



SURFACE VEHICLE RECOMMENDED PRACTICE

J2694™

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(R) Anti-Noise Brake Pads Shims: T-Pull Test and Bond Coverage

RATIONALE

The recommended practice clarifies the additional requirement of bond coverage and explains how to measure and report the data.

1. SCOPE

This recommended practice covers the attachment of bonded anti-noise brake pad shims only. Mechanically attached shims (those without bonding) are not covered by this procedure.

1.1 Purpose

To measure the strength of the adhesive bond and measure the adhesive bond coverage for the attachment of anti-noise shims to disc brake pads or a test specimen to a standard steel plate. Its primary use is as a quality tool.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM D618 Standard Practice for Conditioning Plastics for Testing

2.1.2 DIN Publications

Copies of these documents are available online at <https://www.din.de/en/>.

DIN 50 014-23/50-2 Standard Climatic Conditions

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3. DEFINITIONS

3.1 PULL STRENGTH

The pull strength (P) or initial peel resistance of the shim adhesive is defined as the force per width (N/mm) which is needed to pull a shim from the backing plate of a pad at a 90-degree angle.

$$P = F/b \quad (\text{Eq. 1})$$

where:

F = peak pull force (N)

b = shim bend width (mm)

This value is used to assess the bond quality.

3.2 SHIM BEND WIDTH

The shim bend width is the width of the adhesive bond at the start of the test.

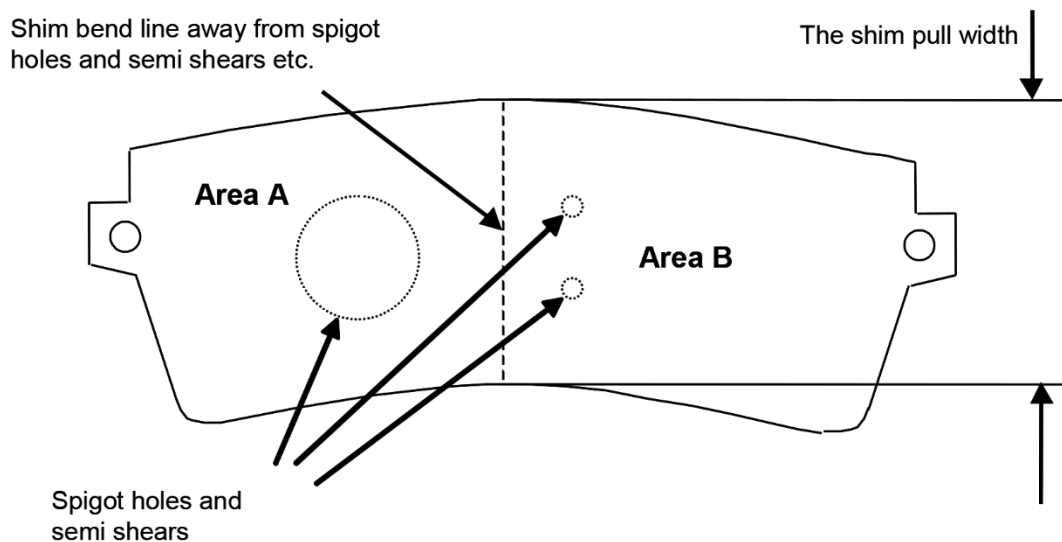


Figure 1 - Shim with bend line and shim bend width

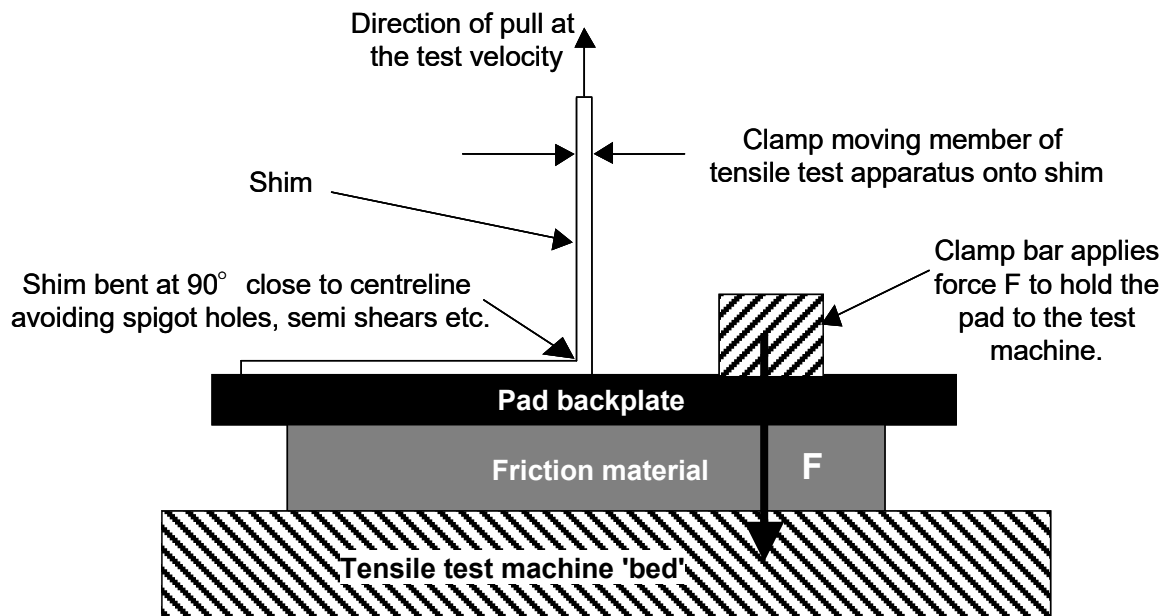


Figure 2 - 90-degree pull test setup

3.3 PEAK FORCE

The peak pull force F is the initial force necessary to start the peel of the adhesive. See Figure 3.

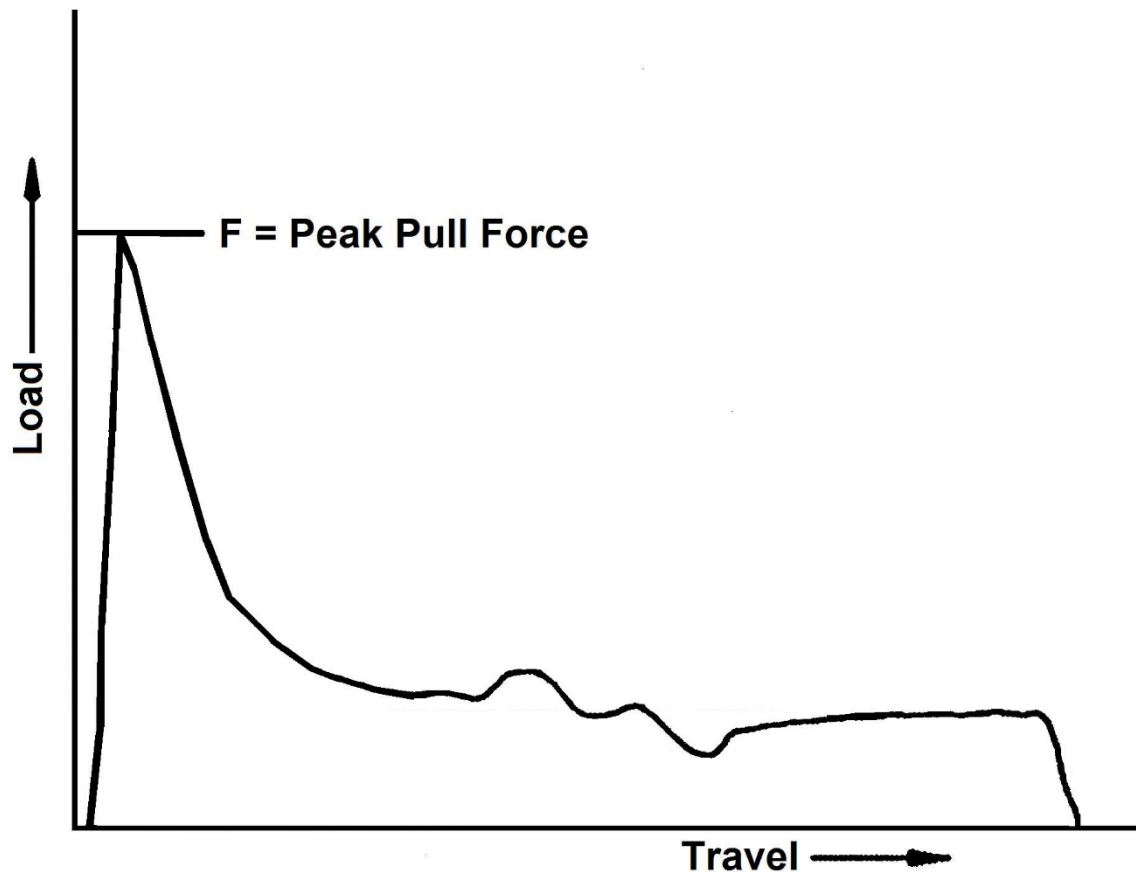


Figure 3 - Load versus travel chart defining peak pull force (F)