

adhere academy: modulus of elasticity



Many of our material product data sheets (PDS) will quote a number for the **modulus of elasticity**.

The **modulus of elasticity** is a number which represents the material’s tendency to be deformed elastically (i.e. non-permanently, recovering original size and shape) when a force is applied to it. **A stiffer material will have a higher modulus of elasticity, a softer material will have a lower modulus.** We use units like *MPa* or *psi* for this number.

There is a relationship between modulus of elasticity and **hardness**. **Hardness** is a measure of how resistant a material is to various kinds of permanent deformation or shape change when a force is applied.

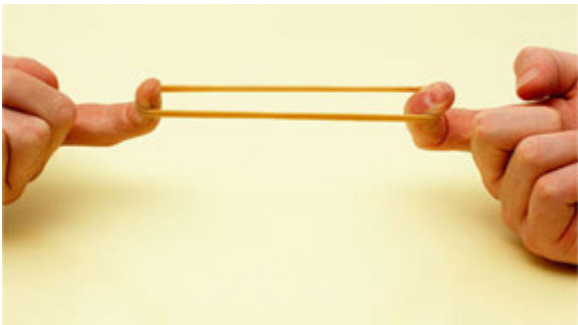
These physical characteristics are useful when selecting an adhesive, coating or other material. Let’s look at two of our most popular [UV curing glass bonding adhesives](#):

Name	Modulus of Elasticity	Hardness
Dymax 429	67 MPa	Shore D60

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Name	Modulus of Elasticity	Hardness
Dymax 6-621	730 MPa	Shore D80

Both of these products bond glass to metal very well. If you want a hard, rigid, clear bond – then Dymax 6-621 is a good candidate. But if you have a large area or high-impact application, where a flexible adhesive would be desirable, then Dymax 429 is a better one to test.



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Last updated: June 2018

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