

CASE STUDY TYRE INDUSTRY

ENERGY SAVING BY
INSTALLING BALL
FLOAT TRAP WITH
AUTOMATIC AIR
VENT (UFT)

INDUSTRY
SECTOR
TYRE

Client Details :
M/s J K TYRES & INDUSTRIES LTD
Radial Tyre Plant,
Hebbal Industrial Area,
Mysore-570016

YEAR OF
EXECUTION
2016-17

Certifications & Approvals



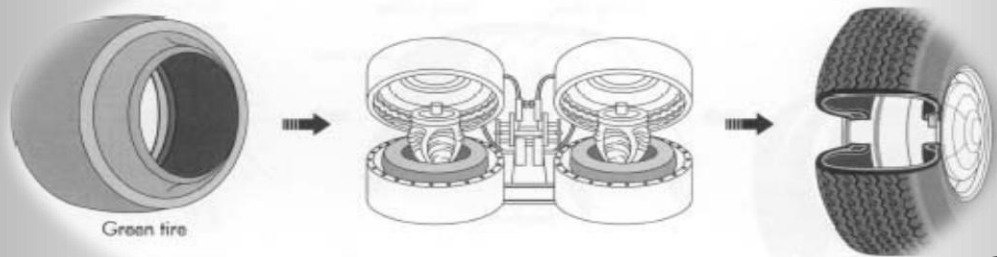
Website: www.uniklinger.com
Corporate Sales Office Address:

SC1, 5th Floor, Khadki, Pune-Mumbai Highway, Near Bajaj Garden, Pune-411 003

Case study for Bucket Test of Uni Klinger Make Ball Float Trap with Automatic Air vent (UFT) and the existing installed Orifice Type Trap.

Typical application of steam at Curing press:

The tyre production process consists of five sub-processes. These include; the mixing, material manufacturing, building, vulcanization, and the inspection process. A green tyre is placed inside a large mould for the curing process. The green tyre is placed over the bladder and, as the mould closes, the bladder fills with steam and expands to shape the tyre and force the blank tread rubber against the raised interior of the mould. During this curing process, the heat and pressure of the steam cause the rubber and sulphur molecules to bond, so that the rubber in the green tyre acquires a higher elasticity and durability.



Observations and Testing:

- With existing orifice type of Steam trap collected condensate for 45 minutes of one cycle was measured around 55 kg. The temperature rise measured from ambient to 96°C.
- With Uni Klinger make Ball Float Trap with Thermostatic Air vent. The collected quantity of condensate in the same duration was measured around 51 kg. The temperature rise measured from ambient to 86°C.
- No issue with the product (Tyre) quality observed in both the cases, however, as briefed above, steam consumption got reduced by installation of UFT. Also, the difference in the heat indicates that maximum heat is getting utilized while using UFT (hence, the temperature of condensate is less as compared with the Orifice type of steam traps), which further add to the saving.

Estimated Saving by installing UAPT:

Overall estimated saving will be 4 kg of steam in one cycle and increased heat consumption (10 kCal/kg of condensate) in the process side which is equivalent to 1.2 kg of steam per batch.

Thus, estimated saving by using Uni klinger make Ball Float Steam Trap with Thermostatic air vent instead of existing Orifice type Steam trap may be around 5.2 kg per cycle.