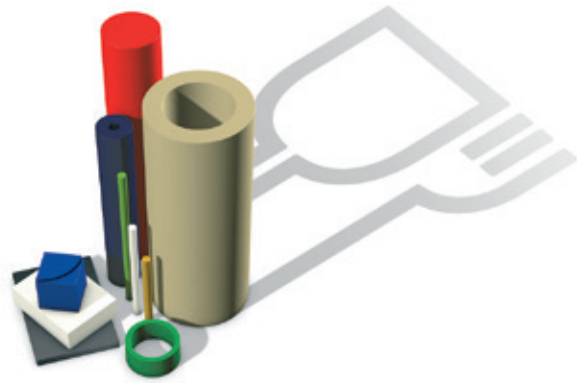


TIVAR® H.O.T. In Dairy Bottling Line



■ Challenge

Loss of productivity as a result of high equipment maintenance frequency

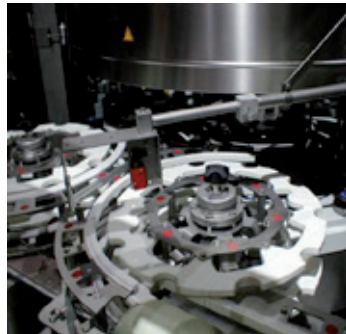
Low margins and an ever increasing focus on efficiency, productivity and, very importantly, safety & hygiene are the key denominators in Food & Dairy production. Constant attention to improvement opportunities in processing lines and equipment configuration is a must.

Quadrant was already a known and reliable supplier to this leading player in industrial solutions, who challenged us with a dairy filling equipment application.

In dairy production filling units speeds are in general very high. Important equipment parts in these filling units are the change parts, consisting of Star Wheels, Ploughs and Feedworms, and the corner wearbends under the conveyor chain. These components are made of different materials and play a key role in the transport of the bottles.

Predominantly, in a standard room temperature environment, UHMW-PE is used for these applications; it allows for the high speeds applied in the process. The bottling of hot liquids like milk, however, necessitates temperatures of over 100 °C; this is an essential condition to achieve the aseptic demands which enable a longer shelf life of the products. Additionally, in order to prevent contamination, the time between filling and closing of the bottle needs to be as short as possible.

The unwanted effect of the higher temperatures is that the UHMW-PE equipment components are turning softer, which leads to much higher wear of these parts, resulting in increased maintenance & replacement cycles of the equipment – a loss of highly valuable and business critical productive time.



■ Key Requirements

Overall, the material performance of UHMW-PE was confirmed by the customer to be the preferred one for such applications.

- Good wear resistance
- Good mechanical strength
- Excellent chemical resistance
- Additional requirement of temperature resistance increase up to 110 °C

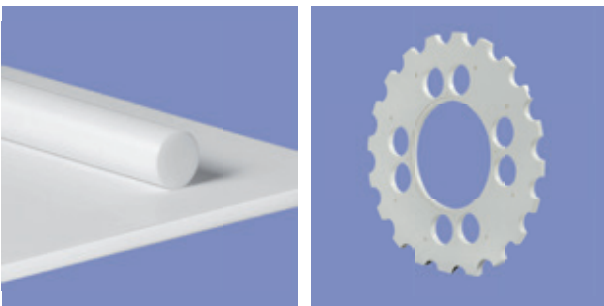
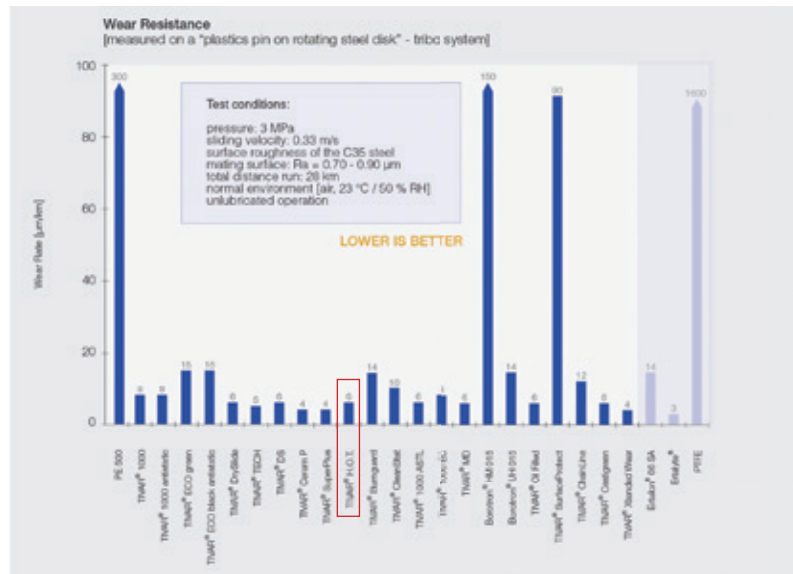
Quadrant's Recommendation: TIVAR® H.O.T UHMW-PE

■ Customer Benefits

- Increased productivity - thanks to the reduced time needed for cooling down before capping
- Improved safety - better hygiene in aseptic filling possibility
- Cost savings - excellent chemical resistance, especially against active chlorine cleaners and sanitizers requires less spend on replacement parts & maintenance
- Enhanced optical values of the equipment - clean & attractive appearance thanks to the shiny white colour of TIVAR® H.O.T.

■ Why TIVAR H.O.T?

- Temperature resistance up to 110 °C (up to 125 °C for shorter periods) combined with enhanced dimensional stability
- Food contact compliance according to EU 10/2011, FDA, and 3A-Dairy
- Low coefficient of friction
- Clean and optically attractive thanks to the shiny white color
- Excellent chemical resistance



■ Quadrant Added Values

- Quadrant was able to offer this unique product and it's special combination of performance criteria at that time
- Well recognised as an application expert in food & dairy production / packaging
- Significant portfolio of food contact compliant materials offering all standard food compliancy certifications – EU 10/2011, 3A-Dairy, FDA plus GMP

Quadrant Engineering Plastics – For applications that matter.

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