

Regulatory Citation(s):

78.85. Cement Standards.

(c) After any casing cement is placed and cementing operations are complete, the casing may not be disturbed for a minimum of 8 hours by doing any of the following:”

(d) Where special cement or additives are used, the operator may request approval from the Department to reduce the cement setting time specified in sub-section (c).

Question:

What is the process for reducing the wait-on-cement (WOC) time? What constitutes a “special cement” or “special additive?”

Response:

The WOC time of 8 hours established in 25 Pa. Code Chapter 78.85(c) applies to all cemented casing strings and is critical for ensuring zonal isolation and well integrity. Many cement admixtures are available for expediting cement curing/strength gain, but field conditions are generally difficult to simulate in the laboratory. Because of this, requests to reduce the WOC time are considered on a case-by-case basis by the Department’s District technical staff. To obtain approval, such requests must include both laboratory testing and a field demonstration of well integrity. If the request both indicates suitable laboratory slurry properties and demonstrates well integrity, a geographically defined area of application for the reduced WOC time will be designated by the Department’s District Oil and Gas Inspector Supervisor.

Laboratory testing should, at a minimum to make the necessary demonstration for approval, include compressive strength, gel strength, and thickening time testing under anticipated downhole pressure and temperature conditions. It is recommended that compressive strength measurements be made at 4, 8, 12, 24 and 72 hours. The mix water temperature used to complete laboratory testing should also be reflective of site conditions. It is further recommended that all laboratory testing be conducted by an independent third party for these requests.

The field demonstration should include a cement bond analysis and annular monitoring for the presence of gas following execution of the cement job.

If making a request in accordance with this guidance, a copy of the cement job log must be submitted to the District Oil and Gas Inspector Supervisor along with the results of the cement bond analysis and the annular monitoring. The general process to obtain approval to reduce WOC is outlined in 25 Pa. Code Section 78.75. In addition to the items mentioned at the beginning of this paragraph, the alternative methods application shall contain all laboratory analyses completed as well as the mix design for the cement blend under consideration.