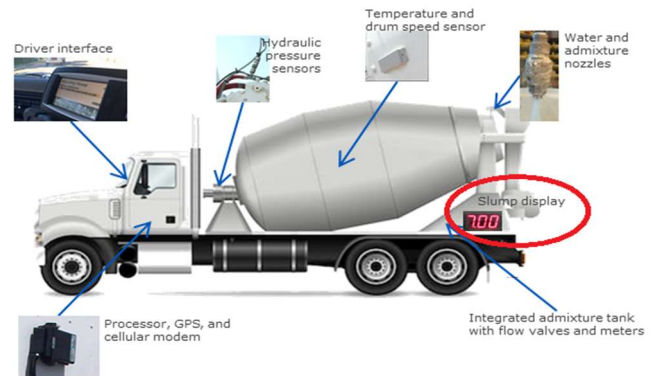


VERIFI Guide - Technician

VERIFI is an In-Transit concrete monitoring system – this means as the load is on route to site, VERIFI can make adjustments to ensure that the concrete will be delivered **within specification**. VERIFI has been approved as a suitable system for assuring on-site concrete quality control (consistence and fresh temperature) in place of a manual test (1MC08-BBV-EN-REP-N000-000001).



Lab presence at concrete pours will be reduced due to the use of VERIFI, It will be a phased approach and the lab is required to confirm that VERIFI does not allow any concrete to be placed that a manual test would fail (to pass to next phase with further reduced testing requirements).

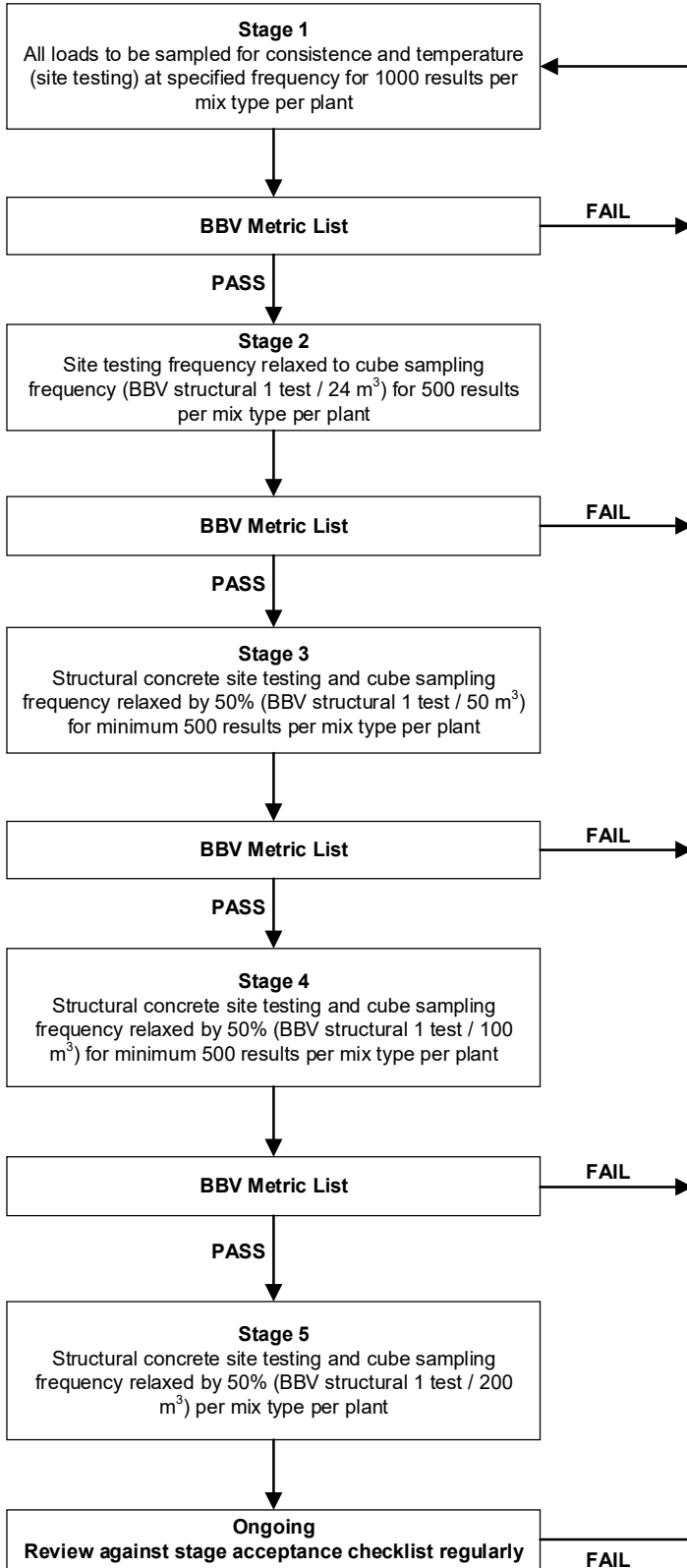
A flowchart outlining the **proposed** staged approach for testing reduction can be seen on the next page. The staged approach would be on a “per mix type, per plant” basis. Note that this is subject to HS2 approval and may change. Mix types decided by cement type (CEM IIIA or CEM IIIB) and max aggregate size (10mm or 20mm).

Technician Responsibility

The site team responsible for placing the concrete must use VERIFI to ensure that the concrete being placed is within specification. A separate briefing note has been produced for this.

- Confirm from ticket that the correct mix design has been supplied.
- Lab should adhere to testing frequency depending on the stage (as per flowchart) that the testing reduction is at.
- **“When it’s blinking it’s thinking”** – Do not make decisions about whether to use the concrete until the external display is showing a static number – if the display is blinking, VERIFI is performing calculations to ensure the concrete is thoroughly mixed.
- Once the VERIFI display stops flashing, read the number and confirm that it is within the test limits.
- Compliance is decided by manual test not VERIFI until VERIFI has been validated for each mix and approved as the primary compliance mechanism.
- Perform a manual test and record the result. This will be used compared to the VERIFI result to prove that VERIFI is performing as it should be.
- If there is a significant difference between the VERIFI reading and the manual result (slump difference >30mm, flow table difference >60mm), **a second test must be done** to double check – all of your testing data is used to justify reductions in testing requirements!

Technician Guide Continued - Proposed Staged Approach for VERIFI Implementation



BBV Metric List

- Correlation
- Acceptance / Rejection
- Cube Strength

If compliant with all three metrics, then **PASS**
If non compliant with any above metric, return to Stage 1

Notes

- No proposed reduction to sampling of ancillary mixes as the testing frequency has already been agreed at 1 / 75 m³.
- During stage 2, technician is in attendance during all of pour, overseeing site compliance and understanding of VERIFI acceptance. If any loads visually identified by technician as not matching VERIFI reading, manual test to be done.
- If site team reports concrete arriving visually above specification, a technician will be dispatched to site to confirm. If this is found to be the case, revert to stage 1.
- When a new mix is to be supplied by a plant (subject to approval), this mix will be individually calibrated as per stage 1 (all loads tested). When the calibration is completed, the mix will then join the stage at which the mix type / plant is operating at.
- Calibration and maintenance regime as per schedule at Appendix. Truck taken out of circulation if issues identified until compliant.