

Warp and Fill Breaking Load at Room Temperature

3M™ Nextel™ Woven Fabrics 312 and 440

Warp and fill breaking loads were measured at room temperature using the following procedure, based upon ASTM D-5035:

Fabric samples were cut into 1.5 inch x 6 inch (3.81 cm x 15.24 cm) strips in the warp and fill directions, respectively. Strips were placed in a 1472°F (800°C) oven for one hour to remove the sizing.

Edges were unraveled to 1 inch (2.54 cm). Masking tape was placed at each end with 3 inches (7.62 cm) test area exposed between taped areas.

The tensile tester was set up with a 3 inch (7.62 cm) gauge length and a crosshead speed of 0.5 inch (1.27 cm) per minute.

Fabric was placed into the jaws fitted with 1 inch (2.54 cm) pads. Air pressure was set at 60-80 psi ($4.14 \times 10^5 - 5.51 \times 10^5$ Pa).

Each sample was loaded until failure. Five samples of each fabric were tested at room temperature. The averages are shown below.

