

Surface Chemistry Analysis

The organic and inorganic surface chemistry analysis evaluates the concentration & vertical distribution of selected water soluble salts & organic contaminants present in the uppermost 6 mm of the concrete cross section. Background or 'normal' concentrations for selected ionic constituents evaluated in the inorganic surface chemistry test method are noted below:



'Normal' or Background Concentration Estimates for selected water-soluble salts in hardened concrete*

Sodium (Na)	Potassium (K)	Chloride (CI)	Sulfate (SO4)
< 800 ppm	< 800 ppm	<150 ppm	< 5000 ppm

Values exceeding these concentration estimates may be flagged as anomalous and could indicate the presence of water-soluble Na &/or K-rich salts (including metasilicate & chloride salt residues), chloride salts, and/or water-soluble sulfate compounds capable of interfering with the bond integrity of a flooring or coating system. The background concentration estimates noted above are based on the analysis of >10,000 core samples with this test method.

Solvent extraction of organic residues extracted from the near-surface of the slab [0-3 mm & 3-6 mm BTC (below the top of the core)] provides for characterization of the (near-surface) organic contamination gradient. FT-IR analysis provides a generalized characterization of the types of organic contaminant material present within the top 3 mm of the cross section. Accessory amounts of organic residue (<100 ppm) are commonly present within concrete materials evaluated with this method. Near-surface organic residues >100 ppm may be flagged as contaminant anomalies.