

Finally, ASA that's the right size.

Medallion Right Size ASA Internal Sizing Program

Buckman introduces Medallion Right Size, a new technology for cost-effective ASA internal sizing, with minimal investment in equipment. This new technology allows ASA use in mills where no starch cooker is available. Before the Medallion Right Size System was available, AKD and rosin were the only affordable sizing products for smaller mills that could not justify the capital investment required for costly ASA emulsification equipment.

Medallion Right Size is a two-component sizing technology system (Medallion RS160 ASA size and Medallion RS650 emulsifier) designed to replace AKD. The size is emulsified on site using Buckman's proprietary equipment. Both products are VOC-free and are approved by the FDA (CFR ¶ 176.170 and CFR ¶ 176.180) for paper and paperboard for use in food packaging. The product also conforms to the standards of the BfR (German Federal Institute for Risk Assessment).

Medallion RS650 is an effective and stable liquid product used for emulsification of Medallion RS160 ASA internal sizing agent. Proper emulsification provides uniform particle size distribution to impart alkaline sizing for resistance to most water-based liquids. Medallion RS160 ASA has the advantage of on-machine curing, superior printability, no paper friction/slip issues, extended shelf life, and less costly, low-maintenance equipment requiring a minimum of material handling.

Comparison of AKD, Traditional ASA, and Medallion Right Size		
AKD	Traditional ASA	Medallion Right Size
Wax-based product	Oil-based product	Oil-based product
Emulsion shipped to mill	Emulsion prepared on site	Emulsion prepared on site
No special feed equipment needed	Costly equipment needed to prepare emulsion	Low cost equipment
Low reactivity; final cure takes days to weeks - Difficult to control size press pickup - Difficult to predict final sizing level - Increased paper inventory - Requires good control of pH and alkalinity - Typically requires more steam	High reactivity; sizing cured on machine - Better machine runnability - Consistent sizing - Reduced steam usage - Can ship paper directly off machine	High reactivity; sizing cured on machine - Better machine runnability - Consistent sizing - Reduced steam usage - Can ship paper directly off machine
Reduces coefficient of friction - Increased anti-skid usage - Roll winding quality issues - Sheeting/converting issues	No impact on coefficient of friction	No impact on coefficient of friction
Can give odor in copying/printing	Ketone-free; no odor issues	Ketone-free; no odor issues
1-month shelf life	12-month shelf life	12-month shelf life

Case Histories

Medallion Right Size ASA Evaluation No. 1

Grade: Paperboard

Production Rate: 8 tons per hour

Furnish: 100% recycled fiber

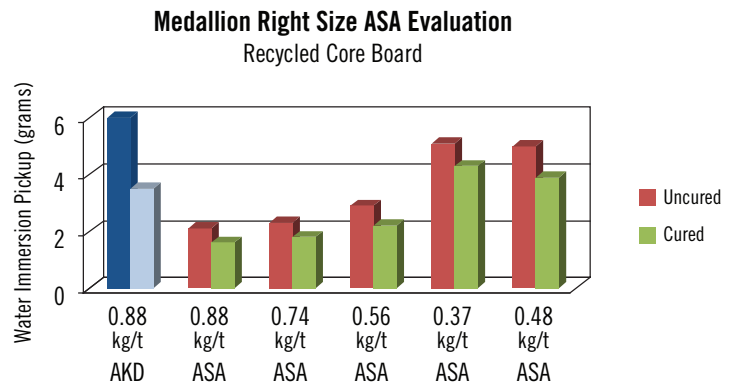
Incumbent Sizing Agent: AKD

Sizing Target: 7.0–2.0 (average 5.0) on water immersion test: a lower number indicates better sizing

AKD Addition Rate: 0.88 kg/ton

Results: Medallion Right Size ASA was superior to AKD, with sizing dosage reduced by 40%.

The customer is converting to Medallion Right Size ASA and now can implement Just-In-Time inventory management system without concerns about AKD size curing.



Medallion Right Size ASA Evaluation No. 2

Grade: Paperboard

Production Rate: 6 tons per hour

Furnish: 100% recycled fiber

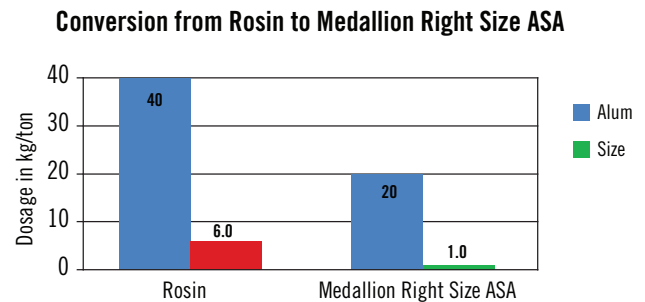
Incumbent Sizing Agent: Rosin and Alum

Sizing Target: Cobb 40–80 gsm

Rosin/Alum Addition Rates: 5–6 kg/ton rosin, 40 kg/ton alum

Results: Able to run with just 1 kg/ton Medallion RS160 and 20 kg/ton alum with sizing tests superior to rosin-based system. Medallion Right Size offers savings of US\$100,000/year, giving the mill the opportunity to develop new paper grades not possible with rosin sizing. In addition, we saw:

- Higher drainage
- Improved machine runnability
- Complete elimination of white water foam
- Medallion Right Size was 90–95% cured on machine versus 3 days to completely cure for rosin program
- Excellent Medallion Right Size ASA emulsion particle size with excellent emulsion stability after 8 hours.



Process Optimization

Successful sizing is dependent on an efficient retention program. We recommend integrating Medallion Right Size with Buckman's wet end management programs for optimal wet end operation and efficiency.

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