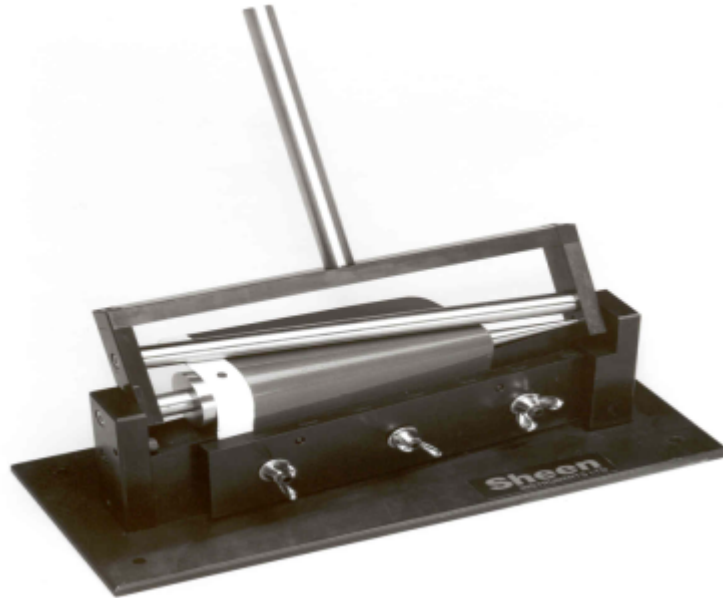




## REF. 801 CONICAL MANDREL TEST APPARATUS



### APPLICATIONS

The conical mandrel may be used to establish two properties of a coating; its resistance to cracking and/or detachment from its substrate and its elongation during the test. This is accomplished by bending the test material around a conically shaped metal bar.

### DESCRIPTION

It is suitable for use with metal panels up to 0.8mm thick (flexible substrates up to 5mm in thickness) e.g. polythene or synthetic rubber. The apparatus consists of a steel mandrel 203mm in length and tapering from 38mm to 3mm in diameter. It will accommodate test panels up to 19cm x 11cm in size. A graduated scale on the clamping bar indicates the mandrel diameter at which failure has occurred. When this diameter is added to the thickness of the panel used, the percentage elongation can be calculated.

### OPERATION

With the handle resting on the test bench (the same side as the clamping wing-nuts) a panel is inserted into the clamp (coated side uppermost) with a sheet of kraft wrapping paper placed on top of the coated side. The clamp is then tightened by means of the three wing-nuts, ensuring that one vertical edge of the panel is in line with the narrow end of the mandrel. The roller assembly is then rotated smoothly through 180°. The duration of this movement depends upon the national standard being complied with:

ASTM D522 (A):	for cracking / detachment 1 second*	(*or some other mutually agreed time)
	for elongation 15 seconds*	

BS EN NF/ISO 6860 (BS 3900-E11) for cracking / elongation 2-3 seconds

### PLEASE REFER TO THE RELEVANT STANDARD FOR THE DETAILED TEST PROCEDURES

The location of the failure may be marked and measured at this stage. Its location may be determined by reading off the graduated scale. The coatings' percentage elongation to failure may then be calculated in accordance with ASTM D522 (A).

Owing to continuous development, we reserve the right to introduce improvements and modify specifications without prior notice.

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