Slitting of Plastic Foils
Slitting of plastic foils

for roll slitters, trimming stations, rewinders, extruders and coating machines

- CPP foils
- barrier foils
- stretch foils
- special foils
- mono and sandwich foils
Slitting of plastic foils

Slitting systems

- razor blade cut
- shear cut
- heated cut

Typical problems

- slitting dust formation
- bad cutting edge quality
- short service life
- filament formation / „angel hair“ formation
- built-up edge during winding
- „strain whitening“ at cutting edge
- no possibility to start cutting on viscoplastic material
Filament formation / „angel hair“ formation
Build-up edge during winding
Strain whitening at the cutting edge
Strain whitening at the cutting edge
Slitting of plastic foils

Solutions for razor blade cut

- razor blade change head system
- ceramic tipped razor blades

Solutions for shear cut

- minimisation of axial contact forces by applying PSGs-DF holders with CSL- technology (constant side load) → this reduces contact force by a factor of 3-6 → thus extension of service life by a factor of 5-20
- exact adjustment of knife overlap through scaled depth adjustment
- double axle guidance for vertical movement
- exact shear angle adjustment
- optimisation of top knife geometry and surface finish
- application of higher alloyed materials
- heated cut
## References

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RAZOR BLADE CUT
Razor blade cut
Razor blades

Enclosed Blades

DIENES PART #02912  2-1/4 x 3/4 x .015
DIENES PART #02915  2-1/4 x 3/4 x .015
DIENES PART #02914  1-1/5 x 3/4 x .009
DIENES PART #02917  1-1/2 x 5/16 x .009

DIENES PART #02925  2-1/4 x 3/4 x .015
DIENES PART #02913  1-3/4 x 7/8 x .008
DIENES PART #02916  2-1/4 x 3/4 x .025
DIENES PART #02924  1-1/2 x 5/16 x .009

DIENES PART #02918  2-1/4 x 3/4 x .015
DIENES PART #02920  2-1/4 x 3/4 x .015
DIENES PART #02922  1-1/5 x 3/4 x .009
DIENES PART #02923  2-1/4 x 3/4 x .025

Dienes Stocks in Ceramic Coated only

DIENES PART #02919  2-1/4 x 3/4 x .015
DIENES PART #02921  1-3/4 x 7/8 x .006
DIENES PART #02923  2-1/4 x 3/4 x .025
Ceramic coated razor blades

Type „DIAMOND BLACK BLADE“

With the superfine ceramic coating at the edge of the razor blade, a hardness of approx. 90 Rc is achieved. This increases service life by 8 - 18 times compared to conventional blades.

Typical applications

- oriented polypropylene
- ethyl acetate laminate
- polyester
- polycarbonate
- label stock
- aluminium and copper foil
- polyethylene
- polystyrene
- coated film substrates
- other film products
Four-fold razor blade head
Razor blade knife holder

- "Easy Set" adjustment slide
- 360° hand guard
- "Easy Change" knife head
- zero clearance double guidance
- nonius for depth adjustment
- dovetail or linear guiding possible
- knife lubrication
- pneumatic operation
Slitting system - Razor blade cut

Material to be cut: e. g. adhesive tape, film, hard and soft foils from PE, PP, PA, PET, PVC, CPP as well as aluminium

Typical customers: Tesa, 3M, Karl-Otto-Braun, BASF, Konica, Alcan, Alcoa
OEM: A. Müller, Kampf, Nishimura, PSA, Guzzetti, Ghezzi & Annoni

Engineering Data
working width: 1,596 mm
inside frame width: 2,077 mm
slitting speed: up to 200 m/min
min. slit width: 15 mm
knife holder: 58 razor blade holder type RBC-1

Advantages:
- reasonable price
- easy adjustment
- set-up time reduction
- narrower slit widths
Bottom knife 231H390167

applicable for razor blade and shear cutting
Knife holder PQDS with razor blade adapter
SHEAR CUT
Shear cut
Collar

for slitting films, foils and aluminium
Avoiding of „angel hair“ formation
Avoiding build-up edge during winding

Please contact us for detailed information
Shear cut knife holder PSGs-DF

Please contact us for detailed information
Shear cut knife holder with heated dished knife
Bottom knife with motor
Slitting system with waste strip
Slitting Arrangement - Cutting a „waste strip“
Positioning unit Modul II-L
Multi-function module with digital readout
Trimming station (right hand)
Positioning device 281A000375
In order to cut the web mind the following points:

1. Sufficient web tension
2. Place bottom knife slightly above input-and output shaft in order to make sure that the web is guided tightly through the slitting area
3. Reserving shafts must have short distances to the slitting area
4. Top knives should have thin knife edges and/or large cutting angles
5. Increase shear angle
6. To avoid a bulging of web place a guiding closely in front of the cutting area, arrange top to bottom (Warning: If the suction output is too high, there might be a vacuum causing the web to stick to the guiding plate!)
Slitter equipped with collars and bottom knives
Slitting system for razor and shear cut
Positioning device
Slitting system (upper part)

knife holders with quick change head for shear and razor blade cutting
Manual slitting system

for cutting packaging material
Slitting system (upper part)
Automatic knife positioning system

Modul IV
Shear Cut
Working width: 2400 mm
Web speed: 15 m/min
Holder Type: PSG DF 145
Number of cuts: 5
Material: plastic
Motor-driven knife holder

for heavy-duty applications