




Concrete Materials Science Meets Real Life Construction Practice

Pavement contractors frequently face situations that require troubleshooting both the composition and special features of concrete in place.

Who can effectively investigate the mechanisms of cracking and/or causes of distress? Our team has unique abilities to do the following:

-  assess the causes of low strength results
-  troubleshoot mechanisms of defects and provide strategies to prevent them
-  protect you from unfair and unjustified claims

Twining has added a new resource to its forensic consulting and material evaluation capabilities. The recently acquired petrographic company, DRP Consulting, is the national leader in specialized examinations of concrete in existing pavements and structures using optical and electron microscopy. Its founder and President Dr. David Rothstein is a renowned forensic expert, consultant and scientist.

We can evaluate and identify:

- ▶ Proportions of concrete in place
- ▶ Materials constituting concrete
- ▶ Consolidation
- ▶ Uniformity of distribution of aggregates (for example, over pavement section)
- ▶ Effects of curing on hydration of cementitious materials
- ▶ Pore structure and air content (important for concrete in freeze-thaw environment)
- ▶ Deleterious interactions (for example, alkali-aggregate reaction, sulfate corrosion, etc.)
- ▶ Mechanisms of cracking
- ▶ Quality of finishing
- ▶ Causation of surface defects
- ▶ Interactions of pavements with rigid base, and others

Petrography also assists in comparing the features of concrete in pavement and in test specimens. This is important because improper preparation and handling of samples result in low strength and cause penalties.

Twining is an integral part of the concrete pavement construction industry in California and is proud to offer its industry partners a complete scope of troubleshooting, condition evaluation, and forensic consulting services.

Contact us:

Boris Stein, D.Sc.
bstein@twininginc.com
562.426.2255



David Rothstein, PhD, PG, FACI
petro@drpinc.com
303.938.0166