Evaluation and Testing of Mechanical Cement Wiper Plugs

API TECHNICAL REPORT 10TR6
FIRST EDITION, JULY 2015

AMERICAN PETROLEUM INSTITUTE

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1 Scope

The purpose of this technical report is for recommended testing, evaluation, and performance requirements for mechanical cement wiper plugs.

2 Normative References

This document contains no normative references. For a listing of other articles associated with this publication, see the Bibliography.

3 Terms and Definitions

For the purposes of this document, the following terms and definitions apply.

3.1
baffle
A ring or plate made of drillable material that is mounted in the casing to provide a landing surface for a cement plug and may (or may not) also provide a sealing surface.

3.2
bump pressure
The amount of pressure applied to the casing when a cementing plug is landed (bumped) onto a baffle, float collar, or another plug.

3.3
cement (slurry)
A mixture of calcium silicates and water, possibly containing other materials, that sets to a hard, rocklike substance.

3.4
cementation/cementing
The application of pressure pumping cementing fluids (spacers and cement slurries) to various points in a wellbore.

3.5
displacement fluid
The fluid used to displace the cement slurry from the casing that is normally separated from the cement slurry by a top wiper plug and / or a spacer fluid.

3.6
drillable
Capable of being drilled up in a reasonable amount of time by a drill bit.

3.7
elastomer
An elastic, flexible rubberlike material, including natural or synthetic rubber compounds, polyurethanes, and thermoplastic elastomers.

3.8
float collar
A tool containing a one-way check valve to prevent return flow of the cementing fluids from the annulus into the casing.

NOTE It has threaded connections that attached near the bottom of a casing string and may also provide a landing and/or sealing surface for wiper plugs.