ROSBACK COMPANY

Manufacturers of Quality Handcrafted Bindery & Finishing Equipment for over 130 years

Explanation of the Success of the TrueScore-Pro

PATENTED DESIGN
U.S. PAT 10,464,277

Why Does the Rosback Truescore-Pro Scoring System Work so Well?
How Does it Compare to Other Scoring Methods on the Market?

Foreword

Digitally printed materials show a persistent tendency to crack when folded, spoiling many high quality cards, mailers, and covers. This problem is particularly noticeable when the product includes full solid colors. The digital printing process produces a layer of toner that is cured and fused to the material surface by passing the material through a heat source. The layer of toner produced by the printing engine is thin and hard, and easily breaks away from the paper during folding. This cracking problem is worsened when the heat removes moisture from the paper, producing a dryer, brittle material that is more likely to break and separate. Scoring the product prior to folding can eliminate this problem, but only if the score is created using the correct principles and techniques. The Rosback TrueScore-Pro patented design is the result of extensive research and testing. Since August 2013, our customers have acclaimed its performance on a wide variety of real world applications, proving that rotary scoring with the TrueScore-Pro is the best method to create scores for crack free folding.

Shipping & Mailing Address: 125 Hawthorne Ave., St. Joseph, MI 49085
Phone: (269) 983-2582 * Fax: (269) 983-2516 * Internet: www.rosbackcompany.com * E-mail: engineering@rosbackcompany.com
Manufactured in the USA since 1881

ROSBACK COMPANY

Manufacturers of Quality Handcrafted Bindery & Finishing Equipment for over 130 years

Shortcomings of Die and Matrix scoring.

The die and matrix method for production is exceptionally slow and not suited for production runs above a few hundred.

The maximum size of sheet across the die & matrix is generally limited to a smaller sheet size because of the length of the die and matrix. If the machine is a center registered design then all the wearing of the die and matrix is going to be at the center. If the machine is a side registered design, all the wearing of the die and matrix is going to on the register side. This unequal wearing of components will in time be apparent on the finished score line.

If the matrix is an elastometric material and the die has a shape that allows the material to be gripped by the matrix as the score is induced, then there is a possibility that this system will produce a crack free fold on the score line. However the die and matrix components are not easily and quickly changed to produce the different score widths and depths required for various weights of stock. Some machines on the market do not even have this capability or adjustability for depth of score. Moreover, most die and matrix systems cannot be integrated with a folder, making the entire finishing process even slower.

Shortcomings of Other Rotary Scoring Methods.

A rotary scoring method utilizing steel male and female scoring collars has been used for many years. However, even if profiled correctly these steel components are too aggressive on digital print, and since there is no significant gripping of the material between the two scoring elements, this type of scoring device will not eliminate cracking.

A similar method uses a steel male disc running in a channel between two rubber discs. Because the steel male is rigid, this method is not much better than the all steel version.

Another rotary scoring method uses a rubber ring with a protruding male profile to force the material into a female groove on a lower hub. With this configuration, the force exerted ends up pushing the male profile into the body of the ring. A score is produced, but its depth is limited, especially with thicker materials. Also, the female groove is usually straight sided, and the material is not gripped between the male profile and the sides of the female groove. Some of these rotary-scoring devices use continuous rubber male rings that have to be carefully stretched onto the upper collar and into a receiving groove. Changing the male component requires removing the shaft from the machine, and the male rings can be easily broken when stretched during assembly.

Shipping & Mailing Address: 125 Hawthorne Ave., St. Joseph, MI 49085
Phone: (269) 983-2582 * Fax: (269) 983-2516 * Internet: www.rosbackcompany.com * E-mail: engineering@rosbackcompany.com

ROSBACK COMPANY

Manufacturers of Quality Handcrafted Bindery & Finishing Equipment for over 130 years

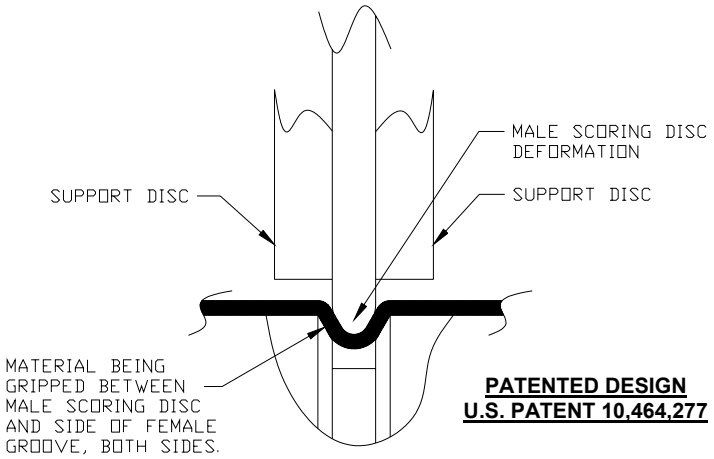
The Rosback Truescore-Pro Method Explained

The Rosback Truescore-Pro has a male rotary element and a female rotary element that work together, trapping the material between them and gradually inducing a score as the material is drawn though. The physical shape and material specifications of the male and female elements are very important factors in the success of the TrueScore-Pro patented design.

The TrueScore-Pro male scoring disc is manufactured from an elastometric material. This disc compresses and traps the digitally printed material against the sides of the female "V" groove. This compression of the disc profile actually stretches the surface and removes the surface tension that is present within the layer of digital print. If the male scoring disc was manufactured from a non-elastomeric material such as steel, there would be no gripping or compression, and therefore no stretching of the digital print. Splitting and cracking of the print and substrate is the most likely result.

The male scoring disc is split between the inside diameter and the outside diameter, allowing the disc to be twisted and removed from the shaft without having to remove the shaft from the machine. This would not be possible with a rigid, continuous disc.

Rigid support discs are positioned either side of the male scoring disc. Their function is to hold the disc and to counteract the radial force developed by the compression of the male scoring disc. The large surface area of the support discs enables the male scoring disc to be clamped without any deformation. The outside diameter of the support discs are slightly less than the male scoring disc, so a small portion of the male scoring disc protrudes above the support discs outer diameters. The compressive resistance provided by the support discs gives the TrueScore-Pro male scoring disc the ability to score heavy weight stock without deforming.



PATENTED DESIGN
U.S. PATENT 10,464,277

The "V" shape of the female groove means the score is induced gently and gradually as the material passes between the male scoring disc and the female groove. The "V" shape also supports the underside of the material as it is scored. Straight-sided grooves do not grip and support the material during the scoring process.

The patented design of the Rosback Truescore-Pro prevents cracking exceptionally well on digitally printed paper based materials. Excellent results are also obtained on coated paper, as well as UV, aqueous, and varnish coated stock. The TrueScore-Pro also works well on laminated materials. Perfect bound book covers, menus, and other laminated products frequently suffer delamination from the base material along the score. The Rosback Truescore-Pro grips and stretches the laminate as well as the base material, keeping the lamination intact along the score line.

This information is provided solely to highlight some design features of the Rosback TrueScore-Pro and enlighten our customers and users regarding its advantages over competing technology.

Shipping & Mailing Address: 125 Hawthorne Ave., St. Joseph, MI 49085
Phone: (269) 983-2582 * Fax: (269) 983-2516 * Internet: www.rosbackcompany.com * E-mail: engineering@rosbackcompany.com
Manufactured in the USA since 1881