

## **SOLE ADHESION TESTER**



The strength of adhesion of sole of a shoe to its upper is determined by measuring the force needed to pull off the sole from the upper. A suitable last is placed inside the shoe which is then placed on a straight edge acting as a fulcrum for applying load on the joint of the sole and upper. The maximum load the sole is able to withstand before coming off is determined and reported as the sole adhesion strength. This test can be carried out either at the heel or at the toe of the shoe.

The “UNILAB” Sole Adhesion Tester consists of a spring dynamometer to indicate the load applied at the junction of the sole and the upper, a lever arrangement to transmit the load exerted on the toe piece to the spring dynamometer, a straight edge fulcrum for resting the shoe on during the test, and a set of interchangeable toe pieces having different curvature.

The spring dynamometer indicate the load applied on the joint directly in kilograms, taking into account the mechanical advantage of the lever transmitting the force from the toe piece to it. The load is indicated on a circular dial. The dynamometer has two pointer, a black pointer to indicate the instantaneous load acting on the toe piece and a red dummy pointer to indicate the maximum load applied before failure of adhesion.

The toe piece are five in number and having different curvature to enable toes and heels of different shapes and sizes to be tested. The length of arc of each toe piece, however, is the same to ensure that the load is applied only on a fixed length of joint. They are made from carbon steel for giving a long operational life. Any one of the toe pieces can be held in the equipment at one time.

The fulcrum on which the shoe is placed during the test has adjustable height to enable soles of different thickness to be tested. The height of the fulcrum is adjusted with the help of spacer strips provided with the instrument.

The instrument is finished in painting and bright chrome plating to give it a corrosion resistant finish.

### **TECHNICAL DATA:**

Load Range : 0 to 125 kg X 500 gm.  
Lever Ratio : 1:5  
Curvatures of Toe Pieces : 25, 30, 35, 40 and 45 mm.  
Length of Contact Arc : 22 mm

### **RELATED STANDARD:**

**IS: 8085(part I) - 1986** : Method of Test for Footwear  
Part I : Dimensions, Fitting, Adhesion Test, Peel Test,  
Heat Resistance Test, and Ageing Test.  
**IS: 11226 - 1993** : Specification for Leather Safety Footwear having direct  
moulded sole.