

# Product News

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BS4641 fresh milk bottles

## BS4641 - bimodal grade for Extrusion Blow Moulding applications

### Fresh milk and aseptic bottle production

The market for blow moulded milk bottles has increased rapidly over recent years with plastic bottles replacing more conventional materials such as glass and cardboard cartons. Borealis has established a very strong position in the European blow moulded PE fresh milk bottle market with the new grade BS4641. This grade has been specially developed for the Extrusion Blow Moulding (EBM) process for bottle production.

BS4641 has excellent organoleptic properties which are essential for demanding applications such as fresh milk and probiotic drink bottles. It is an effective alternative to glass and offers high hygiene and freshness even after extended shelf time. With BS4641, bottles are produced that are highly versatile, attractive and secure.

This grade is a homopolymer polyethylene bimodal grade suitable for high speed EBM processing. The bimodal process has been optimised to fully retain the natural taste and odour of the packaged product, enhancing the reputation of the brand. The grade has better processability and mechanical properties than competing grades which enables light-weighting of the final bottle and energy savings, both contributing to unit cost reduction. Milk bottles ranging from 250 ml to 4 litres can be produced using BS4641.

With Bimodal, the die swell is 15-20 % lower compared to unimodal resulting in better wall thickness distribution and, thanks to this, better homogeneity of the bottle.

Thin wall bottles deliver versatile design possibilities



### Bimodal vs. Unimodal

- Improved stiffness ESCR ratio
- Better processability
- Lower processing temperature needed, less energy used
- Low taste and odour
- Versatile use due to overall improved performance
- Potential for weight reduction

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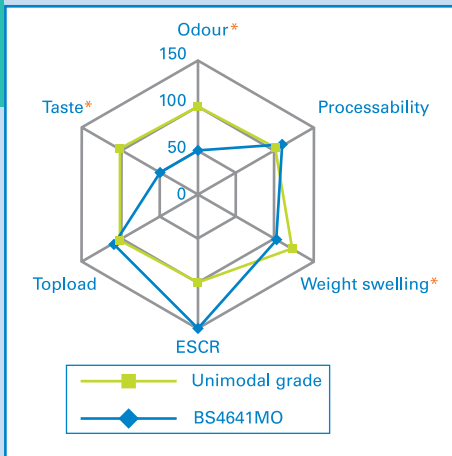


Figure 1

\*The lower the value, the lower the taste, odour and swelling giving better organoleptic properties and better weight distribution through homogeneity

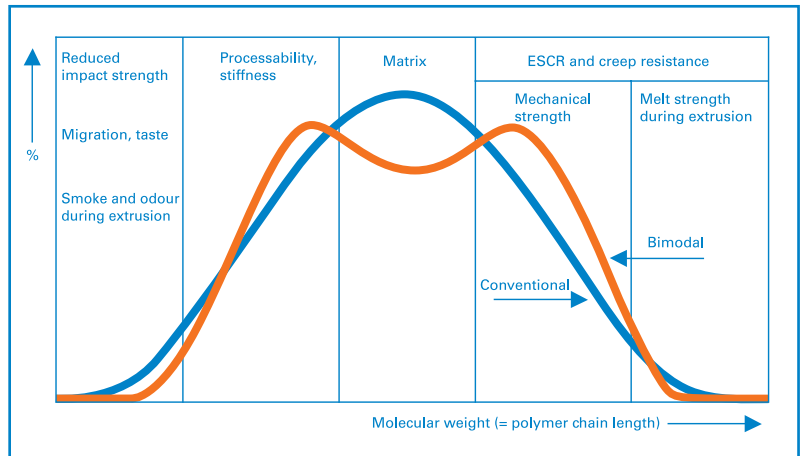


Figure 2: Bimodal vs Unimodal Molecular Weight Distribution

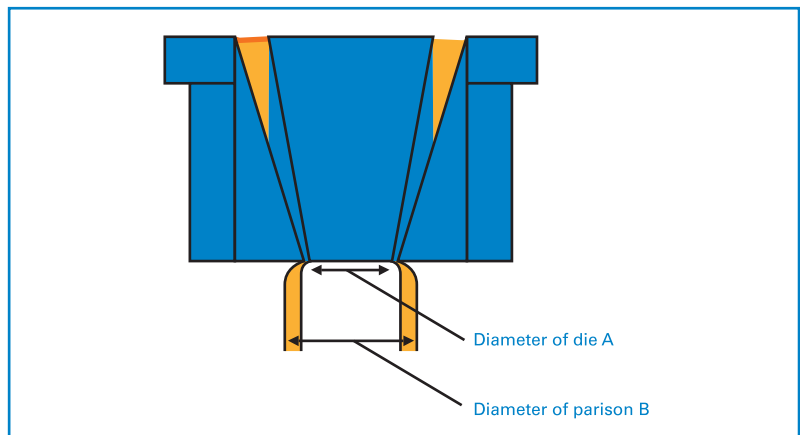


Figure 3: Bimodal blow moulding – swell



## Target applications:

- Dairy products
- Fruit juices
- Water
- Fresh milk and UHT milk
- Healthy drinks
- Food containers
- Baby bottles
- Fermented drinks

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