

# ASTM D4032 Puncture Fixture

## Circular Bend Stiffness Fixture for Fabrics

Built to ASTM D4032 — Standard Test Method for Stiffness of Fabric by the Circular Bend Procedure



### OVERVIEW

Circular bend fixture for measuring fabric stiffness. A folded fabric specimen is laid over an orifice in a platform and a plunger pushes it through, recording the maximum force required, which reflects the fabric's resistance to bending in multiple directions at once.

### KEY FEATURES

- Platform with precision orifice per circular bend principle
- Plunger centered on the orifice for symmetric bending
- Polished surfaces minimize friction on the specimen
- Quick specimen placement for rapid testing
- Supplied with adapters to suit your load frame (clevis or threaded)

### TECHNICAL SPECIFICATIONS

|                            |                                                        |
|----------------------------|--------------------------------------------------------|
| <b>Test method</b>         | Fabric stiffness (circular bend)                       |
| <b>Test type / loading</b> | Compression, plunger through orifice                   |
| <b>Specimens</b>           | Folded fabric specimens per ASTM D4032                 |
| <b>Load capacity</b>       | Low-force fixture; use with a 100–500 N load cell      |
| <b>Fixture material</b>    | Stainless steel and aluminum                           |
| <b>Contact surfaces</b>    | Polished orifice platform and plunger                  |
| <b>Machine connection</b>  | Clevis pin or threaded adapter, to suit customer frame |
| <b>Compatible frames</b>   | Electromechanical universal test machines              |

### APPLICATIONS

- Woven and knitted fabrics
- Nonwovens and technical textiles
- Fabric hand and finish evaluation
- Textile production QC

### ABOUT THE STANDARD

ASTM D4032 determines the stiffness of fabrics by the circular bend procedure. A plunger forces a flat, folded specimen through an orifice in a platform, producing multi-directional bending. The maximum force is a measure of fabric stiffness, related to hand and drape, and applies to woven, knitted and nonwoven fabrics.

**Ordering & customization:** Specify test machine model and connection when ordering.

Specifications are typical and may vary by configuration; confirm at time of quote. Users should refer to the current edition of the standard for test procedures.  
Part ref. UGC-D4032-PF