



The New Internal Hydraulic Expansion Process of Curing Has Brought National Speedway Adjustments Down to One Out of Every 2000 Tires Sold



THE average tire and that is to say most tires, from the most expensive to the cheapest, are built up on an inflexible iron core. Then this uncured assembly is laid in the lower half of a heavy two-piece iron mold, and then covered by the upper half. The mold remains open about half an inch—sometimes a full inch—because the unshaped tire has to carry an excess of tread stock to fill out the depressions in the mold's tread design (for non-skids).

This Is Where the Pinch Comes

To close the mold and keep it closed during curing, requires a crushing pressure of from 100,000 to 300,000 lbs.

And this is the mischief maker.

Some slight error in assembly, trifling in itself, can grow into a serious flaw under this terrific external pressure. The fabric may be sheared off around the circumference of the tire. Generally this buckling is not visible in the finished tire, as the breaker strip prevents its showing on the tread. So when a premature blowout occurs everybody wonders why!

In clincher and Q. D. clincher tires the mold pressure frequently displaces the bead from its proper position. The bead is crowded up into the sidewall—and rim cuts are the consequence.

In straight side tires the wire braid or cables in the bead may be pushed out of place by the mold pressure, and they fail to function properly as an anchor on the rim. That

is what causes the tire to blow off the rim when attached and inflated.

In the fabric used in good grade tires one strand is just as strong as another as it comes from the mill. But under pressure the fabric is sometimes pulled into a thinner gauge to make room for other stock finding a level, or pushed into a thicker gauge to fill out a light spot in the carcass.

That is another reason why tires, instead of lasting till the tread is worn right down past the breaker strip, will sometimes blow out before the tread has shown any particular sign of wear.

The finest materials in the world will not save a tire that has developed mechanical defects during the process of curing under external pressure or distorted during removal from a solid iron core.

Mold Pinch



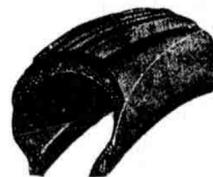
This is a "buckling" of the fabric under pressure—it is pinched up into the cushion and tread stock. And as this is the point of greatest strain on a tire, where the full load is concentrated, the casing soon gives way—and blows out.

Fabric Bruise



The fabric sometimes gets crowded out of place under mold pressure, either to make room for other stock or to fill out light spots in the carcass. This bruises the fabric on the inside of the carcass—a weakness that is certain to result in a premature blowout.

Rim Cuts



Frequently in clincher and Q. D. clincher tires the bead is pushed up into the sidewall when that crushing external pressure is exerted on the mold. Then, when the tire is inflated, the fabric begins to tear strand by strand—and the immediate result is a rim cut. In straight side tires the result is called a "rim jumper." The mold pressure pushes the bead wires out of place, with the result that the tire fits loosely on the rim and is blown off.

This Is How Internal Hydraulic Curing Banishes Blowouts, Rim Cuts and Stone Bruises Caused by Structural Defects



NATIONAL Speedway Tires are assembled on a new kind of core—a collapsible core that is taken apart and removed before the tire is placed in the mold. In this way the tire retains its proper shape, and no part is displaced or distorted.

No Pressure Required to Close the Mold

The mold used is of the usual 2-piece construction. But it is made large enough to accommodate the tire without an overlap. Thus the two halves are brought together—closing completely around the tire—without applying an ounce of pressure.

Curing by Internal Hydraulic Expansion

Before the tire is placed in the mold, it is fitted with a specially constructed inner tube of the exact shape and size of the inside of the finished casing.

Then when the tire is in the mold, this tube is filled with water to a pressure of 200 lbs. to the square inch—a wholly unique process, evolved from a long series of experiments.

This pressure is maintained throughout the entire period of curing. As the mold is closed before any pressure is applied, pinching, bruising and distortion are impossible. **THE CONSTRUCTION IS PERFECT.**

The materials are in keeping with the methods used in building them into a finished tire. They are the finest that world's markets afford.

There is only one other tire in America with as high a rubber content in its tread—no other with better stock throughout.

The Prices

It does cost more to cure tires by internal hydraulic expansion. But when built they are able to live up to their guarantee.

There are practically no seconds. Adjustments are negligible.

And these savings cut a big slice off the manufacturing costs.

Though the National Speedway process is more expensive than the methods employed by other manufacturers, the resultant elimination of "seconds" and adjustments has so considerably reduced costs that we have been able to list National Speedway Tires considerably lower than other tires of similar rating. Just try ONE National Speedway Tire and see for yourself how good they are.

Every Tire Guaranteed for 6000 miles

If your regular dealer does not handle, buy direct from

National Rubber Products Corporation
660-662 North Broad Street

Philadelphia
Bell Phone—Poplar 3197

National Speedway Tires