Brake Hose Description

Our brake hose product is comprised of two rubber **layers and two-layer high- tenacity synthetic** thread offering mechanical pressure resistance for the purposes of SAE J 1401.
After the production stage, our brake hose products are subjected to various tests.

Volumetric Expansion Test

(CERTIFICATION STANDARD SAEJ 1401 and FMVSS 106 12.A.3)

First, this test concerns **1000** psi applied to a 1- metre brake hose for **10 seconds**.

Second, the pressure is released and then, the amount of brake fluid leaked out of the brake hose is measured.

The amount of brake fluid shall be less than **0.100 cm³/ m.**

Our brake hose averages **0.078 cm³/ m.**

In other words, when the brake pedal is pressed, the fluid pressure directly enters the wheel cylinder, i.e. if the brake hose did not have low expansion, it would swell leading to an insufficient amount of fluid and a consequent failure to stop over a short period of time.

Pressure Resistance Test

(STANDARD FMVSS 106 12.A.4)

This test involves a **two-minute** pressure application up to **483 kg/cm².** Then, pressure is applied until the brake hose bursts.

Norflex's brake hose is subjected to a 5-hour pressure amounting to **500kg/cm².** Then, we make the brake hose burst under **750kg/cm².**
Our brake hose has passed the test.

Traction Resistance Test

(STANDARD FMVSS 106 12.A.6)

This test concerns the application of traction to end- fittings until they come out withstanding a minimum of **168 kilogram-force.**

Our brake hose withstands up to **290 kilogram-force.**

Hot Impulse Test

(STANDARD FMVSS 106 12.A.12)

The brake hose is placed in an oven under a controlled temperature of **146°C** and it is subjected to a **109kg/cm²** pressure over 1 minute and the next minute without pressure; this is performed 150 times.

Our brake hose has passed the test.

Water Absorption Strength Test

We would like to explain this process more in depth on the grounds that there are some concerns on how many rubber layers a brake hose should have.

"The Water Absorption Strength Test means that the outer rubber layer is removed and then it is immersed in water for 24 hours and finally it undergoes The Pressure Resistance Test."

In the past, **a cotton thread** was used to strengthen the brake hose. Still, when this type of thread was immersed in water, **50 % resistance was lost** and then, **the brake hose could not pass the test. A latex coating (no rubber)** was introduced and it was included between the two layers of textile reinforcement so that the water could not affect the inner reinforcement. The brake hose passed the test.

Nowadays, nearly all brake hose manufacturers do not use this latex coating between the textile reinforcements since cotton threads are no longer used. **Rather, high-tenacity synthetic fibers** are used which could not be affected by water.

In Europe, companies such as BMW, Mercedes Benz, Audi, VW, among others, use the same type of brake hose we produce.

"This process shows how Norflex has passed all tests following international standards to ensure the highest quality safety."