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Qualification of CEM II/B-M (P-LL) 42,5 R (Byggcement Plus Skövde) for use according to SS137003:2021+T2:2025

Commission

On commission from Heidelberg Materials Cement Sverige AB (HMC) RISE *Infrastructure and concrete technology* have reviewed or carried out qualification testing according to SS 137003:2021+T2:2025 annex T for Portland composite cement EN 197-1 CEM II/B-M (P-LL) 42,5R Skövde (Byggcement Plus Skövde) certificate number 0402-CPR-C500558, produced in Skövde by HMC. RISE has also evaluated these tests for use of this cement in exposure classes XC2 – XC4 and XF4.

RISE Research Institutes of Sweden AB is a notified body (number 0402) for product certification according to SS-EN 197-1.

Basis

Fabrication, testing and evaluation of specimens are reported in

- RISE-report O100634-1322425 ”Kvalifikationsprovningar av CEM II/B-M (P-LL) 42,5R, Skövde enligt SS137003:2021+T2:2025. Utvärdering för exponeringsklasserna XC2 – XC4” dated 2025-12-17.
- ”Kvalifikationsprovning av Byggcement Plus enligt SS 137003:2021+T2:2025: Underlag för fastställande av användningskriterier i XC-klasserna” created 2025-12-15 by HMC
- RISE-rapport O100634-1322425 ”Kvalifikationsprovningar av CEM II/B-M (P-LL) 42,5R, Skövde enligt SS137003:2021+T2:2025. Utvärdering för exponeringsklasserna XC2 – XC4 samt XF4” 2026-03-20
- ”Kvalifikationsprovning av Byggcement Plus enligt SS 137003:2021+T2:2025: Underlag för fastställande av användningskriterier i XF-klasserna” skapad 2026-03-18 av HMC

The reports from HMC can be found as annexes to the RISE reports.

The evaluation has been carried out by Ph.D. Elisabeth Helsing, senior researcher at RISE.

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Opinion

Test results from the qualification testing show that

Portland composite cement EN197-1 CEM II/B-M (P-LL) 42,5R Skövde (Byggcement Plus Skövde)

with certificate number 0402-CPR-C500558, can be used in the exposure classes mentioned below in accordance with SS137003:2021+T2:2025 when the application criteria given for the respective exposure classes are applied.

Exposure class XC2: The highest equivalent water-to-cement ratio, vct_{ekv} , shall be 0,59.

Exposure class XC3 and XC4: The highest equivalent water-to-cement ratio, vct_{ekv} , shall be 0,51.

Exposure class XF4: The highest equivalent water-to-cement ratio, vct_{ekv} , shall be 0,45. Evaluation of the salt-frost test may be carried out after 56 frost-cycles and the same test frequency in the continuous testing as for a CEM I may be applied.

For other exposure classes the rules in SS 137003:2021+T2:2025 applicable for a CEM II/B-M (P-LL) 42,5R are presupposed to be applied.

When additions type II are added to this cement where possible according to SS 137003:2021+T2:2025, and the k -value concept is applied, the highest acceptable vct_{ekv} in exposure classes XC2 – XC4 and XF4 according to SS 137003:2021+T2:2025 based on Portland cement clinker content of the binder is presupposed to be applied.

Note that this certificate only address exposure classes XC2 – XC4 and XF4. For other exposure classes the rules in SS 137003:2021+T2:2025 for a CEM II/B-M (P-LL) 42,5R are presupposed to be applied, if nothing else have been shown through qualification testing where this is possible.

RISE Research Institutes of Sweden AB Infrastructure and Concrete technology – Material Lab

Issued by



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