

 **Liquid Wellshield™ COARSE**
Noninvasive Loss Circulation Material (LCM) for Severe Loss Circulation

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Overview

A severe loss circulation material (LCM) and noninvasive fluid additive (NIF) with a bulk particle size concentration designed to cure the most severe loss circulation without altering the rheology of the mud while also promoting wellbore stability.

Unlike Fine, Coarse is used to "cure" losses in the form of a "pill", as opposed to pre-venting losses by being added to the general circulation. The material passes through a ¼" (6,350 microns) dry screen and will not block the jets of the bits or mud motors. It is non-damaging and can be pumped through most sizes of bit nozzles without blocking. Coarse has an increased particle size distribution compared to Fine. As a result, it interlocks and swells in the fluids to form an effective surface plug and non-damaging seal that increases in efficiency as differential pressures rise, allowing it to cure severe losses when encountered.

Safety & Handling

Refer to the safety data sheets (SDS) for handling, transport, environmental and first aid information by contacting admin@liquidcasing.com

Note: The use of solid lost circulation materials should be limited when pumping through small orifices, including liner hangers, stage collars, and poppet-type float collars and casing shoes. The use of bottom plugs with these materials is not recommended.

Features and Benefits

- Seals fractures up to 2800 microns
- Maximum return permeability
- Wellbore stabilizing
- No adverse affects to mud rheology
- Reduces torque and drag.
- Reduces wall cake permeability
- Prevents stuck pipe
- Prevents differential sticking
- Helps logging and casing run smoothly
- Prevents seepage loss
- Virtually eliminates damage to formation
- Compatible in OBM, WBM and SBW
- Approved for use in North Sea
- 100% Biodegradable and nontoxic

Lost Circulation Application

- Mix 15 ppb LC Coarse with 15 ppb LC Fine and 15 ppb Bentonite

Cement Application

- Mix 10 ppb LC Coarse with 20 ppb LC Cure, plus 2 ppb HEC Polymer

Workover Application

- Mix 15 ppb LC Coarse with 15 ppb LC Cure, plus 2 ppb XC Polymer

Appearance	Typical temp. range	Typical concentration	Specific Gravity	Bulk Density	Absolute volume
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<i>Tan granular, free flowing powder</i>	<i>Up to 400°F (204°C) BHST</i>	<i>10 to 25 lb/bbl (28.5 to 71.3 kg/m3)</i>	<i>1.4-1.5</i>	<i>33.09 lb/ft3 (530 kg/m3)</i>	<i>0.0799 gal/b (0.6671 L/kg)</i>
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