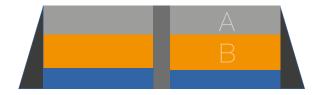
## New concepts for advanced products

Silica-based compounds allow the reduction of rolling resistance, at the cost of electrostatic charging without the introduction of a chimney part.

With advanced tire designs including vertical and horizontal split cap components and a separate chimney, the need for a new Quintuplex head solution has arisen.

The Quintuplex is based on our proven, easily accessible Quadruplex extrusion head. The SMART concept implements the additional micro extruder for the chimney strip without additional locking systems or moving head parts. Extrusion heads are available with head openings of MW 500 mm and MW 800 mm. The SMART head design is also available as a Smart Quadruplex (Triplex + 1) or Smart Triplex (Duplex+1).





Examples for vertical and horizontal split cap components

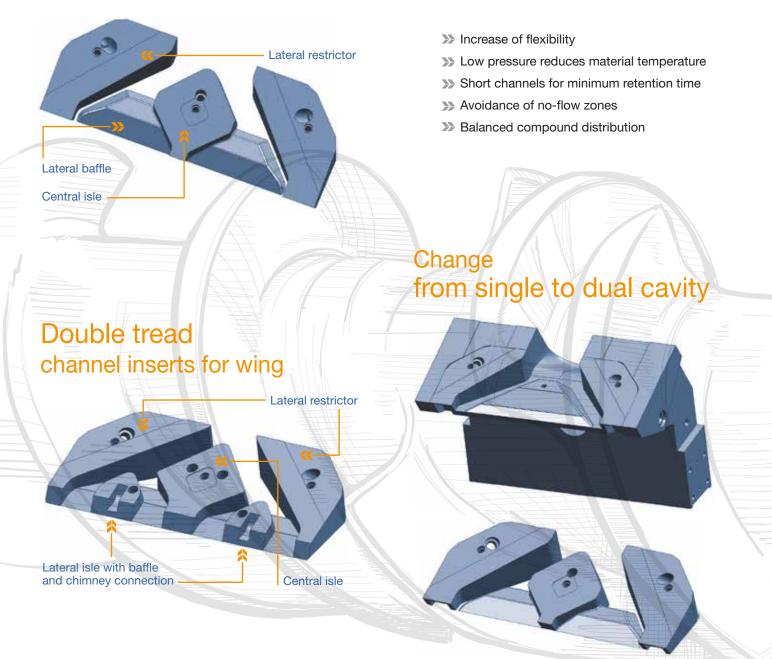


Quintuplex head with five extruders

## Modular tooling

HF offers modular tooling for flexible head openings, fast profile changes and reduced changeover times. Basic flow channels are already milled into the large movable parts of the extrusion head. Lightweight insert pieces allow quick and easy change ensuring full flexibility, for example from sidewall to tread or single to dual cavity extrusion. The individual flow channel re-configuration delivers the following benefits:

## Double tread channel inserts for cap or base



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