



Stucco Troubleshooting Guide--Part 1

No.	Problem	Possible Cause(s)	Remedy or Prevention
1.	Stucco stiffens immediately upon application to concrete or masonry	Substrate too dry	Dampen substrate prior to application of stucco
2.	Separation of stucco from accessory	Lath continuous beneath expansion joint accessories	Cut or separate lath beneath expansion joint accessories to make discrete, independent panels before installing stucco
		Lath improperly lapped and wire tied at accessory	Lap lath over accessory flange to inside corner of flange and wire tie no more than 7" (178 mm) oc
		No keying of stucco into accessory	Install stucco into accessory key
		Cementitious material in cavity of accessory restricts movement of accessory	Remove cementitious material from accessory while still wet
3.	Weak bond or delamination from concrete or masonry	Substrate too dry	Dampen substrate prior to application of stucco
		Rapid loss of moisture/poor cement hydration	Damp cure
		Substrate too smooth and non-absorbent	Provide slightly scarified surface
		Surface contamination	Remove surface contaminants by sandblasting, water blasting or attach metal lath
4.	Rusting at corner accessory	Too little stucco cover at corner accessory	Apply uniform thickness of stucco at corner and cover accessory
5.	Water damage to materials in wall assembly	Omission of or improper use of flashing	Incorporate flashing in the wall assembly in accordance with code requirements—above window and door heads, beneath window and door sills, at decks, roof/wall intersections and at lower to higher wall intersections—such that water is directed to the exterior, not into the wall. Seal penetrations or junctures with other materials with appropriate backer rod and sealant. Provide appropriate moisture barrier behind stucco in wall assembly. Provide proper clearance of stucco above finished grade.
6.	White chalky deposit on surface of stucco (efflorescence)	Excess lime in stucco mix (conventional stucco only)	Omit or minimize lime in mix (conventional stucco only)
		Moisture transport through the stucco	Eliminate source of moisture
		Application during cold and/or damp weather	Provide protection of stucco from adverse weather conditions or heat stucco ingredients if weather is cold
7.	Rusting in exterior finish	Use of aggregate with iron ore particles	Select aggregate that conforms with ASTM C 897
8.	"Ghosting" or telegraphing of studs through finished wall surface	Thermal bridging of studs	Provide exterior insulation over studs



Stucco Troubleshooting Guide--Part 2: How and Why Stucco Cracks

No.	Problem	Possible Cause(s)	Remedy or Prevention
1.	Map cracking	Excess water or lime (conventional stucco) added to stucco mix	Reduce water or lime (conventional stucco), select aggregate that conforms with ASTM C 897
		Poor aggregate/cement ratio	Adjust mix ratio by increasing sand content
		Poor aggregate gradation	Select aggregate that conforms with ASTM C 897
		Rapid loss of moisture	Damp cure, protect from wind and/or hot, dry weather conditions
2.	Straight line cracking parallel to studs along stud line	Stucco too thin at stud line because of wavy wall condition	Provide straight, plumb wall with solid backing
3.	Diagonal cracking at openings in wall	No expansion or control joint at corners of opening	Provide expansion or control joint at corners of openings or diagonal metal lath strips
4.	Random cracking in middle of wall	Lath too high in spots creating non-uniform stucco thickness	Install lath correctly
		Stucco too thin because of improper lathing	Provide lath properly spaced (furred) from wall or pull lath tight between supports to prevent non-uniform thickness of stucco
		Lath not fastened to structural supports	Fasten lath into structural framing at appropriate intervals
		Poor consolidation	Correct rodding and floating procedures
		Poor aggregate/cement ratio	Adjust mix ratio
		Poor aggregate gradation	Select aggregate that conforms with ASTM C 897
		Rapid loss of moisture	Damp cure, protect from wind and/or hot, dry weather conditions
		No or too few expansion joints installed in wall	Install expansion joints at proper location/intervals in wall assembly
5.	Repeated vertical or horizontal straight line cracking at discrete intervals or cracks that emanate at discrete intervals	Lath improperly lapped	Lap lath minimum 1" (25 mm) at ends and 1/2" (13 mm) at edges (along the length of the sheet)
		Lath fastened to sheathing, not wire-tied at edge overlaps causing poor keying of stucco and non-uniform stucco thickness	Wire-tie lath at edge overlaps with lath taut.
		Paper-backed lath lapped paper to lath causing non-uniform thickness of stucco at overlap	Lap paper-backed lath, lath to lath
		Vertical lath lap not attached at structural support	Attach vertical lath laps at structural supports
		Improper lath used, i.e., rib lath, creates non-uniform stucco thickness	Select appropriate lath for spans and application
		Shrinkage of wood-based sheathing	Keep wood dry during and after installation. Use adequate moisture protection to prevent moisture from stucco being absorbed by wood
		No gaps between wood-based sheathing	Provide 1/8" (3 mm) gap between wood sheathing.
6.	Straight line cracking at floor line	Omission of expansion joint at floor line	Provide expansion joints at floor lines
7.	Straight line cracking at discrete location	Omission of expansion joint at dissimilar construction	Provide expansion joints at dissimilar construction
8.	Cracking at corner accessory	Stucco tapered from thick to thin section at nose of corner bead	Apply uniform thickness of stucco at corner