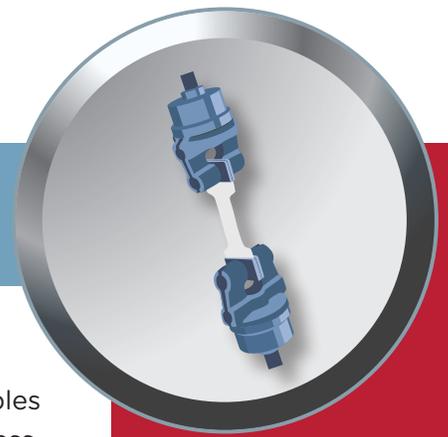


Material Analysis Testing Services



What Is Material Analysis Testing?

Material Analysis Testing determines the properties of materials. Examples of mechanical tests include tensile strength, compressive strength, hardness, coefficient of friction, yield strength, and ductility. Specific tests are often performed to characterize materials under typical in-use conditions to determine how the material will perform during its service life. When these tests are conducted, the results provide valuable information to persons responsible for how products, parts, and their related package systems will perform.

Tests unique to packaging materials include peel adhesion, creep, Cobb, cushion curve, edge crush, flat crush, pin adhesion, Mullen Burst, slow rate penetration, scuff and rub.

Why is Material Analysis Testing Important?

The overall integrity of a product is based on the materials of which it is manufactured therefore it's key that material characteristics are fully understood. Prior to a new product's release to production, it's important that its materials are confirmed to be as specified. Also, Material Analysis is a valuable tool when comparing different materials and/or suppliers for cost reduction and environmental feasibility projects.

The number and severity of Material Analysis tests can range from intensive to basic, depending on how the results will be used, the risks associated, and resources available. For example, significantly more testing is performed on materials used on military aircraft than on food containers.

Note from Edmund Tang, Laboratory Manager



"In general, the overall integrity of a product is based on the materials of which it is manufactured. Westpak's Material Analysis Testing division provides the necessary information used to evaluate these materials."

Material Analysis Tests

- Peel Adhesion
- Creep
- Cobb
- Cushion Curve
- Edge Crush
- Flat Crush
- Coefficient of Friction
- Mullen Burst
- Pin Adhesion
- Tensile Pull
- Slow Rate Penetration
- Scuff / Rub Test
- Salt Fog

Westpak's ISO 17025 accreditation assures you of the highest quality testing and data provided by any testing laboratory.

Material Analysis Testing Services

Peel Adhesion

This test is designed to determine the peel adhesion properties of the material's bonds at either 180° or 90° peel angles. Typical applicable materials that utilize adhesion testing are tapes and labels.

Creep

Creep is the deformation of a material occurring with time due to an externally applied constant stress. For cushioning materials specifically, it may be defined as the change in thickness of a cushion under static compressive load over a period of time.

Cobb

The ability of a hygroscopic material to resist the penetration of water is referred to as a Cobb test. Specifically, this test determines of the quantity of water that can be absorbed by the surface of paper or board in a given time.

Cushion Curve

This test covers a procedure for obtaining dynamic shock cushioning characteristics of packaging materials through acceleration-time data achieved from dropping a guided platen assembly onto a motionless sample.

Edge Crush

The Edge Crush test utilizes a universal load frame to crush a test sample. This test allows us to confirm the ability of corrugated paperboard to withstand a compressive top-load when it is fabricated into a corrugated shipping container.

Flat Crush

The flat crush test is designed to measure the resistance of corrugated paperboard to flute crushing.

Salt Fog / Salt Spray

A simple test which quickly evaluates a product's ability to resist the corrosive effects of hot, salty air.

Material testing serves all industries and has a very broad scope. If you have questions or concerns in regards to a test not listed here, please contact us directly as we work with many specialized tests that are tailored for our client's needs.

For more information or a quote, please contact one of our offices below or go to: www.westpak.com/contactus.aspx

Coefficient of Friction

A Coefficient of Friction (CoF) test determines the static (starting) and kinetic (sliding) coefficients of friction for a test specimen. A precision test sled apparatus, a load frame, and a very accurate load cell are used to generate test data.

Mullen Burst

The Mullen burst test measures the pressure necessary to force the membrane through the test material and is referred to as its "burst strength". It is most commonly used to measure the puncture resistance of corrugated fiberboard and paperboard.

Pin Adhesion

The pin adhesion test measures the bond between the liners and the corrugated medium in a corrugated paperboard structure.

Tensile Pull

This test is designed to determine the maximum tensile strength and elongation of the material.

Slow Rate Penetration

This test method permits flexible barrier films and laminates to be characterized for slow rate penetration resistance to a driven probe.

Scuff / Rub Test

Scuff and rub testing determines the abrasion resistance of printed and unprinted materials.

Test Standards

ASTM F2054
ASTM F1140
ISO 11607
TAPPI T-810
TAPPI T-441
ASTM D2221
ASTM D1596
ASTM D4168
MIL-PRF-26514
TAPPI T-811
TAPPI T-809
TAPPI T-821
TAPPI T-838
TAPPI T-811
TAPPI T-809
TAPPI T-821
TAPPI T-838
ASTM F88 / F88M
ISO 11607

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