

CLEANING ACID STRENGTH

Tablet Count Method

**TEST FOR THE STRENGTH
OF INDUSTRIAL CLEANING
AND DESCALING ACIDS**

10%

Dilute acids are commonly used in a variety of industrial plant cleaning and descaling operations, and in other industrial applications. It is normally necessary to check the acid strength at the start, during and at the end of such operations. The Palintest Cleaning Acid Strength test provides a quick and simple method of determining acid strength in these applications.

The Palintest Cleaning Acid Strength test is calibrated for use with sulphamic, sulphuric, hydrochloric, phosphoric, acetic and citric acids. The test range is approximately 0 - 10% depending on the acid in use.

Method

The test uses a tablet reagent containing a standardised amount of alkali together with a colour indicator. The test is carried out by adding tablets one at a time to a sample of the dilute acid until a colour change occurs. The result is calculated from the number of tablets used in the test.

Reagents and Equipment

Palintest Cleaning Acid Strength Tablets
Palintest Sample Container, 100/50/10 ml plastic (PT 510) or
Palintest Sample Container, 50/10 ml plastic (PT 506)

Test Procedure

- 1 Take a 10 ml sample of the dilute acid under test in the Palintest sample container.
- 2 Dilute the sample by making up to the 50 ml mark with water. Deionised or tap water may be used.
- 3 Add one Cleaning Acid Strength tablet and allow the tablet to dissolve. The tablets produce considerable effervescence. **DO NOT STOPPER OR SEAL THE CONTAINER. DO NOT SHAKE THE CONTAINER VIGOROUSLY.**
- 4 Continue adding Cleaning Acid Strength tablets one at a time in this manner until the red colour disappears. Note the number of tablets used.
- 5 To calculate the acid strength as percentage acid, multiply the number of tablets used by the factor below appropriate to the acid in use :-

Sulphamic Acid x 2.0

Acetic Acid x 1.25

Sulphuric Acid x 1.0

Hydrochloric Acid x 0.75

Phosphoric Acid x 2.0

Citric Acid x 1.6

Example: If when using a hydrochloric acid solution, the test requires six tablets, then the hydrochloric acid strength is $6 \times 0.75 = 4.5\%$.

Caution

Care must be exercised at all times when handling industrial acids. This kit should only be used by personnel skilled in handling these acids who should wear all normal protective clothing during use. The kit is for testing dilute acids only.

Palintest Cleaning Acid Strength tablets are highly effervescent. Do not stopper the sample container or shake the container vigorously during the tablet addition. The carbon dioxide gas given off from the tablets must be allowed to escape to prevent pressure build-up.