

Powercrete® and CableCem

Bedding and infill materials for underground high-voltage cables

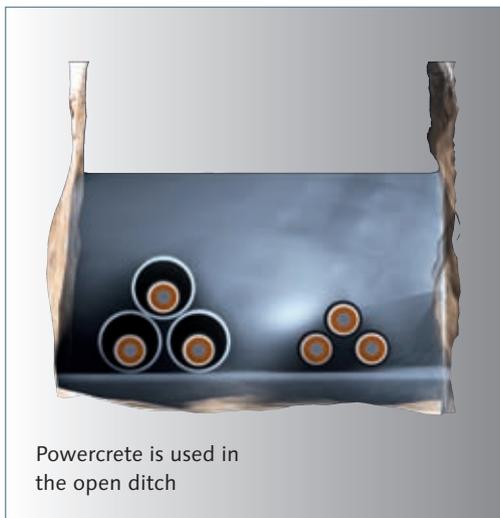


HEIDELBERGCEMENT

Optimising current flow using: Powercrete®

HV and UHV cables are increasingly being run underground. The reasons for this are the reduced need for land area, considerable savings on energy, and the absence of impairment to living areas by pylons.

The problem with underground runs lies in the massive generation of heat as the load of the electricity lines is increased. As the cable temperature increases, so does the resistance, resulting in increased capacity loss. Improved power capacity can be achieved using bedding and infill materials like Powercrete and CableCem which dissipate the heat being generated into the surrounding soil.



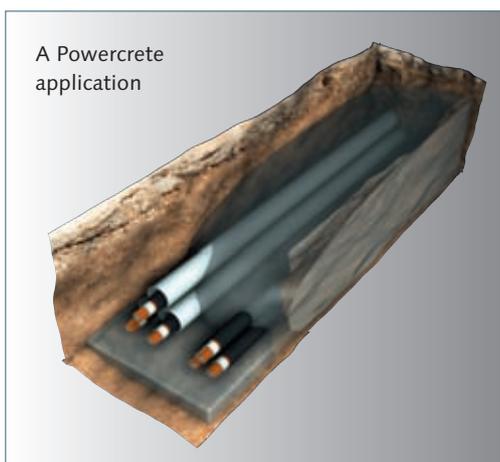
Powercrete is used in the open ditch

Powercrete®

For more power in the line

Powercrete is a high-performance heat-conducting concrete, used as a bedding and infill material for underground HV and UHV cabling. The special material properties of Powercrete result in low heat transmission resistance. Given the low thermal resistance, the heat being generated is dissipated effectively, the conductor temperature is reduced efficiently, and as a result the power capability of the cable run is increased.

The consistency of the Powercrete material can be adjusted. For instance, a free-flowing material consistency produces optimal embedding of cables, at the same time requiring low expenditure on compaction.



A Powercrete application

The specific product advantages of Powercrete:

- Improved heat dissipation for HV and UHV cables
- High heat conduction also after drying up
- Reduction in magnetic field strength in the cable run area through cable bundling possible
- Increased power capacity possible
- Reduction of conductor cross-section possible
- Switch to aluminium conductors possible
- Mitigation of "hot-spots"

Full technical details are available in the current technical data sheet, from www.powercrete.de

and CableCem

CableCem is a heat-conducting special construction material developed as a filling material for jacket tube systems. Thanks to its very good free-flow properties, CableCem is outstandingly well-suited for infilling the residual annular space between the cable and the jacket tube.



CableCem in the cable jacket tube system

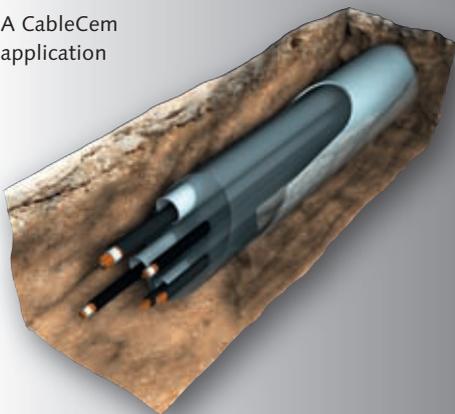
CableCem

Lower thermal resistance with CableCem

The low thermal resistance of CableCem ensures excellent heat dissipation, and thus reduced capacity loss in the cable line. The power capability of the cable run is thus permanently increased.

CableCem is offered in various options with a range of thermal resistances.

A CableCem application



The specific product advantages of CableCem:

- Excellent free-flow properties
- Improved heat dissipation for HV and UHV cables
- Reduction in magnetic field strength in the cable run area through cable bundling possible
- Increased power capacity possible
- Reduction of conductor cross-section possible
- Switch to aluminium conductors possible
- Mitigation of "hot-spots"



We expressly advise that achieving the characteristics described above assumes expert preparation at the construction site and expert working of the concrete, undertaken to be state-of-the-art.

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