

**The New
Polyurethane
Tire Technology
(PERFECTO)TM**

The new (Perfecto TM) Polyurethane Tire Technology has been invented by Polyurethane Chemical Formulas, Inc. It is now ready to be manufactured and marketed. The tire will be free of defects, and every tire will be certified with a photo of the internal structure of the tire. This tire technology will give all people the confidence of safety even if the tire loses its air. There will be no catastrophic loss of control of the vehicle.

TIRE TECHNOLOGY

Differences in Design

Polyurethane Tire

Rubber Tire

Perfectly Round

Not Perfectly Round

Perfectly Balanced

Not Perfectly Balanced

No Tread Separation

Tread Separation

Will Not Heat Up

Will Heat Up

Every tire will operate without air for 1000 miles plus at 80 MPH. Every tire will be an "Air-No Air" tire.

Only their Run-Flat Tire can operate without air for only 50 miles at 50 MPH. All the rest of the tires cannot operate without air.

TIRE TECHNOLOGY

Differences in Operational Costs

Polyurethane Tire

Better Rolling Resistance for Better Fuel Economy (49% Better Rolling)

Better Wear at Any Durometer (Hardness) by 60%

Hard for nails and glass to puncture the tread

Less Material Waste- ¼ of 1%

Lower Labor Cost- More Automation

Rubber Tire

Higher Fuel Costs

More Wear

Easy to Puncture

High Material Waste- 5% to 10%

High Labor Cost- Less Automation

TIRE TECHNOLOGY

Differences in Capital Equipment Cost

Polyurethane Tire

Capital Equipment Cost Less
Equipment for 1 million tires per year
--- 25 million U.S.

Less Space (square footage) required -
--- 50,000 sq. ft. to manufacture 1 M
tires per year

Energy Costs are Less---5 KWH for
each tire

Quality Control Points---5

Rubber Tire

Capital Equipment Cost More
Equipment for same 1 million tires
per year---75 million U.S.

More Space (square footage)
required---250,000 sq. ft. to
manufacture 1 M tires per year

Higher Energy Costs--- 60 KWH for
each tire

Quality Control Points--- Over 50

TIRE TECHNOLOGY

Differences in Environmental Issues

Polyurethane Tire

No Toxic Emissions are emitted during Manufacturing Process

Polyurethane is easy to shred and put materials into other products

Polyurethane is inert in manufacturing, usage, and recycling into another product

Rubber Tire

Rubber produces Toxic Air Pollutants during Manufacturing Process

Rubber is difficult to recycle and extremely toxic

Rubber is toxic in manufacturing, usage, and recycling into any other product

The Polyurethane Tire Technology using Richard A. Steinke's Patents and Chemical Formulas have passed all U.S. Department of Transportation (DOT) Standards in three different categories.

Federal Motor Vehicles

Tire Type	Safety Standard	Status
245/45R/17	FMUSS 109	Passed
245/45R/17	FMUSS 139	Passed
T115/60/21	FMUSS 129	Passed

Since then, Richard A. Steinke has finished the design of the manufacturing equipment, invented a new Tire Chemistry for the tires and invented a hoop system which will allow tires to run without air for thousands of miles. This technology is what we are presently going into production with.

Five Tires- 250 M Annually

- **P205/55R16:** Hyundai/VW Jetta/Dodge Dart/Scion/Nissan Cube/Toyota Prius
- **P195/65R15:** Scion/Toyota Prius/Honda Civic/Subaru
- **P215/60R16:** Chevrolet Malibu/Nissan Altima/Toyota Prius
- **P215/55R17:** Nissan, Toyota, Mitsubishi
- **P195/55R16:** Fiat 500/Ford Fiesta S/Smart Car

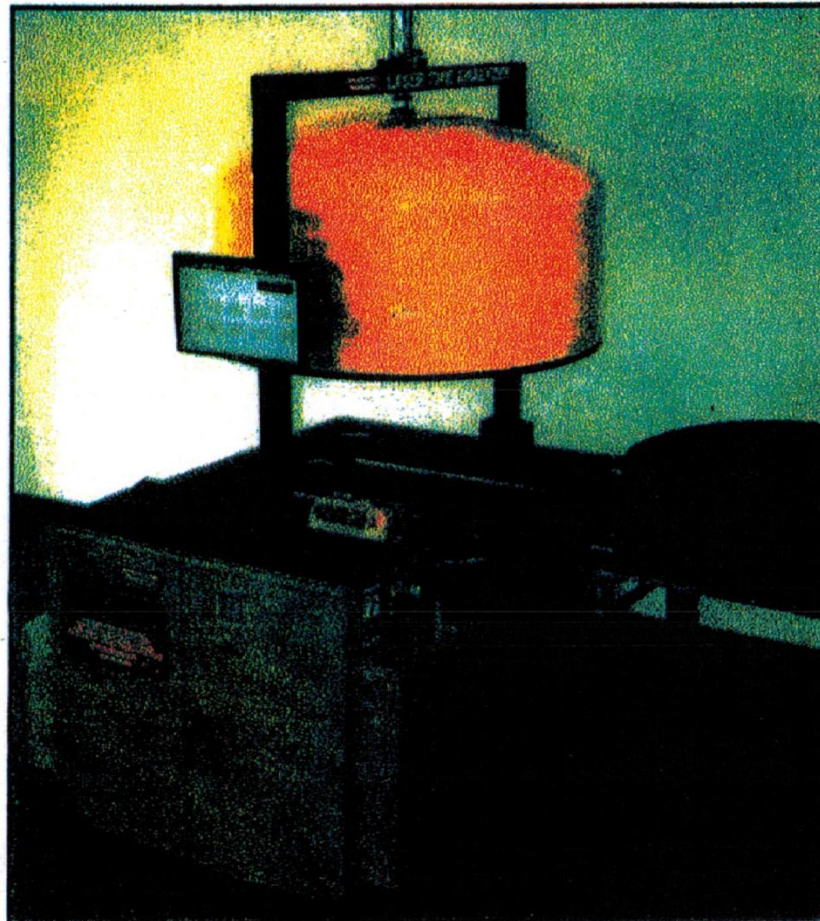
Subject: Proposal No. DVS1220-9192 2

The **NEW DVS 1220 Differometric Tire Analyzer** is designed to inspect new and used passenger, light truck and commercial truck tires with a maximum weight of 260 lbs., bead diameter range between 13" (330mm) and 32" (813mm), and a maximum outside diameter of 46" (1168mm).

The base machine includes 4 cameras displaying four 90°+ images of the inside of the tire including the crown and most of the sidewall. Bead to bead inspection is an option, however due to narrow bead to bead distance, it may be necessary to spread some tires prior to inspection. These results are displayed in 8 images, 4 looking up at 90°+ wide each and 4 looking down at 90°+ wide each. Figure #1 on the next page shows this.

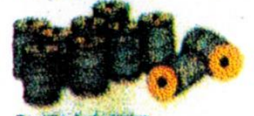
Cycle time is dependent on tire profile settings. Average +/- 1 min. 30 sec.

Test results may be viewed in 3 different ways. Figure #2 on the next page shows this.



The Traditional Tire Manufacturing Process

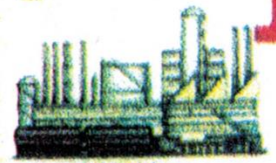
Raw Materials



Textile Industries
 Supply the fabric used in tires. From cotton, flax, and other fibers, the process involves spinning, weaving, and finishing.



Rubber Plantation
 Natural rubber is obtained from the latex of the rubber tree. The latex is collected, coagulated, and then processed into sheets.



Chemical Industries
 Synthetic rubber is produced from petroleum products. The process involves cracking, polymerization, and finishing.



Steel Industries
 Supply the steel used in tires. The process involves melting iron and carbon, and then rolling into sheets.

Fabric Manufacture



The fabric used in tires is made from cotton, flax, and other fibers. The process involves spinning, weaving, and finishing.

Fabric Bleach and Sheet Calendar

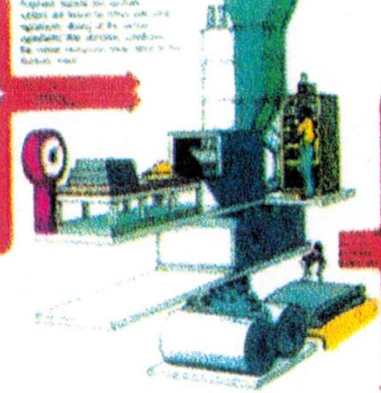


The fabric used in tires is bleached and then passed through a sheet calendar to give it the desired texture.

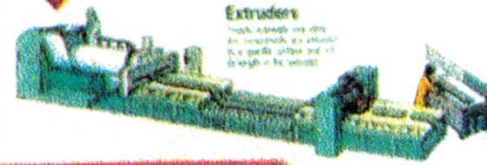


The fabric used in tires is passed through a fabric calendar to give it the desired texture.

Banbury Mixer



The Banbury mixer is used to mix the rubber and other ingredients into a uniform compound.



The extruder is used to extrude the rubber compound into sheets of the desired thickness.

Wire Calendar



The wire calendar is used to pass the wire through a series of rollers to give it the desired texture.

Wire Treatment Cutter



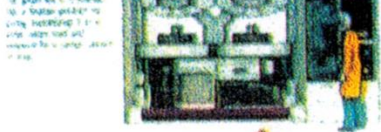
The wire treatment cutter is used to cut the wire into the desired length.

Bead, Belt, Carcass Wire Manufacture



The bead, belt, and carcass wire are manufactured from steel and other materials.

Curing Press



The curing press is used to cure the tire compound and give it the desired shape.



The tire building machine is used to assemble the tire components into a complete tire.

Tire Building Machine

The tire building machine is used to assemble the tire components into a complete tire.

Bead Construction

The bead construction is used to form the bead of the tire.

Final Inspection



The final inspection is used to check the quality of the tire before it is shipped to the customer.

Visual Inspection

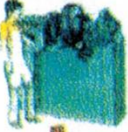
The visual inspection is used to check the appearance of the tire.

Balance



The balance is used to ensure that the tire is balanced and will run smoothly.

Force Variation



The force variation is used to test the tire's ability to withstand different loads.

X-Ray



The X-ray is used to inspect the internal structure of the tire.



The Tire Manufacturing Process

A Simpler Process with Polyurethane Elastomer

Raw Materials



Textile Industries
 Only the finest raw wool from Indian sheep. Today's best wools are made of Super, Super Fine, and Super Super wools.



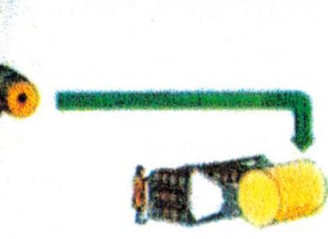
Rubber Plantation
 Rubber comes in different forms from the latex tree in the form of latex which is tapped by cutting through the outer bark of the tree. The latex is collected in a cup and then coagulated to latex sheets. Sometimes granules are used, depending on the use of the latex.



Chemical Industries
 Various rubber and plastic raw materials.
 Carbon black and a color compound to provide optimum strength. It provides stability by burning, taking up a special treatment. Other chemical ingredients, such as sulfur, zinc oxide, stearic acid, etc., are used in the manufacturing process, and passed to various chemical industries.



Steel Industries
 High tensile steel wire is used to construct the beads. The right size of wire is used to construct the beads.



Banbury Mixer

Rubber granules are combined with other raw materials in the Banbury mixer. The mixture is then passed through a series of rollers to produce a uniform sheet.



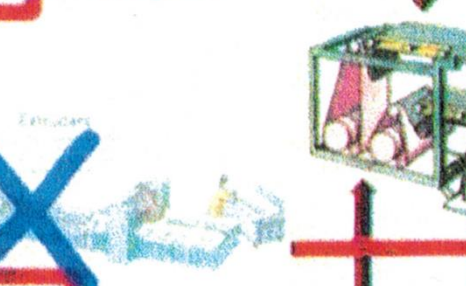
Fabric Manufacture

Textile fibers are blended and spun into yarns. The yarns are then woven into fabrics. The fabric is then impregnated with a water-soluble adhesive and is then processed through the various stages of the process.



Fabric Bias Cutter and Sheet Calendar

The calendar rolls are passed to the fabric bias cutter and sheet calendar. The fabric is then impregnated with a water-soluble adhesive and is then processed through the various stages of the process.

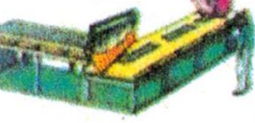


Wire Calendar

Reinforced sheets of wire are produced from the calendar. The wire is then passed through a series of rollers to produce a uniform sheet.

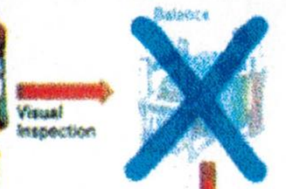
Wire Treatment Cutter

The wire is treated with a special coating to provide optimum strength. The wire is then passed through a series of rollers to produce a uniform sheet.



Final Inspection

The final inspection is carried out by a trained inspector. The inspector checks the quality of the final product and ensures that it meets the required standards.



Curing Press

The final product is passed through a curing press. The curing press is used to cure the final product and ensure that it meets the required standards.



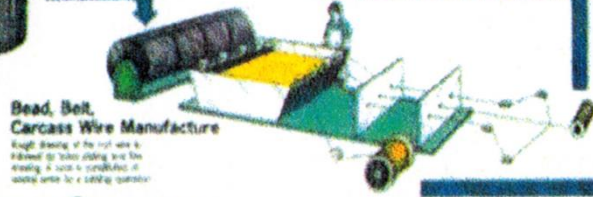
Tire Building Machine

The tire building machine is used to build the tire. The machine is used to build the tire and ensure that it meets the required standards.



Bead, Belt, Carcass Wire Manufacture

The bead, belt, and carcass wire are manufactured from the steel wire. The wire is then passed through a series of rollers to produce a uniform sheet.



Bead Construction

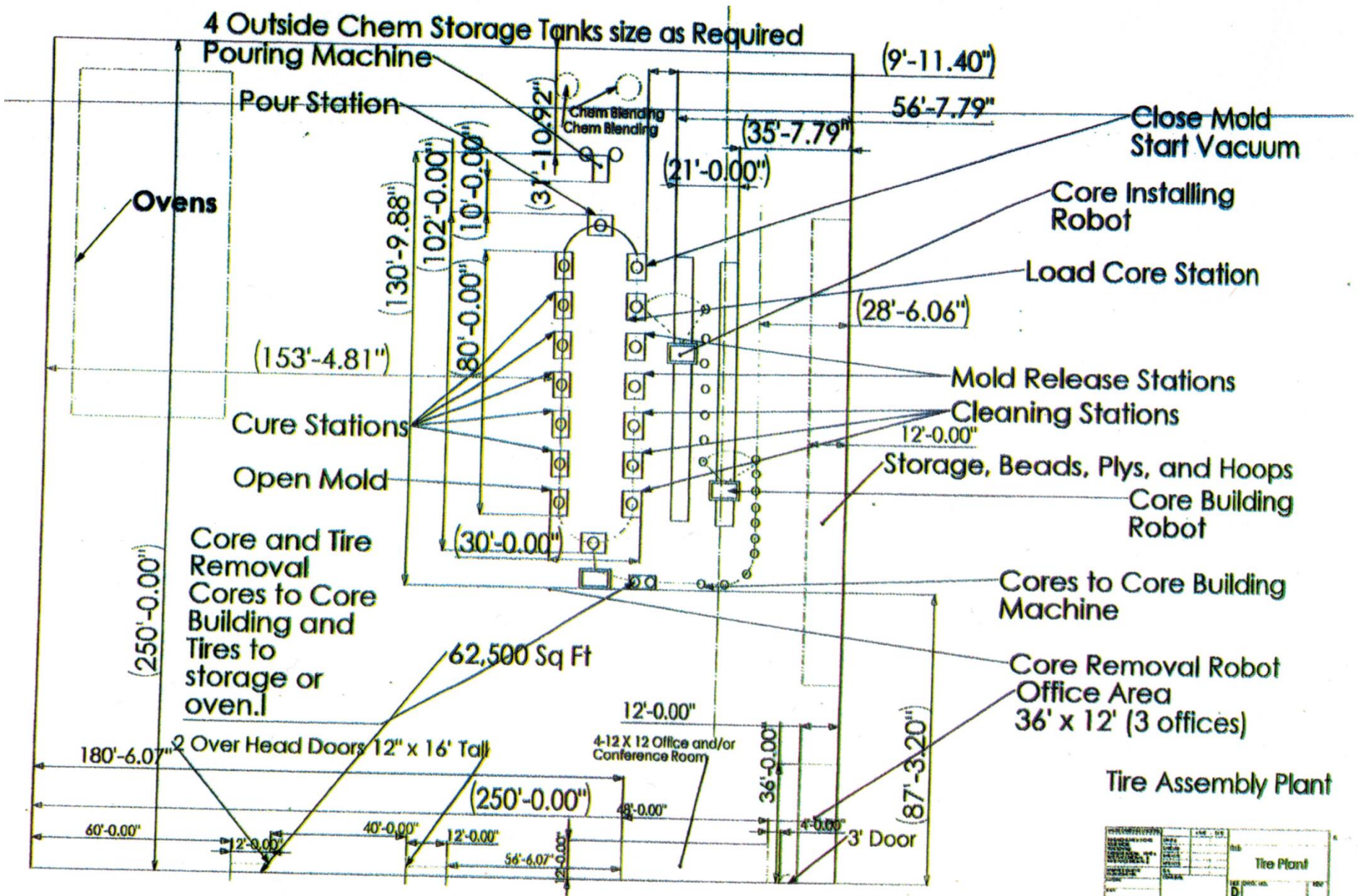
The bead construction is carried out by a trained worker. The worker builds the bead and ensures that it meets the required standards.



Produced by:
GOODYEAR TECHNICAL CENTER LUXEMBOURG
 1 - 7750 (TEL: MAR 8000) - LUXEMBOURG

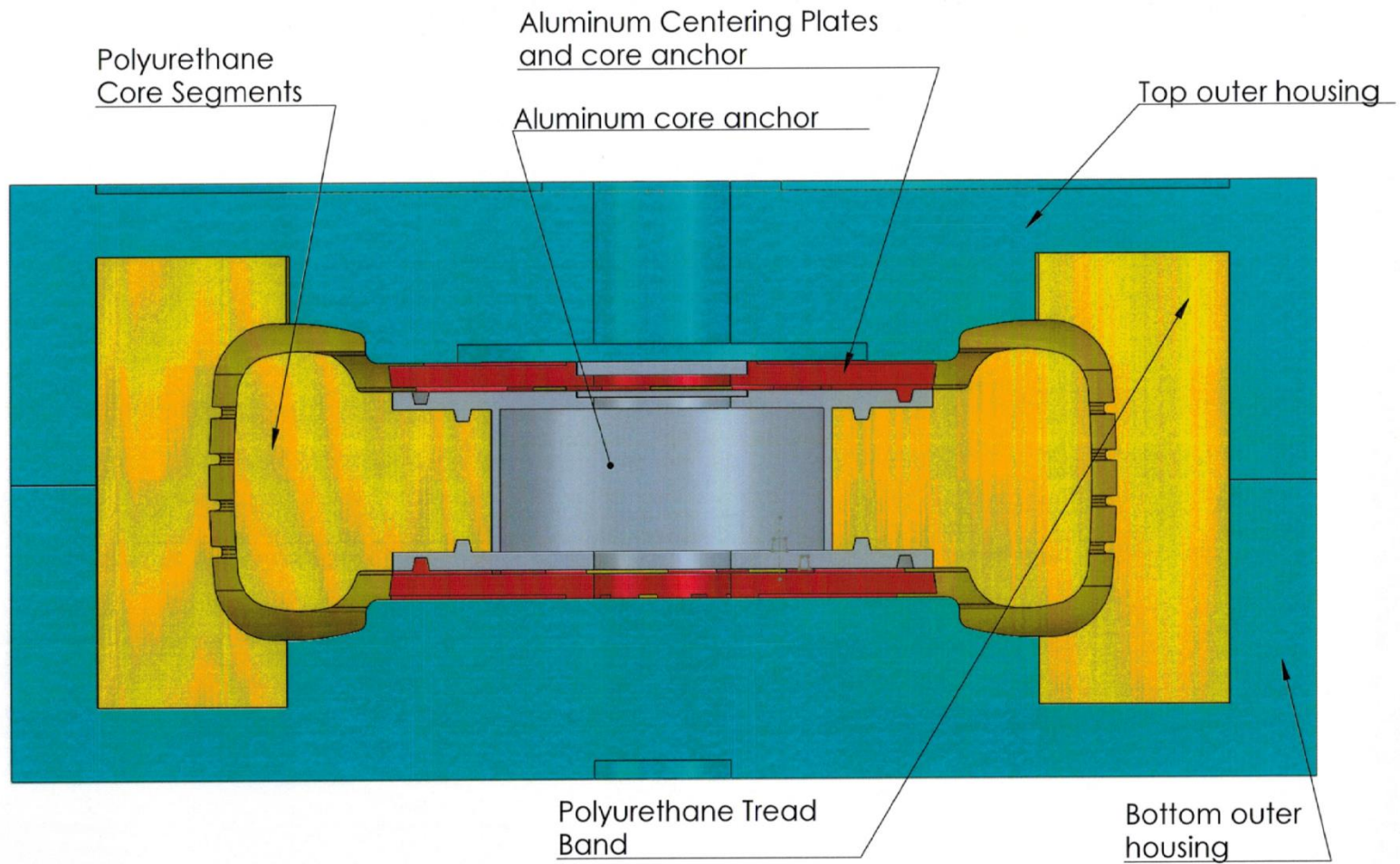
The Tire Manufacturing Process





Tire Assembly Plant

DESIGNER	DATE	SCALE	NO.
CHECKED	BY	DATE	REV.
Tire Plant			
PROJECT NO.		REV.	
D		REV.	
FOUR (4) SHEETS			



Polyurethane Mold with 4 Aluminum holding Plates
 This mold can do vacuum method or spin method







