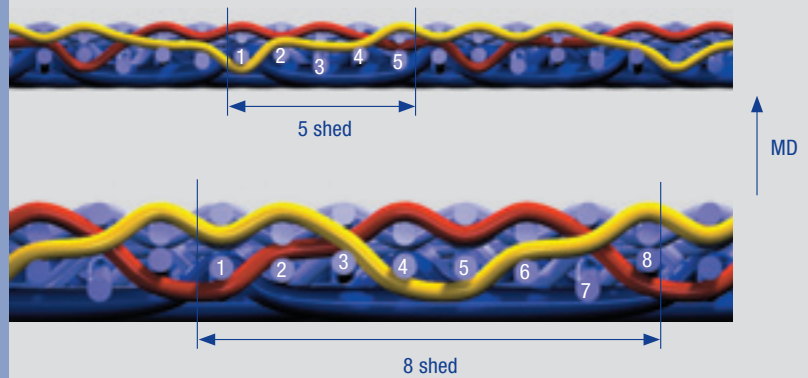


Class coarseness Super fine Fine Medium Coarse

Market name	HS	HQ	HR	HC
Mnemonic	Super fine (S)	Quality (Q)	Robust (R)	Coarse (C)
Market types*	W/Y	X/W/Y	W/Y	W/Y

*1:1=X 3:2=W 2:1=Y



Horizon SSB weft-bound product range overview

8-shed machine side HR and HC

The new PrintForm/MultiForm Horizon product range

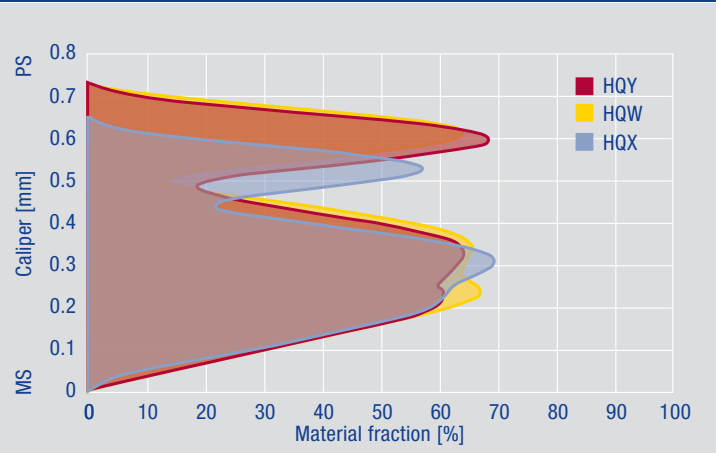
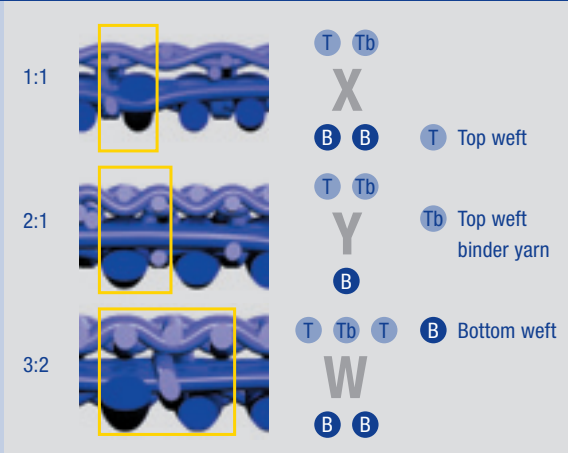
Expand the operating window

Within a period of three years time, Voith Paper Fabrics has developed a complete new Horizon SSB weft-bound product line. The new fabrics cover the entire product range – super fine, fine, medium and coarse designs.

In 2004 Voith Paper Fabrics set in motion the development of a new Horizon product range for the European and Asian markets. The first two new product groups developed were the fine HQ and the medium HR. These were officially launched in April 2006. Currently the development of the coarse HC and super fine HS has reached their final stages, and market launches are expected in June 2008 and March 2009, respectively. The reason behind the development of an entirely new Horizon product range was to serve the present and the future demands of you, the papermaker as well as developing a coarse product for the board and packaging market.

New product philosophy

The new Horizon SSB designs clearly distinguish themselves from the old designs. Significant differences in warp yarn diameters between top and bottom side are applied. The old product contained a machine side warp yarn that was 0.04 mm coarser than the paper side warp. The new Horizon designs differ by 0.06 mm in the super fine HS and fine HQ designs and 0.08 in the medium HR and coarse HC. These changes have proven to provide a positive impact on paper quality, as well as contribute to stability and life potential properties.



Three paper side versus machine side weft yarn ratios utilized

Different dewatering properties X, W and Y versions

A further change in philosophy is the opening up of the warp density. With this change, more weft yarns can be applied in the woven structure. This has a positive effect on the paper side fiber support, contributing to paper quality and retention aid savings, as well as the number of machine side weft yarns, increasing the fabric's life potential.

To even further increase the life potential of the medium HR and coarse HC designs, where life is a crucial success factor, a 2-shed paper side with an 8-shed machine side has been applied, rather than the typical 2-shed paper side and 5-shed machine side.

The high 8-shed machine side gives the fabric long cross directional floats, which well protect the warp yarns against wear and also equip these designs with 75% more life potential versus the 5-shed machine sides.

Differentiation within product groups

Within the individual four major product designs, further product differentiation has been reached by applying different weft yarn diameters and weft yarn ratios between paper side and machine side.

Applications of bigger weft yarns give the Horizons more life potential and stability. On the other side, contributions to most of the paper quality issues are negatively influenced. This is a compromise that is decreased with a Horizon design compared to older double-layer designs, but still is an existing one.

The three utilized weft yarn paper sides versus machine side ratios are 2:1 (Y), 3:2 (W) and 1:1 (X). Each of these three ratios has its own characteristics. The Y-version gives a structure with maximum quality contribution and a good life potential. The

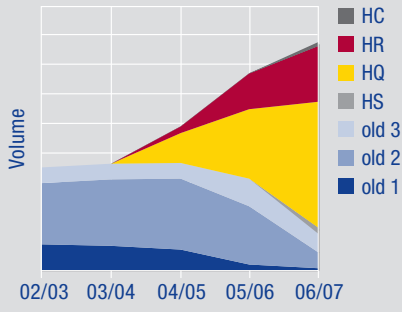
X-version results in the thinnest design and holds a low void volume. The W-version is the best compromise between quality contribution and life potential.

The various weft ratios also influence the dewatering properties. Together with the different weft density versions available, this creates the possibility to fit the new Horizons to nearly every individual customer position and related needs.

Tested in the PTC

The Voith Paper Technology Center (PTC) trial paper machine VPM 6 has been a big help in the development of the new Horizon product range.

The ability to push a product to the outer borders of its operating window has supported the quick development and a risk-free initial application of these products on real world paper machines.



Sales volume development per financial year

Current status

Three years after the start of the SSB development plan, which represents the idea to create a whole new Horizon product line, it is clear the right decision has been made. Even with only half of the product range now commercially available (launch of the HQ and HR), production volumes have already more than doubled.

At the moment, the finishing touches are being made to the super fine HS and coarse HC designs. Field trial runs of the HC have shown only positive performances so far. Nothing looks to be standing in the way of the intended launch in June 2008.

Trial runs with the HS have been made on the VPM 6 up to a speed of 2,500 m/min! The HS showed no problems handling the water and/or contributing to the delivery of good quality paper. The first HS customer piece was installed on September 25, 2007. It performed very well with regard to contribution in paper quality and paper machine runnability. Voith Paper Fabrics is now seeking another five trial positions. If these all go well, the HS launch will be executed in March 2009.

The nearby future

Being close to the point of commercializing the last two Horizon products, already new ideas are being developed by R&D. The latest idea can truly be called revolutionary: HM. Firstly it has the possibility to expand the operating window even more than the SSB weft-bound did when it was introduced on the market around 1999. Secondly, it will hold a global application.

This new concept will be tested on the VPM 6 in the spring of 2008, and we expect final analysis to show that it outperforms even our own expectations.

The close collaboration between Voith Paper Fabrics and the other Voith Paper group divisions makes us a very strong team when it comes to optimization of paper machines. Our One Platform Concept enables us to bring any solution to our customers. The new Horizon product range is another step closer in never letting down any of our Voith Paper customers.

Infobox

The products HS, HQ, HR and HC are only available in Europe and Asia.

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Tested in the PTC – the new Horizon product range