



BAROID MAX-YIELD™ TCM

Thermally Conductive Media



Description MAX-YIELD™ TCM, thermally conductive media, in conjunction with MAX-YIELD™ HP, low solids geothermal grout, is specifically designed to develop a low permeable, thermally enhanced grout for use in boreholes containing ground source heat loops and related applications. MAX-YIELD TCM, thermally conductive media, is designed to be combined with MAX-YIELD™ HP, low solids geothermal grout, at specific water ratios to yield a grout with a thermal conductivity ranging from 1.0 to 1.2 BTU/hr-ft·°F (1.73 – 2.08 watts/m·°C).

Applications/Functions

- MAX-YIELD TCM, thermally conductive media, provides a highly efficient medium to enhance transfer of subsurface thermal energy between ground source heat loops and surrounding formations.

Advantages

- Designed for use in a 1:1 ratio with MAX-YIELD HP low solids geothermal grout
- Exceeds industry standard for hydraulic conductivity of $< 1 \times 10^{-7}$ cm/sec
- Produces a uniform slurry for smooth and efficient pumping of resultant grout

Typical Properties

- Appearance Grey to Black flake/powder
- Specific Gravity 2.26
- Permeability $< 1.0 \times 10^{-7}$ cm/sec

Recommended Treatment The recommended treatment is based on the desired thermal conductivity or k value. Please refer to treatment table below.

| k BTU/hr-ft·°F | MAX-YIELD™ HP Low Solids Geothermal Grout (# of 50-lb sacks) | MAX-YIELD™ TCM Thermally Conductive Media (# of 36-lb sacks) | Water (gal) | Slurry Volume Yield (gal) | Total Solids (by weight) |
|-------------------|---|---|----------------|------------------------------------|--------------------------------|
| 1.0 | 1 | 1 | 38.5 | 42.7 | 21.1% |
| 1.2 | 1 | 1 | 36.0 | 40.2 | 22.3% |

Packaging MAX-YIELD TCM, thermally conductive media, is packaged in 36-lb (16.3-kg) multiwall paper bags.

Additional Information

- The grouting material and method selected will depend upon the specific subsurface environment including all prevailing geological and hydrological factors and any existing regulatory requirements. The grouting process may not be complete until the grout is static at the desired level.
- The use of a bentonite-based solution may not be appropriate in unsaturated geologic conditions or environments where the formation water chemistry has a total hardness greater than 500 parts per million and/or a chloride content of greater than 1500 parts per million.
- If questions arise regarding subsurface environments it is always best to consult your local Baroid IDP representative to determine if the Baroid product of choice is appropriate for the given conditions