



## Materials Testing

## SM1000f

## Coil Spring

*Fits in the Universal Testing Machine (SM1000)  
for compression spring tests on a coiled spring*



- Fits in the compressive test area of TecEquipment's Universal Testing Machine for tests on a coiled compression spring
- Includes fittings to hold the spring securely
- Shows Hooke's Law and how to find 'spring rate' by experiment
- Heavy-duty coil spring for a more practical experience

# SM1000f

## Coil Spring

### Description

The Coil Spring (SM1000f) fits in the area above the loading platform of TecEquipment's Universal Testing Machine (SM1000).

The spring is of the same heavy-duty design as those used in vehicle suspensions. This gives students a better understanding of a 'real world' engineering component.

Two metal 'bosses' hold the spring securely in the testing machine, which compresses the spring. The digital indicator of the testing machine measures the change in spring length (displacement) for a given change in applied force. Students use the displacement and force values to find the actual spring rate and compare it with the theoretical value, based on the spring dimensions. The experiment helps to show Hooke's Law for the relationship between force and displacement on a spring.

### Standard Features

- Five-year warranty
- Manufactured in accordance with the latest European Union directives

### Experiments

- Compression tests on a coiled spring

### Essential Base Unit

- Universal Testing Machine (SM1000)

### Operating Conditions

*Operating environment:*  
Laboratory

*Storage temperature range:*  
-25°C to +55°C (when packed for transport)

*Operating temperature range:*  
+5°C to +40°C

*Operating relative humidity range:*  
80% at temperatures < 31°C decreasing linearly to 50% at 40°C

### Specifications

*Approximate nett weight:*  
6 kg

*Approximate packed volume:*  
0.02 m<sup>3</sup>

*Spring:*  
Coiled spring steel, ground ends  
Spring Rate <180 N/mm

Approximate dimensions: 135 mm long (uncompressed) x 71 mm internal diameter. 14.3 mm wire diameter.

*tradition.*

*innovation.*

*integration.*

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**infoWERK Medien & Technik GmbH**

**Martinsbühel 6 / A-6170 Zirl / Austria**

Phone: +43 (0) 5238 52099-0 / Fax: +43 (0) 5238 52099-40

E-Mail: [info@infowerk.at](mailto:info@infowerk.at) / Website: [infowerk.at](http://infowerk.at)

**Otto-Dürr-Straße 25**

**D-70435 Stuttgart, Zuffenhausen/ Germany**

Phone: +49 (0) 711 342471-0 / Fax: +49 (0) 711 342471-11

E-Mail: [info@de.infowerk.at](mailto:info@de.infowerk.at) / Website: [infowerk.at](http://infowerk.at)