



INTERNATIONAL MARKETING, INC. TECHNICAL BULLETIN

SUBJECT: Water/Moisture's Effect on EQUAL Tire Performance

DATE: July 24, 2002

Water or moisture does not affect the product EQUAL. EQUAL is a plastic polymer. It cannot absorb water or moisture. However, water or moisture can prevent EQUAL from achieving optimal performance.

Standing water in a tire will prevent the free flow of EQUAL around the innerliner of the tire. Thus, EQUAL cannot work where water is present in the tire. When the water is removed and the EQUAL dries, it will perform as expected. More importantly, water in a tire can cause much more serious problems; i.e., body cable corrosion. See below.

Moisture in a tire will also prevent the optimal performance of EQUAL. The moisture in a tire will evaporate when you run a tire at 100 psi at 140 degrees Fahrenheit. When the moisture evaporates, EQUAL performs as expected. Moisture in a tire can also cause serious problems to the innerliner. See below.

- Moisture – A Tire's Enemy.
(*Tire Retreading/Repair Journal*, January 1995)

What can happen when moisture is left in a tire that is mounted, or when moisture is injected into a tire while airing due to an unfiltered or undrained air system? The liners in today's tires are better than ever, but when you inflate a tire to 100 psi and run it until the inside temperature reaches 140° F (60° C) or higher, chances are very good the moisture will penetrate the casing.

Pressure inside a tire pushes moisture through the sidewalls because the atmospheric pressure outside is much lower. When this happens, moisture finds its way into the casing body and slowly corrodes the body cables and belts. If you cut a tire that is two or three years old, some degree of corrosion will likely be found in the body cables.

If water is present in a tire, osmosis will allow it to attack the body cables. Moisture in a tire eventually soaks through and damages the rubber and other tire construction materials; when heat and pressure are applied, the process accelerates.

Be sure to drain compressors at least once a day or use a dryer to put an end to moisture problems. Doing so will eliminate one more cause of premature casing failure.

- Will moisture left in tires while mounting cause problems?
(*Tire Retreading/Repair Journal*, September 1994)

Yes. Moisture in tires is one of the worst conditions to allow. When tires run, heat can build high enough to convert the moisture into steam. With the liner warm, the vapor is driven into the tire body where it can corrode or damage body cables. Remember, there are 100 psi (6.9 bars) inside the tire, and just 14.1 psi (.97 bar) atmospheric pressure outside. The internal pressure will usually win out and push moisture through the liner. Moisture can also get to the tire cables by osmosis – absorption of fluid through the membrane.

Questions regarding the above technical bulletin may be directed to:

INTERNATIONAL MARKETING, INC.
25 Penncraft Avenue, Suite C
Chambersburg, Pennsylvania 17201
Toll Free: 800-233-7086
E-mail: imi@imiproducts.net
Web Site: www.imiproducts.com