

Thermaflow™

Concrete Solutions for Low Thermal Resistivity

Whether ensuring the resiliency of power supply in severe weather conditions, designing power networks in urban centres, or providing power to high demand data centres, underground duct bank material selection can help reduce construction costs while preventing outages.



The Challenge

Underground transmission lines require a stable thermal environment.

Excessive heat can cause:

- derating of cable ampacity
- hot spots
- reduction in cable lifespan
- premature cable failure damage to conduit

Backfill material selection needs to consider:

- thermal stability
- low (and accurate) thermal resistivity,
- be self consolidating
- have precise spread, viscosity and flowability
- be locally available

Thermaflow™

Thermaflow is a family of innovative concretes that dissipate the heat generated by buried cables with wide range of strengths and thermal resistivities.

With both excavatable and non-excavatable options, ThermaFlow is the top solution for resilient duct bank design.

Property	Units	Excavatable	Non-excavatable
Thermal resistivity (at 0% moisture)	°C-cm/W	100-80	80-55
28 Day comprehensive strength	psi (mPa)	< 300 (2)	> 3000 (21)
Slump	in (cm)	6-9 (23-15)	5-9 (13-23)

Benefits of Thermaflow

Developed by world-leading experts that understands the base science of the materials and the specific elements that impact thermal performance, Thermaflow:

- Leverages local knowledge of available materials and their properties
- Has precise physical properties:
 - flowability
 - self compacting
 - small aggregate size to fill voids
- Accurate thermal resistivity values with data and testing support
- Better heat dissipation increases allowable cable ampacity, potentially reducing cable size/number and in turn conduit and duct bank size, reducing construction time and cost.



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