



Globally Proven  
Construction Solutions

# Cement Grout Troubleshooting Guide

TDS-1201

complaint	Causes	Prevention	Potential Solutions
Weak, powdery grout joint	<ol style="list-style-type: none"> <li>1. Too much water (liquid) used in mix.</li> <li>2. Grout dried out too fast due to               <ol style="list-style-type: none"> <li>a. Highly absorbent tiles</li> <li>b. High temperature (&gt;29°C), low humidity (&lt;50%RH).</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>1. Mix must be firm not soupy. Do not re-temper grout after initial mixing.</li> <li>2a. Pre-wet tiles to reduce absorption.</li> <li>2b. Use latex additive where approved or damp cure for 48 hours minimum, unless specified otherwise as per AS3958.1 &amp; 2.</li> </ol>	<p>Attempt to re-hydrate the grout by damp curing the grout for 72 hours. The use of a STONETECH grout sealer may also help to harden the grout.</p>
White powder on surface	<ol style="list-style-type: none"> <li>1. Efflorescence due to:               <ol style="list-style-type: none"> <li>a. Damp slab or grouting too soon after setting</li> <li>b. Too much water used in mix</li> <li>c. Too much water used during clean up</li> <li>d. Hard water or water softened with salt</li> </ol> </li> <li>2. Cement laitance due to:               <ol style="list-style-type: none"> <li>a. Too much water used in mix</li> <li>b. Too much water used during clean up</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>1a. Slab on grade must be &gt;7 days old. Slab on grade should be tested for moisture using polyethylene. If moisture detected, a vapour 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.</li> <li>1b. Mix must be firm not soupy.</li> <li>1c. The single most common cause of grout shade/colour problems.</li> <li>1d. If water quality is suspect, conduct a test area. Use only potable (drinking) water or latex additive, where approved, for mixing grout</li> <li>2. Both causes result in a porous matrix where fine particles of sand and cement float to surface, leaving whitish deposit.</li> </ol>	<p>Use a stiff brush or scrub pad and a light solution of STONETECH Restore to clean deposits. Several cleanings may be required until the salts work their way through the installation system. Conduct a test area to verify results.</p>

Colour shading over surface	<ol style="list-style-type: none"> <li>1. Too much water used during clean up</li> <li>2. Too much water used in mix</li> <li>3. Cleaning too soon after installation with excess water</li> <li>4. Uneven grout depth</li> <li>5. Uneven absorption of tiles with partially glazed edges</li> <li>6. Non-uniform drying conditions</li> <li>7. Use of different production batches of grout</li> <li>8. Inconsistent liquid to powder ratio used with multiple batches.</li> <li>9. Poor quality water: discoloured, hard, softened with salt, etc.</li> </ol>	<ol style="list-style-type: none"> <li>1. Use minimum amount of water to reduce pigment loss during clean up.</li> <li>2. Mix must be firm not soupy, reducing any pigment float.</li> <li>3. Allow grout to take initial set to lock in pigment.</li> <li>4. Rake excess adhesive out of joints to achieve uniform depth.</li> <li>5. Pre-wet highly absorbent tiles by sponging surface.</li> <li>6. Shade areas exposed to sunlight, avoid direct ventilation drafts.</li> <li>7. Check batch # to insure all grout from same batch # or pre-blend bags of grout.</li> <li>8. Use the same amount of liquid and powder for multiple batches. Use measuring equipment if necessary.</li> <li>9. Use only potable (drinking) water or latex additive where approved for mixing grout.</li> </ol>	<p>Try one of the following:</p> <p>Using a grout sealer may even out the colour. "Wet look" or "enhancer" type sealers can deepen and even out the final grout colour. See STONETECH Range of sealers. Use an epoxy based grout colourant to stain/ seal the grout joints. These products can be custom matched to all of the LATICRETE Grout Colours. Conduct a test area to verify results.</p>
Cracking of grout joints	<ol style="list-style-type: none"> <li>1. Excess water in mix</li> <li>2. Flexural movement of substrate (wood)</li> <li>3. Building movement</li> </ol>	<ol style="list-style-type: none"> <li>1. Reduce amount of water in mix and clean up procedure, 2 &amp; 3. Ensure substrate is in compliance with National Construction Code, AS3958.1 &amp; 2 and other industry guidelines.</li> </ol>	<p>If cracking is due to shrinkage of the grout, at times the use of a grout colourant can be used to "fill" in the small hairline fissures. If the cracking is due to movement in the structure, a review of the structure should be conducted to ensure that it complies with industry standards. If the structure does not meet industry standards, the required "stiffening" of the structure should be made prior to making grout joint repairs. When re-grouting, remove at least half the depth of the existing grout joint down to firm and stable grout, then clean thoroughly prior to regrouting.</p>
Joint colour is lighter than sample	<ol style="list-style-type: none"> <li>1. Grout dries too fast. Not properly cured.</li> </ol>	<ol style="list-style-type: none"> <li>1. When temperatures exceed 32°C use latex admixtures where approved or damp cure for 48 hours minimum, unless specified otherwise as per AS3958.1 &amp; 2.</li> </ol>	<p>Using a STONETECH "wet" look or "enhancer" type sealer will deepen the grout colour or grout colourant.</p>