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TECHNICAL TOPIC:

Crazing Cracks

BOTTOMLINE:

A crazed concrete surface contains a network pattern of very shallow, fine/hairline cracks. They do not penetrate much below the surface of the concrete. They rarely are more than 1/8" deep and are more noticeable on steel troweled surfaces. They are most visible when the concrete is drying after the surface has been wet.

The use of the term "map cracking" is most often used in describing crazing cracks.

Crazing cracks develop early in the concrete life. They usually can appear anywhere from the day after placement to the end of the first week. It is in this critical period, as the concrete is just beginning to gain strength, that the curing of the concrete is so important. If the concrete surface is allowed to rapidly dry during this period, excessive shrinkage occurs, possibly leading to crazing cracks. The main culprits are relative humidity, high air temperature, hot sun, or wind…. singularly or in combination. It is for these reasons that initial curing of the concrete is so critical.

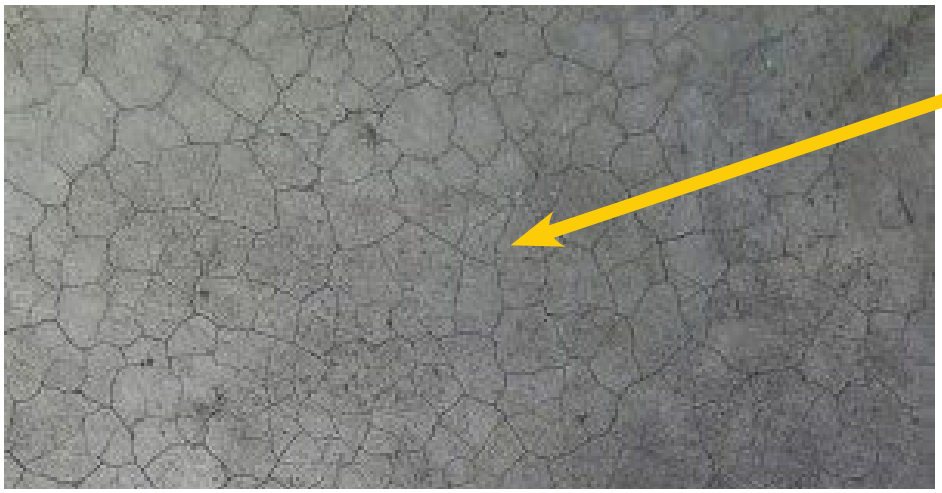
Additional Causes:

- "Hot shoting" or dusting the surface with dry cement to dry up the surface
- Finishing /floating the surface while there is bleed water on the surface
- Too wet a concrete mix
- Excessive floating or incorrect use of a jitterbug
- Carbonation of the surface brought on by the chemical reaction of the cement and the carbon monoxide from unvented heaters.

Technical Topic: Crazing Cracks

Curing of the concrete cannot begin too early. Begin curing efforts as soon as the concrete can sustain its' finish without damage, remembering that the goal is to prevent the concrete from drying.

Although crazing cracks are sometimes unsightly and perhaps cosmetically unacceptable….they rarely affect the durability or wear resistance of the concrete(1).....crazing is not structurally serious and does not ordinarily indicate the start of future deterioration. (2)



Crazing, commonly referred to as map cracking; a network pattern of very shallow, fine/hairline cracks.

Photo courtesy of G. Chapman

Widespread Map Cracking; while not affecting the surface durability, they may be unsightly or cosmetically unacceptable.

Photo courtesy of P. Gray