

# Walnut (F, M, C)

## Description

Walnut (F, M, C) is ground walnut shell, available in three sizes: fine (F), medium (M) and coarse (C). It is an inert material, insoluble in either oil or water. This product is used as bridging material for controlling loss circulation and as a solid lubricant in drilling fluids.

## Applications

Walnut can be used in all types of drilling fluids. It is used to help prevent and control lost circulation in water and oil-based drilling fluids. All grades can be used alone or in combination with other LCM materials in spotting fluids and high filtration squeezes. Walnut can be used in the active system to help prevent lost returns. Additionally, it can be used as a solid lubricant in water and oil based drilling fluids to reduce friction in deviated holes. Walnut is used when drilling highly reactive formations where its mechanical action helps minimizing/controlling bit balling and BHA balling problems.

## Features and Benefits

- Compatible with other LCM materials
- High strength
- Inert, does not react with fluid products
- Compatible with all types of fluids including oil based, brines, etc.
- Available in three grades to allow selection of particle size that is effective in controlling lost circulation.
- Helps reduce friction in deviated holes
- Aids in minimizing/controlling bit balling and BHA balling problems.
- Economical

## Typical Properties

Appearance	Solid, granular
Color	Light brown
Specific Gravity	2.2
Solubility	Insoluble in water or oil

## Recommended Treatment

Walnut is generally added at a concentration of 3.5 – 10.5 lb/bbl (10 – 30 kg/m<sup>3</sup>). It is recommended to be slowly added through the conventional jet hopper.

## Safety and Handling

Prior to using this product, refer to the safety data sheet for information on use of personal protective equipment, safe handling, storage, transport, and disposal.

## Packaging

Walnut is available in 50 lb (22.7 kg) and 55 lb (25 kg) bags.

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