IMPLEMENTATION

Dubai Municipality has developed DM Concrete calculator to measure the environmental impact of the use of concrete in construction. The calculator helps in assessing the various concrete mixes against DSCB.

DM – Building Department Circular 225, provides requirements to be used in sustainable concrete sector. Attachment No. 2 of DM Circular 225 provides a baseline mix ratio for different concrete mixes.

Project teams to identify the types of concrete mixes proposed for a project and assess their environmental impact using DM concrete calculator. Project team to compare the environmental impact of proposed concrete mixes against DSCB.

The total Weighted Average Impact (WAI) for all the concrete quantity of proposed mixes used in the project shall be less than that of the corresponding baseline mixes as stated by DM. Smart Concrete calculator developed by Dubai Municipality shall be used for assessing environmental impact and weighted average impact.

$$\sum (\text{WAI of Proposed Mix X Quantity of Mix}) \leq \sum (\text{WAI of Baseline Mix X Quantity of Mix})$$

Proposed mixes will be compared to the Weighted Average Impact (WAI) of baseline mixes of equivalent. WAI is calculated from the normalised Life Cycle Assessment indicators/ factors of each mix such as Global warming potential (GWP), Acidification potential (AP), Eutrophication potential (EP), Abiotic Depletion Potential Fossil (ADPF), Blue Water Consumption (FW), Reused Water for Washing, Water for Washing.

During construction stage, project team must compile the required datasheet from the concrete manufacturers and re-assess the calculations to confirm the percentage of environmental impacts of concrete are within DM limits.

COMPLIANCE DOCUMENTATION

Table 407.03(1): Documents Required

Project Stages	Submittal Documents
Design Permit Application	1. DM BLDG Al Sa'fat declaration.
Before Construction Starts (Get approval from Research & Building Systems)	1. Company license, 2. Bill of quantities (showing concrete quantity for each mix grade). 3. Proposed concrete mixes used to comply with Dubai sustainable concrete baseline, 4. Report generated from DM environmental impact software. 5. Project specifications for concrete mixes. 6. Concrete trial mix reports (If available).
After Completion	Not applicable.

REFERENCES AND ADDITIONAL INFORMATION

Dubai Municipality (2018). Circular 225 – Regarding the use of environment friendly concrete and mix designs

Dubai Municipality (2018). Circular 225: Attachment No. 2 – Dubai Sustainable Concrete Baseline.