

Drill Tech® Debur Mill

ROTATIONAL TOOL FOR REMOVAL OF CASING BURRS FROM PERFORATING OPERATIONS

OVERVIEW

Halliburton CleanWell® Drill Tech® deburr mill is a specialized version of the standard Drill Tech® scraper. It is designed to remove burrs and leftover materials on the ID of the casing as a result of perforating operations. The stabilizer sleeves assist in restoring drift while the carburized saw tooth blades restore the ID of the casing. The tool can be run as a standalone device for post-perforation deburring operations, although it is recommended to be run in combination with other wellbore cleaning tools for optimal debris removal. The adaptable component design allows the tool to be built as required per application.

APPLICATIONS

The tool is ideal for any operations preceding running a packer or multiple packers through a perforation zone. This includes, but is not limited to, completions involving:

- » SmartWell® completions system
- » Enhanced Single-Trip Multizone (ESTMZ™) completion system

FEATURES

- » Robust, rotational cleaning
- » Hardened, carburized (8620) saw tooth blades
 - » Cutting relief feature behind primary cutting edge
- » Tungsten carbide edged stabilizer sleeves
 - » 12 blades per stabilizer to take smaller “bites” while milling and restoring drift and preventing torque spikes and hang-ups while deburring
 - » 50% greater milling surface compared to regular stabilizer sleeves
- » Integral mandrel shared with standard Drill Tech scraper
 - » Smooth inner bore
 - » No internal connections or upsets
 - » Big bore design (large IDs)
 - » 4145 or 4430 material construction
 - » No external bolts or fasteners
- » Technical specifications validated through finite element analysis (FEA) modeling



Drill Tech® Deburr Mill Technical Specifications

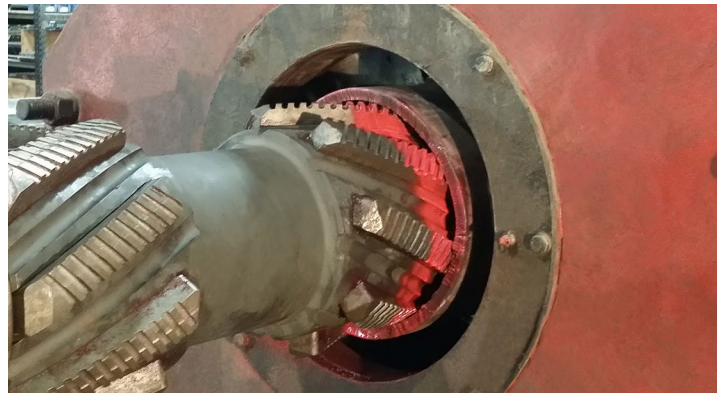
Casing Size (in)	Max Trip Speed (ft/min)	Max Rotating Speed in Tension (rpm)	Max Rotating Speed in Compression (rpm)	Recommended Deburring Rotational Speed (rpm)	Max Compression While Rotating (klbs)
9 5/8 - 10 3/4	200	120	90	30 - 60	50
7 - 7 5/8	200	120	90	30 - 60	35

Validation and Performance Test

A validation test was performed with the 9 5/8-in. Drill Tech deburr mill and a piece of perforated 9 5/8-in. 47 ppf casing. The casing was held in place and the Drill Tech deburr mill rotated and reciprocated using a torque machine.



Casing used for test



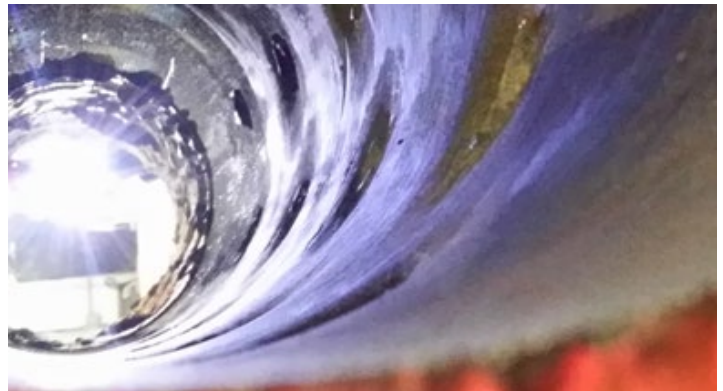
Test set-up

Test Results

The Drill Tech deburr mill removed the burrs on the ID of the casing with limited rotational speed (12 rpm – torque machine limitation) and no fluid/circulation to remove the debris generated. The results were obtained after approximately 15 minutes of tool rotation.



Close-up of burrs on ID of casing prior to test



Close-up of burrs removed from ID after test

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com

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