2" (50 mm) inbound of the wall surface. Air seal the edges with foam or Sto Rapid Seal.
- 4 **Close the opening** by bonding a piece of rigid insulation into place with Sto adhesive. Rasp flush with the wall surface after the adhesive has set.
- 5 **Apply Sto base coat and mesh** to the prepared surface. Allow to cure.
- 6 **Apply tinted Sto primer** appropriate for the finish selected.
- 7 **Refinish the wall** with the specified Sto materials.

IMPORTANT: REPAIRS SHOULD FOLLOW STO CORP. PUBLISHED GUIDELINES

RESOURCES

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# Thermal Upgrade of Precast

CONDITION



UNINSULATED CONCRETE PROVIDES POOR THERMAL PERFORMANCE

**Energy conservation can be the tipping point when restoration of a concrete wall is being considered.**

Whether the discussion is about regular maintenance, an aesthetic upgrade or a full-out change of use, recladding with StoTherm ci EIFS will answer the purpose while moving the project towards 'net-zero'.

**Recladding the exterior is a Level 3 project.**

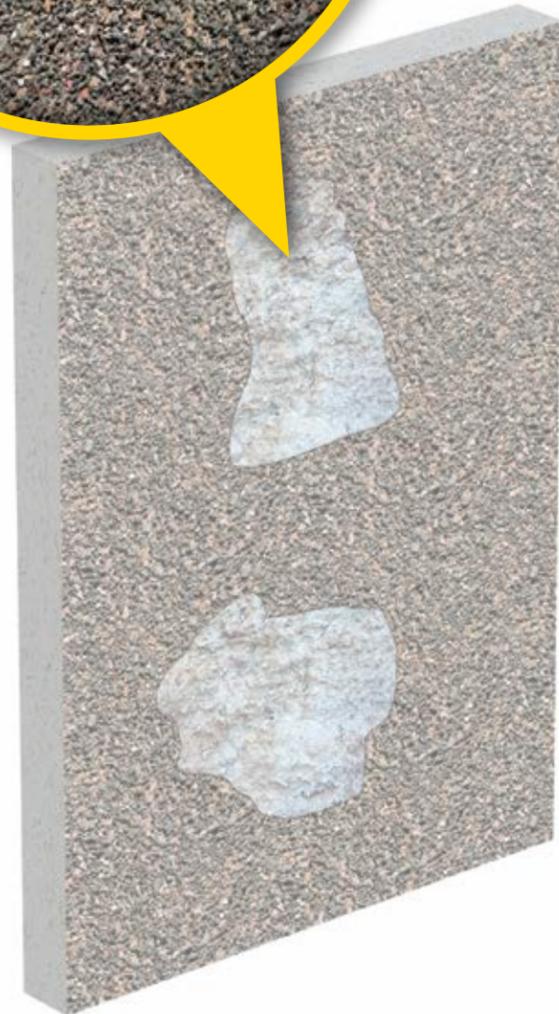
The concrete requires maintenance but has not reached the point where structural restoration is necessary. Energy costs may have increased substantially. A planned change of use (e.g., an industrial building being repurposed to multi-family residential) may spur the decision to improve thermal performance and occupant comfort levels.

**StoTherm ci will add effective insulation to the building enclosure.**

All envelope control layers—vapor barrier, waterproof air barrier, thermal barrier and water-shedding surface—are shifted to the exterior cladding. The design professional must ensure that all planes of protection in the EIFS are properly connected to other elements in the building enclosure (e.g., windows, roof) to form continuous barriers.

**Damage and deterioration of the concrete may have progressed to the steel reinforcement.**

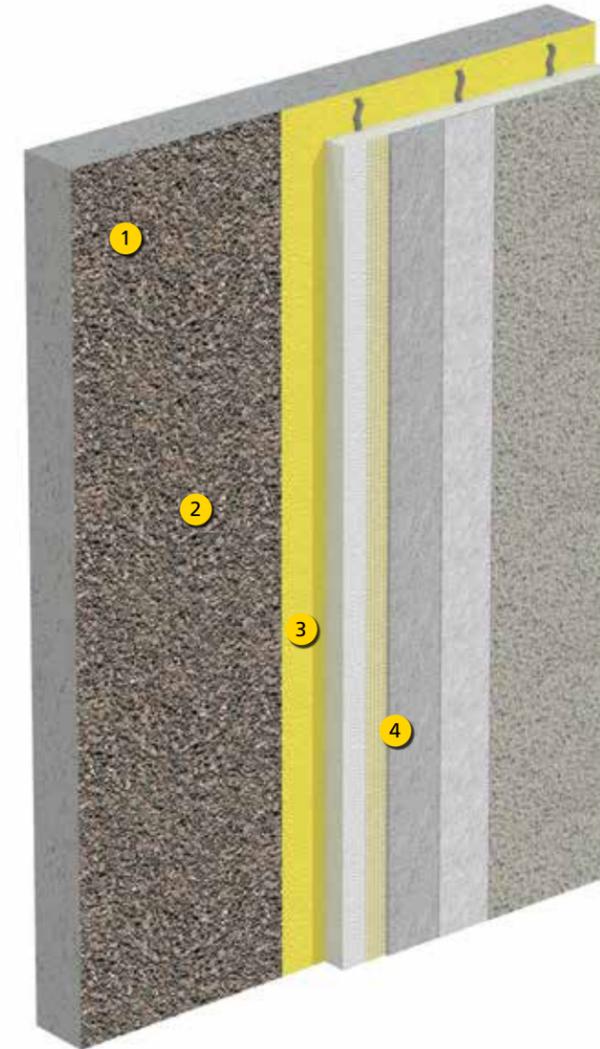
Signs of rust or spalling are indications of deteriorated rebar. If these are present, A third-party envelope professional should be retained to evaluate conditions and make the necessary repair recommendations.



SOLUTION

# Thermal Upgrade of Precast

LV3 reStore — STO CI OVERCLAD



**1 Pressure wash** the wall to remove dirt and loose finish.

**2 Seal all penetrations** through the cladding as per Sto details.

**During window replacement,** protect the rough openings with StoGuard air and moisture barrier and an insulated buck.

**3 Cover the wall** with StoGuard air and moisture barrier.

**Incorporate flashings** with the StoGuard where required at terminations and openings.

**4 Install StoTherm ci insulated wall cladding,** ensuring that all the planes of protection are properly connected.

RESOURCES

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