

Torsional vibrations and torsion modulus 1.3.30-00



What you can learn about ...

- Shear modulus
- Angular velocity
- Torque
- Moment of inertia
- Angular restoring torque
- G-modulus
- Modulus of elasticity

Principle:

Bars of various materials will be excited into torsional vibration. The relationship between the vibration period and the geometrical dimensions of the bars will be derived and the specific shear modulus for the material determined.

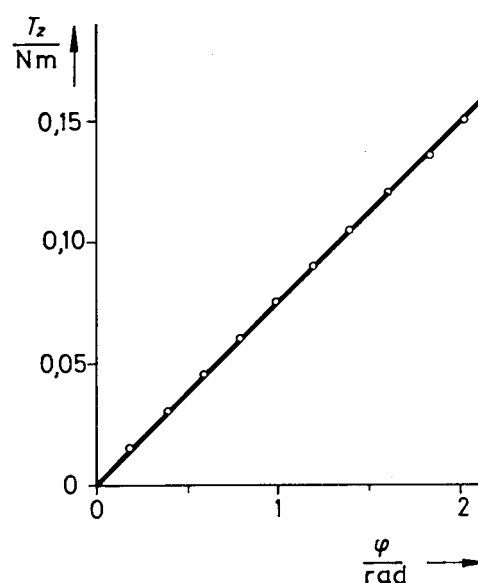
Tasks:

1. Static determination of the torsion modulus of a bar.
2. Determination of the moment of inertia of the rod and weights fixed to the bar, from the vibration period.
3. Determination of the dependence of the vibration period on the length and thickness of the bars.
4. Determination of the shear modulus of steel, copper, aluminium and brass.

What you need:

Torsion apparatus	02421.00	1
Torsion rod, steel, $l = 500$ mm, $d = 2$ mm	02421.01	1
Torsion rod, Al, $l = 500$ mm, $d = 2$ mm	02421.02	1
Torsion rod, Al, $l = 400$ mm, $d = 2$ mm	02421.03	1
Torsion rod, Al, $l = 300$ mm, $d = 2$ mm	02421.04	1
Torsion rod, Al, $l = 500$ mm, $d = 3$ mm	02421.05	1
Torsion rod, Al, $l = 500$ mm, $d = 4$ mm	02421.06	1
Torsion rod, brass, $l = 500$ mm, $d = 2$ mm	02421.07	1
Torsion rod, Cu, $l = 500$ mm, $d = 2$ mm	02421.08	1
Spring Balance 1 N	03060.01	1
Spring balance 2, 5 N	03060.02	1
Stopwatch, digital, 1/100 sec.	03071.01	1
Sliding weight	02040.55	4
Support base -PASS-	02005.55	1
Support rod -PASS-, square, $l = 250$ mm	02025.55	1
Support rod -PASS-, square, $l = 630$ mm	02027.55	1
Right angle clamp -PASS-	02040.55	4

Complete Equipment Set, Manual on CD-ROM included
Torsional vibrations and torsion modulus P2133000



Torque and deflection of a torsion bar.