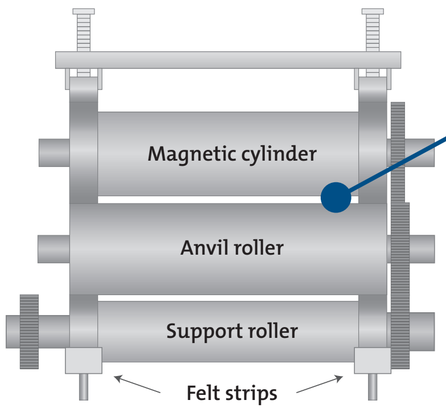
DIE-CUTTING BASICS

wink®
You cut, we care.

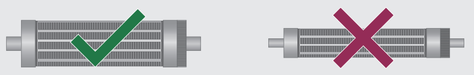
CUTTING UNIT / CYLINDERS



Gap = $\frac{\text{Ø bearer rings} - \text{Ø magnetic zone}}{2}$

European standard = 0.480 mm (0.0189")
US standard = 0.483 mm (0.019")

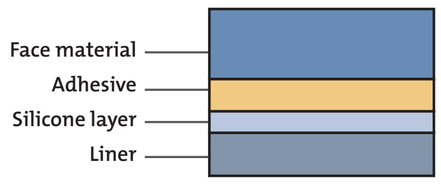
Proper cylinder dimensions



Recommendations

- Use an **adjustable anvil roller** (e.g., Wink SmartGap) for variable gap adjustment
- Install **pressure gauges** (e.g., Wink ForceControl) for continuous monitoring of cutting pressure

LABEL STOCK

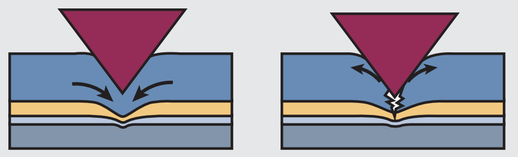


- **Paper** bursts easily and can be cut with a wider blade angle, while soft **filmic materials** need (almost) full penetration and sharper angles
- **Abrasive facestocks** increase tool wear, thus special coatings like MCR are recommended
- Extreme **adhesives** (e.g. hotmelt) require non-stick coating of the die
- **Liner** type & thickness determine die height

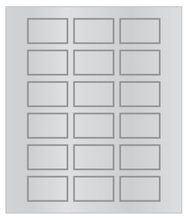
Die-cutting = compressing

The cutting tool has to cut through the face material and the adhesive layer, without damaging the liner material.

The die blade compresses the face material until it bursts.



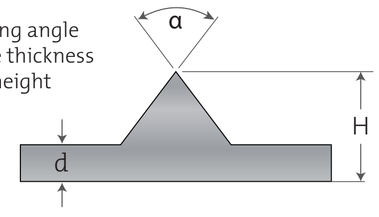
FLEXIBLE DIES



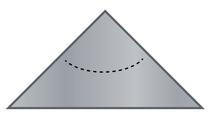
Every flexible die is custom-made for the desired application.

The combination of cutting unit/cylinders and label material determines the die specifications.

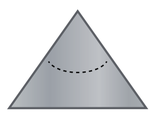
α = cutting angle
d = plate thickness
H = die height



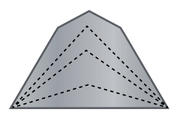
SUPERCUT
Basic versions



SuperCut 90
Standard adhesive and thermal papers



SuperCut 70
Films such as PE 85, PP, PET; also paper materials

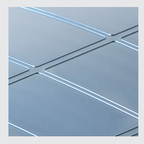


SuperCut Special
Special films and other difficult materials

Finishing options

- For maximum performance and longer lifetime
- Flexibility, tolerance and magnetic adhesion of the dies are not impaired

Laser hardening
Cutting through of filmic materials



MCR coating
Abrasive facestocks (thermal paper, opaque white, etc.)

Non-stick coating
Against adhesive and ink residues; four variants available

MCR + Laser
Cutting-through of very abrasive materials; long runs

ABC of Die-Cutting

For more detailed information, please see our free "ABC of Die-Cutting" brochure.

The guide describes possible causes of unsatisfactory cutting results and how you can avoid or remove these problems.

CARE INSTRUCTIONS

Careful handling

- Never bend a flexible die or put it down on the blades.
- Always clean cylinders and reverse side of the die with certified cleaners before usage.
- Only use special die lifters to remove dies.
- Lift cylinders into and out of the machine carefully.
- Increase cutting pressure very slowly.

Safe storage

- Remove all ink and adhesive residues after usage.
- Oil tools with acid-free oil before storing.
- Store the dies in file hangers or in the original cardboard tubes/packages.
- Keep certificate of quality and the cutting sample.

Flawless conditions

- Measure the gap regularly.
- Check bearers, bearings, pressure rollers and gears regularly.
- Ensure that bearings and shafts are running free from backlash.
- Pay attention to adequate pressure between magnetic and anvil cylinder.

Cutting Edge Tooling

www.cetooling.co.uk
sales@cuttingedgetooling.co.uk

TROUBLE-SHOOTING

When cutting problems occur, always check these points first:

Cutting unit / cylinders

- Contaminants / Wear
- Pretension / cutting pressure
- Gap (Clearance)
- Circumference-width relation

Material

- Type and composition of the material
- Liner thickness
- Application (kiss-cutting and/or cutting-through etc.)

Flexible die

- Contaminants
- Wear
- Production errors

Apart from this, you should always **recheck the order details.**

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