

## Machine Feedback Webinar – Questions and Answers

The questions submitted during the webinar follow with answers that our speakers have provided.

1. Which equipment could be used to evaluate the rheology of fresh concrete? Alabama

There are a variety of concrete rheometers available on the market. A challenge is that data are not comparable between them. Another limitation is that most of them are not suitable for mixtures with slumps less than 4" – hence the need to consider new approaches to assessing workability of slipform concrete mixtures like the VKelly.

2. Would like to see a summary of pavement design initial life. Some states design for 20 years, some 30, some 40, some 50, some 60 and 100. Can we develop a standard: say 60 years? Florida

3. Are monitoring embeddable concrete sensors being used to track moisture, corrosion, erosion, cracks, vibration? Georgia

Research is ongoing with these ideas but they are not common practice.

4. Did you know that different WRAs produce different bleed rates? It isn't as noticeable in zero slump pavement mixtures, but becomes more noticeable as the slump value increases. Have we considered looking at developing an onsite bleed test? Illinois

Good idea – mainly for structural concrete as bleeding is rarely an issue in paving mixtures.

5. As you collect data, I hope that you are collecting geospatial information. That is key to tying data together from different systems and measures. Iowa

Good idea – we will do this when we get into the field more.

6. From a vibration viewpoint, it would seem that the movement of air, water, and cement paste would be governed by the movements of the aggregates into a denser state due to the vibration and the variations in frequency and amplitude. Maybe some research into the densification of just a typical aggregate blend for a paving mix could be useful in understanding the dynamics of the aggregates when the water, air, and cement paste are introduced, possibly in varying amounts to maybe obtain ideal vibrator frequency and amplitude for a given aggregate blend and water, cement, and admixtures in the overall mix. Maryland

Thanks

7. It will be interesting to investigate the impact of curing and warping on surface smoothness of PCC pavements. Michigan

Work is ongoing in this area at Iowa State University.