Certificate

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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 are of specimens are reported in

- RISE-report O100634-1322425 ”*Kvalifikationsprovningar av CEM II/B-M (P-LL) 42,5R, Skövde enligt S137003:2021+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 S137003:2021+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.

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 contiunous 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

Lovise Sjöqvist

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