Modulus of Rupture

http://composite.about.com/library/glossary/m/bldef-m3449.htm

Definition: The force necessary to break a specimen of specified width and thickness expressed in pounds-force per square inch. *See also* FLEXURAL STRENGTH.

Modulus of Rupture

http://www.azom.com/details.asp?ArticleID=568&head=Materials+Property+Glossary#_Modulus_of_Rupture

Modulus of Rupture (MOR) is the maximum surface stress in a bent beam at the instant of failure.

Modulus of Rupture

http://www.answers.com/topic/modulus-of-rupture

Reflects the maximum load-carrying capacity of a member in bending, and is proportional to maximum moment borne by the specimen. Modulus of rupture is an accepted criterion of strength, although it is not a true stress because the formula by which it is computed is valid only to the elastic limit.

Modulus of rupture

http://www.thefreedictionary.com/Modulus+of+rupture

The measure of the force necessary to break a given substance across, as a beam, expressed by eighteen times the load which is required to break a bar of one inch square, supported flatwise at two points one foot apart, and loaded in the middle between the points of support. – Rankine

Modulus of rupture.

http://www.auf.asn.au/scratchbuilder/wood_strength_values.html

Modulus of rupture is computed by the same formula as was used in computing fiber stress at proportional limit, except that maximum load is used in place of load at proportional limit. Since the formula used is based upon an assumption of linear variation of stress across the cross section of the beam, modulus of rupture is not truly a stress existing at time of rupture, but is useful in finding the load-carrying capacity of a beam.

Flexural Strength

Definition: The strength of a material in bending, expressed as the stress on the outermost fibers of a bent test specimen, at the instant of failure. In a conventional test, flexural strength expressed in psi is equal

to:

$$\frac{3LP}{2bd^2}$$

where

P = the load applied to a sample of test length *L*, width *b*, and thickness *d*.

In the case of plastics, this value is usually higher than the straight tensile strength. *See also* MODULUS OF RUPTURE.

Flexural strength

From Wikipedia, the free encyclopedia

http://en.wikipedia.org/wiki/Flexural_strength

Flexural strength is also known as **modulus of rupture**, **bend strength**, or **fracture strength**. Flexural strength is measured in terms of stress, and thus is expressed in pascals (Pa) in the SI system.

For a rectangular sample under a load:

$$\sigma = \frac{3FL}{2bd^2}$$

- *F* is the load (force) at the fracture point
- *L* is the length of the support span
- *b* is width
- *d* is thickness