PIR: Vulcan II (B)– Flotation Trac PB 1158

1. PROJECT

This project consist of 4 SKU's in 4 sizes Flotation Trac. All tyres are currently produced out of Enschede. Production needs to be transferred to Kalamassery, hence to be developed out of Kalamassery.

2. DELIVERABLES

PB	Prio	Size	Pattern	Plant	SOP
1158	A	650/40 R 22.5 IMP 150D TL	Flotation Trac	KMS	2023 NOV
1158	A	680/50 R 22.5 IMP 156D TL	Flotation Trac	KMS	2023 NOV
1158	B	710/40 R 22.5 IMP 161D TL	Flotation Trac	KMS	2023 NOV
1158	B	800/40 R 22.5 IMP 168D TL	Flotation Trac	KMS	2023 NOV

3. BACKGROUND

As part of the premiumization plan for Enschede, some of the relatively lower NS/kg products, should be transferred to production plant Kalamassery. This project consists of the transfer of the remaining Flotation Trac tyres in 22.5", of which the main part is being produced on the Farrel building machine.

Figure 1: McHale Baler Wrapper Combination on 680/50R22.5

In general for 22.5" radial tyres, not taking into account raw material prices, the NS/kg has been decreasing for years. At the same time the cost price in Enschede has went up substantially. For these reasons it is no longer possible to sell the tyres in large volume at a positive margin. The cost price has prevented sales and sales growth, as our sales teams have searched for alternatives within our offering,

or our customers have searched for alternative offerings by competitors. At the same time the products we did sell and produce occupy capacity in the plant (except first stage building) where more premium products could be produced.

Transferring these products to Kalamassery would therefore lead to additional free capacity in Enschede to produce more premium products, while at the same time creating the possibility to sell these tyres in larger volume at a healthy profit margin. All details on the financial working are visible in the attached financial working in excel.

The tyres in this project can be fitted mainly to balers and self-loading trailers. Therefore the main application is on grassland, but the tyres can be used on arable land during silage harvest (maize).

Size	**Main application**	**Main customers**
650/40 R 22.5	Grassland (Merger, Baler, Self-loading trailer)	ROC, Kuhn, Strautmann, Agrar
680/50 R 22.5	Grassland (Baler)	McHale, Kuhn
710/40 R 22.5	Grassland (Self-loading trailer)	Pöttinger, Strautmann, Schuitemaker
800/40 R 22.5	Grassland (Self-loading trailer)	Pöttinger

Figure 2: Pöttiner self-loading trailer on 800/40R22.5

4. TECHNICAL DATA

Tyre size	Service description	TT/TL	Rim contours		Nominal Inflation pressure	Targeted new tyre dimensions		Pattern depth (tyre)	Target weight *
			Recom-mended	Permitted	kPa	Section width (mm)	Outer diameter (mm)	(mm)	kg
650/40 R 22.5 IMP	150D	TL	AG 20.00	0	320	635	1080	21	106
680/50 R 22.5 IMP	156D	TL	AG 20.00	0	280	670	1260	23	132
710/40 R 22.5 IMP	161D	TL	AG 24.00	0	400	700	1140	23	132
800/40 R 22.5 IMP	168D	TL	AG 28.00	0	400	790	1220	23	158
* Target weight is an indication for maximum weight. Final weight to be decided togehter by R&D and PM based on competitor info, performance and cost price.									
Detailed info to be found in the enclosed excel sheet "Technical Data".									

The target for this project is to replicate the current design, both the dimensions as well as the tread pattern. Only the contour might be slightly optimized, as the three lower aspect ratio sizes have a slight tendency to be concave, especially towards the center of the tread.

Further, all sizes to be developed with a steel belt. The pressure distribution of the footprint and footprint size to be near to equal to, or better, compared to the current tyres with textile belt.

5. COMPETITION

Main competition:

BKT Ridemax FL 693M
Alliance 885
Alliance 380
Nokian Country King

As this is a transfer project, no benchmarking against competition is required from Product Management perspective.

6. PERFORMANCE

Product acceptance criteria shall be issued in separate communication by R&D. Following parameters are listed, if applicable:

- Inflated dimensions
- Endurance requirements
- Specific outdoor performance requirements
- Final tyre classification
- Tyre section analysis criteria
- Tyre/rim fitment criteria
- Logistic requirements
- REACH compliance

Particulars:

- Special attention is required for the contour. From at least a tyre pressure of 0.8 bar the contour of the tread and shoulder should be flat to convex and is never allowed to be concave.
- Special attention is required for the 650/40R22.5: to fit the wide tyre on an AG 20.00 rim.

7. COST

Meeting the targeted tyre weight is an important precondition, in this competitive market. The transfer of production to India will give a huge cost saving, while in three of the four sizes there is no direct competitor in the same size available (650/40; 680/50; 800/40). It is therefore more important to save costs and time in making this an efficient project. We can save time and money, not benchmarking competition tyres. We can copy the existing design of the tyre.

8. DESIGN

- Exactly copy the design of the current tyre
- Replace the Vredestein logo by the newest one

Blanc inserts to be provided for:

- Service description, including explanation load capacity at speed and tyre pressure (1 each side)
- ECE R-106 (1 serial side)
- Future adaptation of the standardisation at E-speed (instead of D)

9. PATENTS, STANDARDISATION AND LEGAL COMPLIANCE

- Tyres shall be type approved according to ECE-R106.
- Reach compliance required.

Figure 3: ROC merger on 650/40R22.5. Special attention required for the relatively wide tyre and tread compared to the relatively narrow rim.