



LATICRETE International, Inc. Cement Grout Troubleshooting Guide

Complaint	Cause(s)	Prevention
Weak powdery grout joint	<ol style="list-style-type: none"> 1. Too much water (liquid) used in mix. 2. Grout dried out too fast due to: <ol style="list-style-type: none"> a. highly absorbent tiles b. high temperature (>85°F), low humidity (<50%RH). 	<ol style="list-style-type: none"> 1. Mix must be firm not soupy. Do not retemper grout after initial mixing. 2a. Prewet tiles to reduce absorption. 2b. Use latex additive or damp cure for 72 hours with Kraft paper per Tile Council of America guidelines.
White powder on surface	<ol style="list-style-type: none"> 1. Efflorescence due to: <ol style="list-style-type: none"> a. Damp slab or grouting too soon after setting b. Too much water used in mix c. Too much water used during clean up d. Hard water or water softened with salt 2. Cement laitance due to: <ol style="list-style-type: none"> a. Too much water used in mix b. Too much water used during clean up 	<ol style="list-style-type: none"> 1a. Slab on grade must be > 7 days old. Slab on grade should be tested for moisture using polyethylene. If moisture detected, a vapor barrier must be used under mortar bed. Under damp, cool conditions never grout within 24 hours of setting. Thick beds and narrow joints require longer drying time to avoid efflorescence. 1b. Mix must be firm not soupy. 1c. The single most common cause of grout shade/color problems. 1d. If water quality is suspect, conduct test area. Use only potable (drinking) water or latex additive for mixing grout. 2. Both causes result in a porous matrix where fine particles of sand and cement float to surface, leaving whitish deposit.
Color shading over surface	<ol style="list-style-type: none"> 1. Too much water used during clean up 2. Too much water used in mix 3. Cleaning too soon after installation with excess water 4. Uneven grout depth 5. Uneven absorption of tiles with partially glazed edges 6. Non-uniform drying conditions 7. Use of different production batches of grout 8. Inconsistent liquid to powder ratio used with multiple batches. 9. Poor quality water: discolored, hard, softened with salt, etc. 	<ol style="list-style-type: none"> 1. Use minimum amount of water to reduce pigment loss during clean up. 2. Mix must be firm not soupy, reducing pigment float. 3. Allow grout to take initial set to lock pigment. 4. Rake excess adhesive mortar out of joints to achieve uniform depth. 5. Prewet highly absorbent tiles by sponging surface. 6. Shade areas exposed to sunlight, avoid direct ventilation drafts. 7. Check batch # to insure all grout from same batch # or preblend bags of grout. 8. Use the same amount of liquid and powder for multiple batches. Use measuring equipment if necessary. 9. Use only potable (drinking) water or latex additive for mixing grout.
Cracking of grout joints	<ol style="list-style-type: none"> 1. Excess water in mix 2. Flexural movement of substrate (wood) 3. Building movement 	<ol style="list-style-type: none"> 1. Reduce amount of water in mix and clean up procedure, 2 & 3. Insure substrate is in compliance with local codes, Tile Council of America and other industry guidelines
Joint color is lighter than sample	<ol style="list-style-type: none"> 1. Grout dries too fast. Not properly cured. 	<ol style="list-style-type: none"> 1. When temperatures exceed 85°F, or use latex admixture or damp cure for 72 hours with Kraft paper per Tile Council of America guidelines.