Converters that roll-to-roll process materials like plastic films, flexible sheets, composites, nonwovens, metallized, laminated and coated flexible substrates etc. often ask...what size or type of core do I need for this application? Complicate this question with the growth of materials like thin films <50 microns, thick films up to 350 microns, display/optical films, photovoltaics, and bio-plastics. The answer to what type of core to use is complicated by the lack of industry standards.

Like all industry, we push our plants and processes to achieve greater throughput and efficiency. Film manufacturers & converters are working with higher winding speeds to coat, laminate, and metalize thinner films.

This paper attempts to offer baseline core strength properties and correlate what core dimensions/strength will be applicable to convert specific materials. Brief discussion on why packaging films are growing & the need for current data and fresh perspective on converting cores. This research will review traditional core quality characteristics. i.e. core to core consistency in ID, OD, wall, surface finish, and ovality.

Conclusions to be drawn:
- Define strength characteristic data for 3”/77mm & 6”/152mm ID cores in various thickness.
- Provide data and draw correlations of flat crush, core supported, and radial crush. Attempt to quantify the compressive forces differing materials apply to cores during converting.
- Ultimately develop a matrix to aid converters to determine a suitable core for converting applications; i.e. a plastic film version specific similar to the old CCTI Automated Core Guidelines for papermills
Brief Bio:

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