

Product Evaluation

RE: Review of CEMATRIX CMEF-475

PRODUCT

The CEMATRIX CMEF-475 product is produced onsite by CEMATRIX (Canada) Inc located in Calgary, Alberta.

VENDOR CLAIMS AND INFORMATION

CLAIMS

CEMATRIX CMEF-475 cellular concrete is a combination of cement, fillers such as fly ash, or slag, water, foaming agent and air. Fresh made cellular concrete is a flowable, self compacting material similar to regular concrete; cellular concrete will set and harden into a monolithic material without subsidence. This material is cast at a density of 475 kg/cu. m. and typically hydrates and dries to a density of approximately 400 kg/cu. m. Strength characteristics range from 400 kPa at 7 days, up to 1.2 MPa at 28 days. Product Web Link: <http://www.cematrix.com/>

DESCRIPTION

CEMATRIX CMEF-475 product is produced onsite from mobile CEMATRIX production units capable of producing 20 to 120 cubic meters per hour. The Cematrix material is composed of cement (type 10 or type 30), or in combination with fly ash, and/or slag, the slurry is then combined with pre-formed foam. The foam is produced from proprietary foaming agents such as PROVOTON, or CEMATRIX CF-1. The material is produced, pumped and placed at a distance of up to 1 kilometer from the production units.

POTENTIAL USAGE

The CEMATRIX CMEF-475 product is used to fill voids, bridge abutment and approach backfills, retaining wall backfill, lightweight culvert and span backfill and engineered fill.

STANDARDS

Cement : CSA-3001, ASTM C-150, AASHTO M85
Fly ash : CSA-3000, ASTM C-618
Foaming agent : ASTM C-790
Compressive strength: ASTM C-495
Flexural strength : ASTM C-78
Freeze/thaw resistance : ASTM C-666

ALBERTA TRANSPORTATION COMMENTS

EXPERIENCE

Alberta Transportation has accepted the use of CEMATRIX Cellular Concrete for grouting abandoned culverts and culvert liners and CEMATRIX CMI-500 Insulating Cellular Concrete for shallow utility backfill.

APPLICABLE STANDARDS

The Alberta Transportation Specifications: 2.22, Grouting for Liners. Specification 2.4, Grading, Grouting of Abandoned Culverts. For Lightweight fill applications site specific conditions shall be assessed and the application of lightweight materials shall be engineered.

RECOMMENDATIONS:

CEMATRIX CMEF-475 product be listed as a Potential Product under Alberta Transportation Products List, Lightweight Fill Materials – Frost Barrier and Void Filling – Proprietary. Final acceptance as a proven product will be based on field performance.

TRIAL PROJECTS

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