Deformation of solids

A-Level Physics · Vocabulary in context

Word	Example
deformation /ˌdiːfɔːˈmeɪʃn/	The dent in the car is a **deformation**.
Hooke's law /hʊks lɔː/	**Hooke's law** says the extension is proportional to the force.
elastic /ɪˈlæstɪk/	A rubber band is **elastic**: it goes back to its shape.
elastic limit /ɪˈlæstɪk ˈlɪmɪt/	Past its **elastic limit**, the spring stays longer.
tensile /ˈtensaɪl/	A rope pulled at both ends has a **tensile** force on it.
extension /ekˈstenʃn/	The **extension** of the spring is 4 cm. 4 cm
compression /kəmˈpreʃn/	The **compression** of the spring is 3 cm. 3 cm
load /ləʊd/	Hang a 2 N **load** on the wire. 2 N
negligible /ˈneglɪdʒəbl/	For a heavy stone, air resistance is **negligible**.
spring constant /sprɪŋ ˈkɒnstənt/	A stiff spring has a large **spring constant**.
limit of proportionality /ˈlɪmɪt ɒv prəˌpɔːʃəˈnælɪti/	After the **limit of proportionality**, the graph is no longer straight.
plastic /ˈplæstɪk/	Modelling clay is **plastic**: it keeps its new shape.
series /ˈsɪəriːz/	Springs in **series** stretch more than one spring.
parallel /ˈpærəlel/	Two springs side by side, in **parallel**, are stiffer.

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stress /stres/	The **stress** in the wire is the force divided by its area.
strain /streɪn/	**Strain** is the extension divided by the original length.
Young modulus /jʌŋ ˈmɒdjʊləs/	Steel has a high **Young modulus**, so it is hard to stretch.
cross-sectional area /krɒs ˈsekʃənl ˈeərɪə/	A thick wire has a large **cross-sectional area**.
diameter /daɪˈæmɪtə/	Measure the **diameter** of the wire with a micrometer.
pulley /ˈpʊli/	The rope passes over a **pulley**.
micrometer /maɪˈkrɒmɪtə/	Use a **micrometer** to measure the thickness of a coin.
random error /ˈrændəm ˈerə/	Small changes in your reaction time cause a **random error**.
thermal energy /ˈθɜːml ˈenədʒi/	Rubbing your hands turns work into **thermal energy**.
rubber band /ˈrʌbə bænd/	A **rubber band** stretches easily.
elastic hysteresis /ɪˈlæstɪk ˌhɪstəˈriːsɪs/	**Elastic hysteresis** means the rubber warms up as it stretches and relaxes.
elastic potential energy /ɪˈlæstɪk pəˈtenʃl ˈenədʒi/	A stretched spring stores **elastic potential energy**.
trapezia /trəˈpiːzɪə/	The area is made of two **trapezia**.
kinetic energy /kɪˈnetɪk ˈenədʒi/	A fast car has a lot of **kinetic energy**.

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