



### Matrix Precision Cutting Rules

Brand	Hardness			Sizes		Bevels				Coatings		Additional Features		Application and Features
	Body	Edge	Bendability	Height [mm]	Thickness [pt]	Edge Angle	Shaved	Ground	Polished	TINIT shaved	Supreme ground	Back	Autoflex	
				1,2		1,2				„long-life“	„Dust Killer“ <sup>3,4</sup>	„K-Back“		
TOP	~450 HV (45 HRC)		+	22,00 - 100,00	1,5 / 2 / 3 / 4	42° / 53°	CF / CFDB SF / SFDB							for short / medium runs
H 75	~525 HV (51 HRC)			22,00 - 100,00	2 / 3 / 4	42° / 53°	CF / CFDB SF / SFDB							for short / medium runs, rigid materials
UNIVERSAL	~340 HV (35 HRC)	~640 HV (57 HRC)	+++	21,30 - 50,80	1,3 / 1,5 / 2 / 3 / 4	42° / 53°	CF / CFDB SF / SFDB	CF / CFDB	CF / CFDB SF / SFDB	CF / CFDB	CF / CFDB	optional	optional	for narrow radius bending
UNIVERSAL 40	~390 HV (40 HRC)	~640 HV (57 HRC)	++	22,00 - 50,80	1,5 / 2 / 3 / 4	42° / 53°	CF / CFDB SF / SFDB		CF / CFDB SF / SFDB			optional	optional	robust body
UNIVERSAL 60	~450 HV (45 HRC)	~640 HV (57 HRC)	+	22,00 - 100,00	1,5 / 2 / 3 / 4	42° / 53°	CF / CFDB SF / SFDB	CF / CFDB	CF / CFDB SF / SFDB	CF / CFDB	CF / CFDB	optional	optional	solid body, wider radius bending
UNIVERSAL 75	~525 HV (51 HRC)	~670 HV (58 HRC)		22,00 - 100,00	2 / 3 / 4	42° / 53°	CF / CFDB SF / SFDB	CF / CFDB				optional		solid body, tip for hard materials
EXTRA	~390 HV (40 HRC)	~700 HV (59 HRC)	+	22,00 - 50,80	2 / 3 / 4	42° / 53°	CF / CFDB SF / SFDB					optional		robust body, tip for hard materials

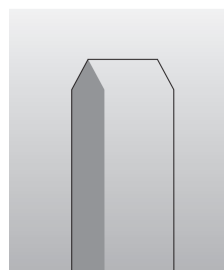
### Matrix Fine Ground X-Cutting Rules

Brand	Hardness			Sizes		Bevels				Coatings		Additional Features		Application and Features
	Body	Edge	Bendability	Height [mm]	Thickness [pt]	Edge Angle	Shaved	Ground	Polished	TINIT shaved	Supreme ground	Back	Autoflex	
				1,2		1,2				„long-life“	„Dust Killer“ <sup>3,4</sup>	„K-Back“		
Label-X soft	~340 HV (35 HRC)	~625 HV (55 HRC)	+++	8 / 9,5 / 12	1,3	42°		CF				standard		electronics, for narrow angle bending
Label-X	~390 HV (40 HRC)	~625 HV (55 HRC)	++	8 / 9,5 / 12	1,3 / 1,5	42°		CF				standard		electronics, paper labels, foils
Label-X hard	~450 HV (45 HRC)	~670 HV (58 HRC)	+	8 / 9,5 / 12	1,3 / 1,5	42°		CF		CF / CFDB		standard		labels ( laminated, metallised)
Plast-X soft	~340 HV (35 HRC)	~640 HV (57 HRC)	+++	23,60 / 23,80	1,3 / 1,5 / 2	30° / 42° / 53°		CF / CFDB				standard		plastic films, PVC foils, LCD films thickness < 0.3 mm
Plast-X	~390 HV (40 HRC)	~700 HV (59 HRC)	++	22,00 - 50,80	2 / 3	26° / 42° / 53°		CF / CFDB		CF / CFDB		standard		plastic films, PVC foils, blister packs thickness < 0.5 mm
Plast-X hard	~450 HV (45 HRC)	~700 HV (59 HRC)	+	22,00 - 50,80	2 / 3	42° / 53°		CF / CFDB				standard		plastic films, plastic boxes, UV laminated folding boxboard / thickness > 0.5 mm

<sup>1</sup> Other dimensions on request  
<sup>2</sup> Availability depends on order quantity

<sup>3</sup> SF / SFDB on request  
<sup>4</sup> Optional polished version

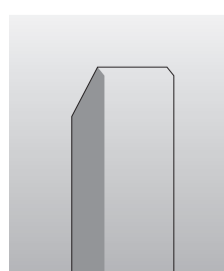
### Bevels



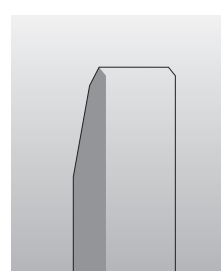
**CF – Centre Face, Centre Bevel**  
 Center Face bevel has become the norm for cutting standard packaging materials.  
 Standard edge angle: 53° (others on request)



**CFDB – Centre Face, Double Bevel**  
 This type of cutting bevel reduces the cutting force when cutting hard / thick materials such as glass fibre reinforced laminates, leather, cork, rubber, jigsaw puzzles, corrugated board, plastics, plywood.  
 CFDB bevel is recommended for multi-layer cutting.



**SF – Side Face, Single Bevel**  
 SF bevels are best suitable for cutting thick materials where a straight / vertical cut is required.  
 SF bevel is not available in "G" but in "P" execution.




**SFDB – Side Face, Double Bevel**  
 SFDB profile offers the same benefits as CFDB bevel when cutting thicker materials. The substrate is left with a square 90° cut edge and all the distortion from penetration is left on the material waste.  
 SFDB bevel is not available in "G" but in "P" execution.

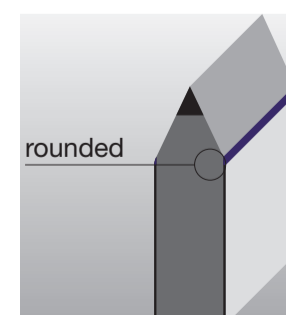
### Bevel Execution




**Shaved Cutting Bevel (S)**  
 The standard bevel finish of Bohlerstrip cutting rules is a precision drawn quality surface bevel.  
 These rules benefit from excellent bendability and height consistency.



**Sharpened Cutting Bevel (G)**  
 For the professional cutting of plastics, rubber, laminates and coated materials a sharpened cutting edge has proven to be the best choice.  
 For these applications we recommend our high frequency hardened cutting rules in sharpened execution (UNIVERSAL 40, UNIVERSAL 60 and UNIVERSAL 75). The sharper cutting edge results in cleaner cutting faces, less knife wear and easy material penetration, at the same time reducing the cutting force.  
 For thermoforming jobs we recommend UNIVERSAL 60 "G".



**Polished Cutting Bevel (P)**  
 Polished cutting rules combine the benefits of shaved and sharpened execution in one rule.  
 – reduced dusting  
 – less friction when penetrating cut material, thus reducing cutting force  
 – improved bending properties compared with sharpened bevel  
 – rounded transition zone between bevel and body prevents material cracking  
 Also available with polished double bevel (PL) in CFDB or SFDB.



**Fine Ground Bevel (X)**  
 These new cutting rules are processed on a unique grinding machine applying razor blade technology, ensuring a super sharp cutting edge with superfine ground bevel (RA = 0.08 µm). Such properties are important for efficient high quality die cutting.