SONOCO ALCORE® **M-CORE™ SERIES**

high performance cores for the printing industry

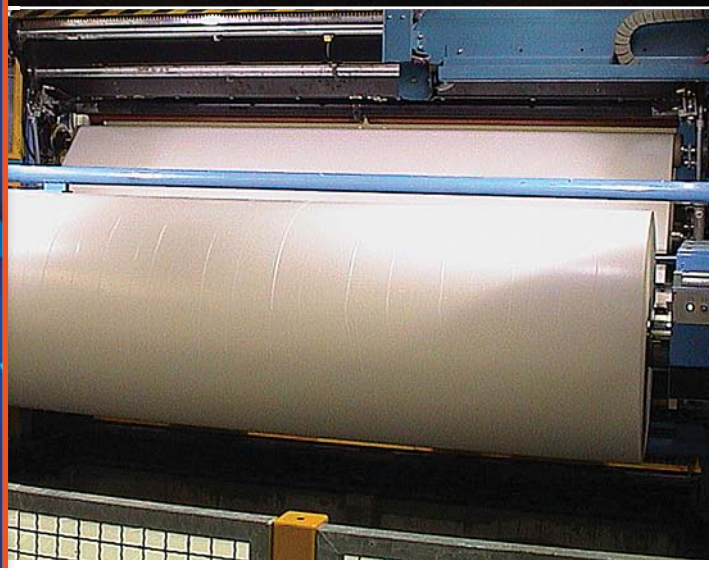
M-CORE™

In response to the evolution of highly advanced printing technologies and the introduction of unprecedented winding speeds and reel widths, Sonoco Alcore® has worked with machine manufacturers, customers and end users to develop a new generation of high-performance paper mill cores for the printing industry. M-Cores are proven to offer superior performance under the most demanding operating conditions due to their world class straightness, bending stiffness and higher E-modulus values - even when compared with traditional high grade paper mill cores used in the printing industry.

M-Cores are produced using the Sonoco Alcore® patented concept of using self-manufactured (wide-ply) coreboard with a unique manufacturing process. The ability to produce such a core demonstrates why Sonoco Alcore® continues its position at the leading edge of core development and production in the European paper industry providing innovative solutions and, most importantly, meeting the needs of our customers and the end users in the printing industry.

BENEFITS IN BRIEF

- ***Safe unwinding speed can be reached with a smaller amount of rest paper***
- ***Better 'run-ability' in paper mill winder***
- ***Eliminates web breaks induced by excessive vibrations***
- ***Tolerates greater bending deformation if driven too close to resonance***
- ***Less elongation during winding***
- ***Lessens risk of center bursts***
- ***Easier to wind a tighter paper reel bottom***
- ***Better dimensional stability in variable storage and transportation conditions***



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The technologies used today by the printing industry are designed for continuous, high-speed, high-quality production with minimum down time and maximum operator safety. With the recent introduction of machines that can unwind at speeds above 17m/s and widths up to 4.32 metres, the integrity of the core is essential for stability and safety. Sonoco Alcore® recognises that as machines evolve so too must the products used on them.

ARE YOU USING THE RIGHT CORE ON YOUR MACHINE?

CHART 1

E-modulus of cores (MPa)

Dimension	Conventional Cores	Sonoco Alcore® V6M	Sonoco Alcore® V8M
76 x 15mm	4200	5400	6500
150 x 13mm	4000	4800	6500
150 x 15mm			6500

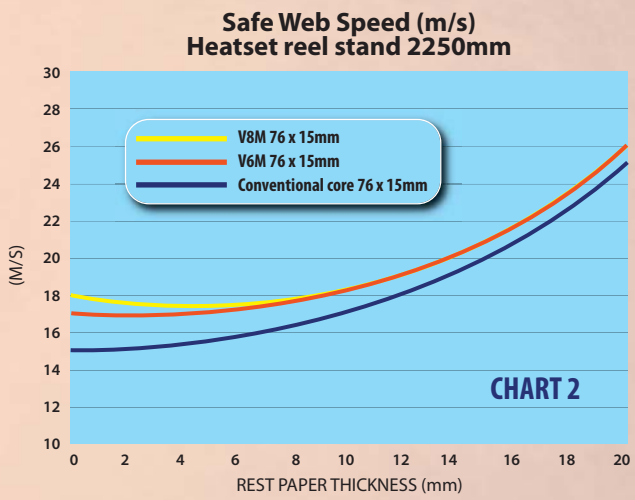
• ***Increased Printing Speed and Width*** Just before the reel splice in printing, the expiring reel with small diameter rotates at very high rps in order to maintain the web speed. A very wide residual roll on a high speed printing machine may attain critical rotation frequency. This generates a sudden and extreme increase in vibration amplitude, which in turn can cause web flutter, premature splice, web break and – in the worst case – residual reel explosion, an incident with serious safety implications. The E-modulus of the core and residual paper is a key enabler of safe unwinding speed. M-Cores offer the required E-modulus for ultra-wide reels unwound at high speed (see Chart 1).

• ***Increased Reel Weight*** Increase in reel width causes increase in reel weight. The reel weight capacity of your current cores may not suffice.

• ***Roll Winder Productivity*** Ultra-wide reels on conventional cores deliver a greater vibration risk during winding. This has a negative impact on winder run-ability and productivity. This puts high demands on straightness, roundness and longitudinal stiffness of the cores. M-Cores outperform conventional cores significantly, elongate less during winding and run very smoothly at high winder speed.

Introducing the V8M

The latest addition to the M-Core™ Series from Sonoco is the V8M core - now available in 76mm and 150mm diameters in both 13mm and 15mm wall thicknesses. Rigorous testing has proved that the V8M range is the most advanced core available for the most demanding printing applications (see Chart 2)



Don't run the risk of endangering the operating staff in the mill or print house by using cores that do not meet the required safety standards for new machines. Contact the Sonoco Alcore's Paper Mill Segment Technology Manager now to determine if your core needs are correct: markku.ronnila@sonoco-alcore.net

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