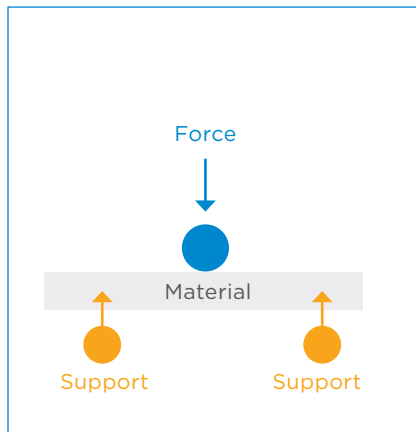


Understanding Strength Measurements

There are many ways to report flexural strength data, so it's important to understand the test method behind the numbers. The charts below illustrate two different test methods for calculating flexural strength. Both test methods are accepted according to ISO 6872:2015.

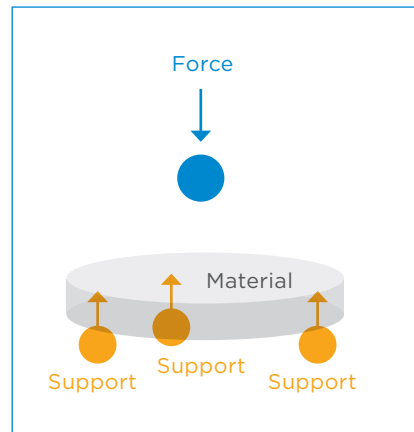
The 3-point flexural strength test utilizes a bar sample with two supports, while the biaxial test method utilizes a disc sample with a larger surface area and three supports. Therefore, the biaxial test method requires more force to break the sample compared to the 3-point flexural strength test method. This results in a higher flexural strength value when the biaxial test method is used¹.

3-point flexural strength test



Delivers lower flexural strength values

Biaxial flexural strength test



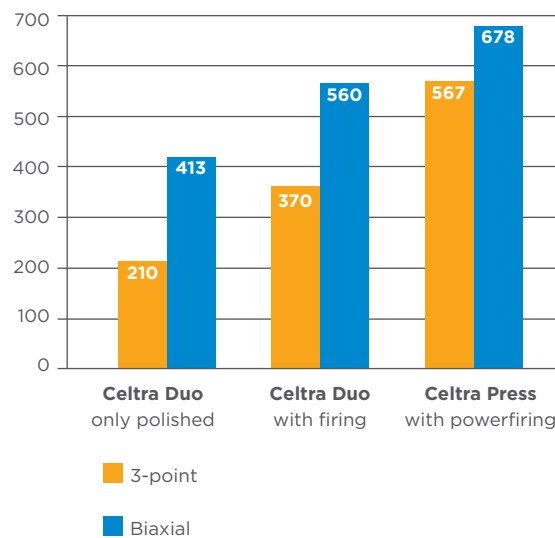
Delivers higher flexural strength values

The charts provided below include the 3-point and biaxial flexural strength data for Celtra.

	3-point- flexural strength	biaxial flexural strength
Celtra Duo only polished	210 MPa*	413 MPa**
Celtra Duo with firing	370 MPa*	560 MPa**
Celtra Press with powerfiring	567 MPa*	678 MPa**

* In-house measurements Dentsply Sirona

** Flexural strength testing by Justus-Liebig University Giessen, Germany



¹ "Comparative study of flexural strength test methods on CAD/CAM Y-TZP", Yongxiang Xu, Jianmin Han, Hong Lin, Linan An; Regen Biomater 2015 Dec; 2(4): 239-244