

PUNCTURE/BURST STRENGTH

How do I know if this fabric will burst or puncture after installed for standard use?
There is an ASTM test designed to answer this question based on the fabric's intended use.

FABRIC PURPOSE	FABRIC DESCRIPTION	POSSIBLE CAUSE OF BURST/PUNCTURE	ATSM SPEC
Filtration	Woven or knitted PP or HDPE with small opening size	Pressure of fluid	D 6241
Ground Cover	Woven or non-woven PP	<ul style="list-style-type: none"> · Heavy equipment rolled on top · Sharp rocks or irrigation lines below 	D 3787 or D 6797
Greenhouse Curtain	Woven PE	<ul style="list-style-type: none"> · Bird landing on or pecking material · Tree limb or other debris falling 	D 3787 or D 6797
Hail Protection	HDPE Knitted	<ul style="list-style-type: none"> · Bird landing on or pecking material · Heavy winds blow object into fabric · Tree limb or other debris falling 	D 6241
Privacy Screen	HDPE (mono-tape) HDPE (tape-tape)	<ul style="list-style-type: none"> · Tree limb or other debris falling · Baseball hitting fabric 	D 3787 or D 6797
Shade	PP Woven or HDPE Knitted	<ul style="list-style-type: none"> · Tree limb falls · Heavy winds blow object into fabric 	Choose spec based on pore size
Trucks Tarps, Load Covering	<ul style="list-style-type: none"> · Tightly woven PP · Knitted HDPE · PVC Mesh 	Load pushing against tarp	D 3787 or D 6797

Test Plungers and Tip Designs

There are two primary means of measuring burst strength and puncture resistance in accordance with ASTM standards, using a 1" round ball plunger (ASTM D 3787 / D 6797 or a 50mm flat plunger (ASTM D 6241). Additional tests (ASTM D 3786 and ASTM D 4833) are not recognized by the Geotextile Manufacturers Association.

<https://geosyntheticsmagazine.com/2009/12/08/updating-specs-an-introduction-from-gma/>

Select the ASTM test method based on the hole size of the fabric in use and the shape of the object that could cause a burst or puncture.



ASTM D 3787 or ASTM D 6797
1" round, ball-shaped end



ASTM D 6241
50 mm (~2") flat plunger

Acadian's textiles are designed for specific purpose and applications; then tested accordingly.
(See Spec Sheets)