



## Zimmer MicroNik Cutting Rule Information

### Product Description:

MicroNik is a **pre-microscopically nicked, patented**, super sleek, double beveled steel cutting rule. Most commonly manufactured as .937" (23.8 mm) x 2-point (.028") x 4 Nicks per inch x Special CFDB in 36 inch or 1-meter lengths, it can also be made in various other heights, point sizes, lengths and nicks per inch. The standard nick is 007" (.18 mm) wide and .030" (.76 mm) deep, though this too may be varied. Thanks to a business arrangement between Sandvik and Zimmer, **MicroNik's base material is now Sandvik's Dieflex, a premium, edge hardened, cutting rule.**

The **standard 4-nick per inch pattern yields .028" (.71mm) of "hold" in every inch.**

On special order- also available in 1, 2, 8 and 16-nicks per inch,

### Documented Benefits

- I. Decrease converting costs and machine downtime. Reported and documented in many success stories.
- II. Improved edge appearance and feel. MicroNik'd edges are always superior in appearance and feel to any edge created by conventional nicking.
- III. Reduced cutting pressure. Sleeker edges cut easier, with less "wedging."
- IV. Increased press yield. From a potential combination of **increased press speed, reduced sheet break-up, less waste and reduced downtime.**
- V. Eliminates or greatly reduces, the need for manual nicking. Saves time and effort, and removes the need for operators to learn the "black art" of nicking. (It's perfectly OK though, to add a manual nick or two to MicroNik rule in real "trouble" spots.)
- VI. Produces dies that will perform with previously unattainable consistency, repeatability and uniformity. The ability to fully control exactly where the nicks will be, allows for the first time, the producing of dies that can run precisely the same way, time after time. Two dies cannot possibly run the **exact** same way, unless they have been nicked in the **exact** same way.
- VII. May eliminate the stripping process. The effective use of MicroNik may sometimes allow direct proceeding to an improved blanking process.

### Applications:

**MicroNik has been used primarily on folding cartons (both paper and plastic) and can be used in the same manner as any conventional cutting rule**, in most instances. In cases where the higher price of MicroNik may be an issue, it can still provide very positive results used primarily in the lead and trail edges, or as common knives and or in other appropriately selected areas of the die. Ideally, the areas of the die that do not require nicking would benefit from the use of the same bevel as the MicroNik, but without the nicks. This product is called MicroCut. It is significantly less expensive than MicroNik and its use also helps with the issue of mitering. Even more importantly, the use of the same bevel angles balances the cutting pressure required and makes sure that the sleek bevel of MicroNik is not over impressed, as it might be if it were combined with a more standard bevel rule.

Already in use around the world, we are just scratching the surface of what this rule makes possible and many other applications will probably follow.



## How and Why It Works:

MicroNik's success comes from the combining of a unique, very sleek cutting edge with the right number of very small, yet potentially powerful nicks, made powerful by simply using many of them, cumulatively. A conventionally made steel rule die might often have only one nick of approximately .030" (.76 mm) in every 4 inches or so of running cutting surface. In other words then, in 8 inches of cutting surface, only .030" of the stock in the middle of that 8-inch run would not actually be cut. In this example, there is a strong possibility that this small "nick" could potentially allow the fully cut areas on either side of it to "sag," "belly" and or pivot-any of which could cause stock feeding problems. If we were to use a 4 nick per inch MicroNik in the same running 8 inches, we would create a total uncut area of .224" (5.7 mm) (32 nicks of .007") or well over 7 times the holding power of the conventional nicking and the MicroNik'd area would not belly, sag or pivot, because it is balanced and totally uniform in it's holding power.

## Other Information

- I. MicroNik is relatively "expensive," compared to conventional rules- but almost always provides benefits that greatly outweigh the cost.
- II. **Beware resistance to change.** Some resistance has been shown to the use of this rule simply because it is different and may require a bit of a "learning curve".
- III. Mitering. Due to MicroNik's unique bevel, special mitering is sometimes advisable, though this is often a minor issue. When used with MicroCut, mitering is not an issue.
- IV. MicroNik requires that the proper rubber (there are several good choices including Green G'rilla EZ Set, Euro and any water jet cut) is used and effectively positioned. The rubber **MUST** hold the sheet together (resisting the natural "wedging" effect that diecutting employs) as cutting occurs. If not, even though the bevel is very sleek, it might still create enough of a wedging effect to break nicks as small as .007" (.18 mm)
- V. When looking at MicroNik's cartons, do judge the appearance in a stack of it, as that creates an illusion of "magnified," obvious nicks. Instead, look at a single sheet for a "real," appearance check.
- VI. A stack of MicroNik'd cartons can be lightly "scraped" or even sanded along the nicked areas to even further reduce the notice ability and feel of the nicks.
- VII. When MicroNik is used on plastics, it is usually recommended in a one or less nick per inch pattern, because the "hold" is much stronger in plastic.

## Conclusion

Companies that are willing to invest the time and effort necessary to fully "master" and wisely implement the most effective uses of this innovative, unique product, will reap major production benefits and positively set themselves apart from the rest of the industry.

For more information contact  
Gregory Zimmer  
National Steel Rule Vice President  
g.zimmer@steelrule.com  
Or visit [www.steelrule.com](http://www.steelrule.com)  
Tel: 800-922-0885  
Tel: 908-862-3366  
Fax: 908-862-5339