

Accessory:

#166-02 Balance Weight Set; 50 gm - 10 mg

This Shearometer Tube is designed specifically for high gel strength fluids. Lighter fluids may be tested using our 166-08 Shearometer Kit.



**Shearometer Tube with
Weight Support, 20 gm**

Item# 166-10

Instruction Manual

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Ver. 1.2

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Introduction:

Experience has shown that many drilling fluids tend to develop excessive shear strength under static conditions when the mud is not circulating in the well bore. This is especially noticeable at elevated temperatures. Excessive shear strength results in high pump pressures required to "break circulation", and causes difficulties in logging, perforating and other down-hole operations.

The shear strength test using the weighted Shearometer Cylinder is commonly made on an aged mud sample that has been heated for a pre-determined period of time. Aging temperatures are selected to be near the estimated bottom-hole temperature of the well. Aging cells or similar vessels capable of meeting these pressure and temperature requirements are required.

Procedure:

1. Place the stainless steel shear tube on the surface of the aged sample that has been cooled to room temperature. If a crust develops on the surface of the sample, it should be gently broken prior to putting the shear tube in place.
2. Center the stainless steel weight platform on top of the shear tube.
3. Put enough gram weights on the platform to start a downward movement of the shear tube. The tube must be submerged at least one-half the length of the tube. Too much weight has been added if the tube submerges entirely. The tube will stop its downward travel at the point where the shear strength of the aged mud against the surface of the tube is sufficient to support the applied weight of the tube and weights.
4. Measure the portion of the tube submerged in the fluid in inches. The length of the tube submerged may be most accurately determined by measuring the length of the non-submerged portion and subtracting from the total length of the tube (3.5 inches or 89 millimeters).
5. Record the total weight in grams of the tube, platform and weights.

Calculation:

$$\text{Shear Strength (S), lb/100ft}^2 = \frac{3.61 (Z + W)}{L} - 0.256 A$$

Where:

S = Shear Strength, pounds per 100 square feet

Z = Weight of the Shear Tube, grams

W = Total shear weight, grams (sum of platform & weights)

L = Submerged length of shear tube, inches

A = Mud Weight, pounds per gallon

Maintenance:

Thoroughly clean and dry Shearometer parts after each use.