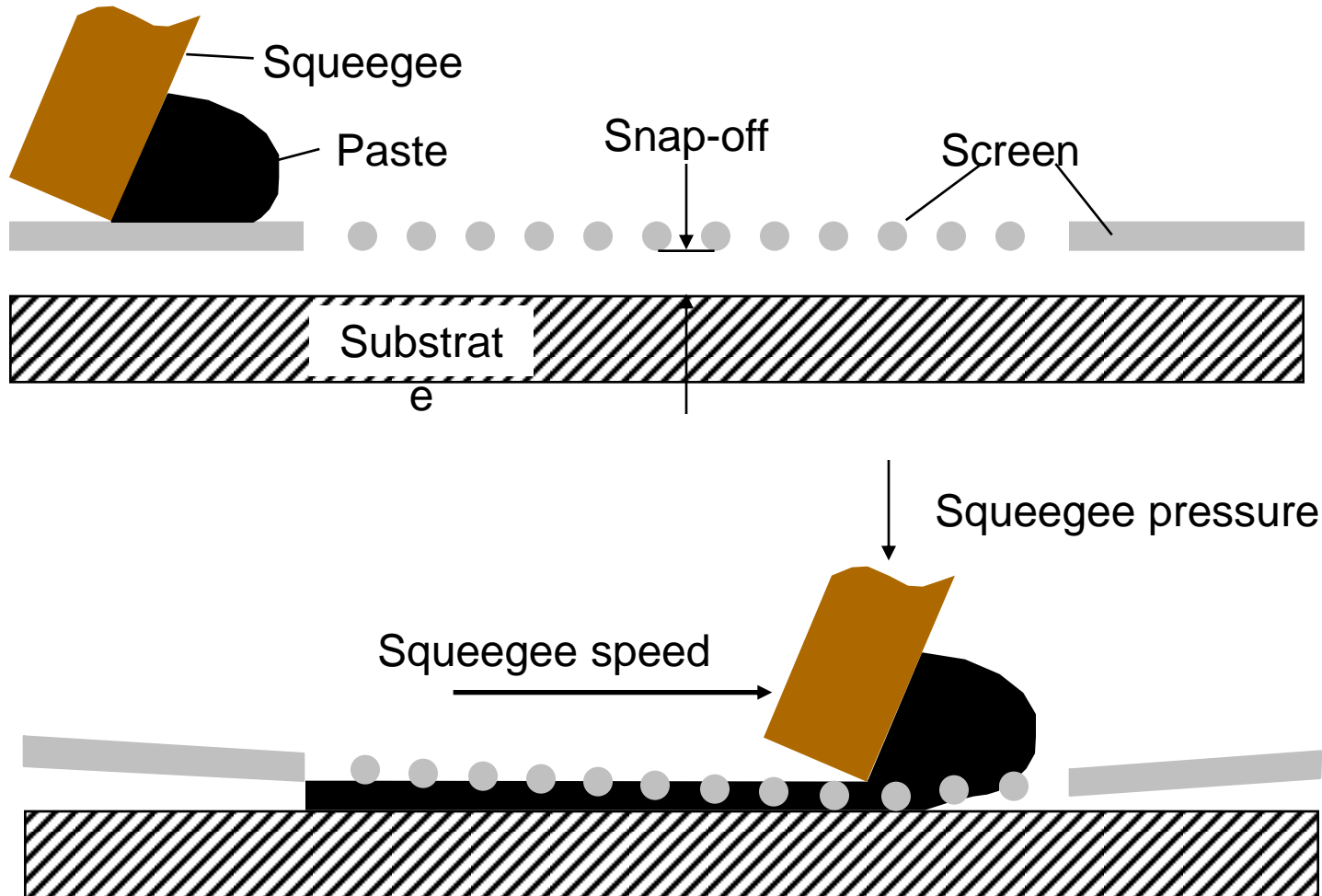
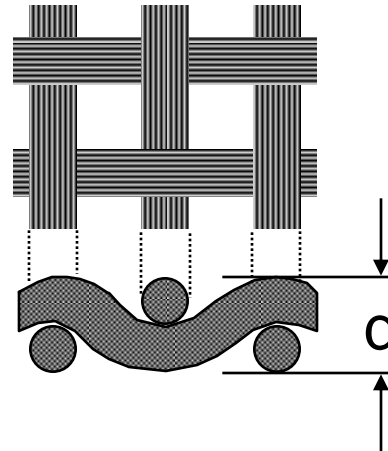


Screen printing

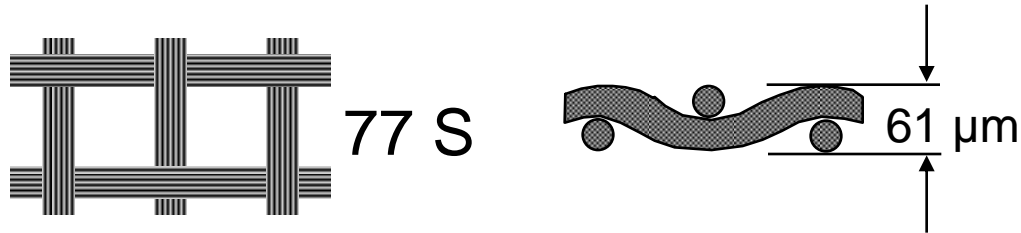


Frame size:	2 x size of print pattern
Aperture size of mesh:	3 x of particle size in paste
Thread thickness:	< 1/3 of the width of narrowest line
Coating thickness:	15 - 25% of the fabric thickness
Squeegee hardness:	Hard for fine lines and thin layers; Hard for low paste viscosity; Soft for thick layers



Mesh per cm	Mesh per inch	Mesh-opening μm	Thread diameter μm	Thickness of fabric μm	Theoret. col. volume cm^3/m^2
68	175	90	55	90	34,5
77	195	80	50	80	30,5
90	230	60	50	83	24,5
110	280	54	37	58	20,5

Influence of thread thickness



colour volume: 28,0 cm³/m²

Thin threads:

Low applied thickness
High resolution
Low durability



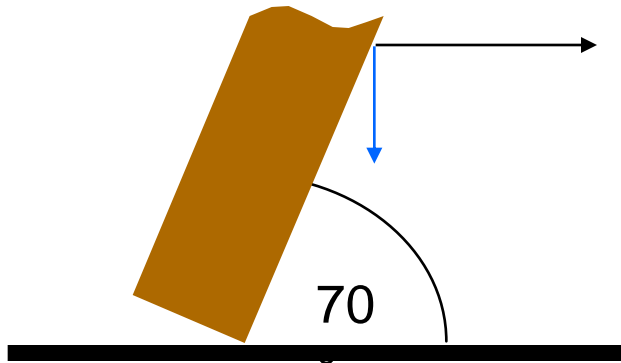
colour volume: 30,5 cm³/m²

Thick threads:

Higher applied thickness
Low resolution
Long durability

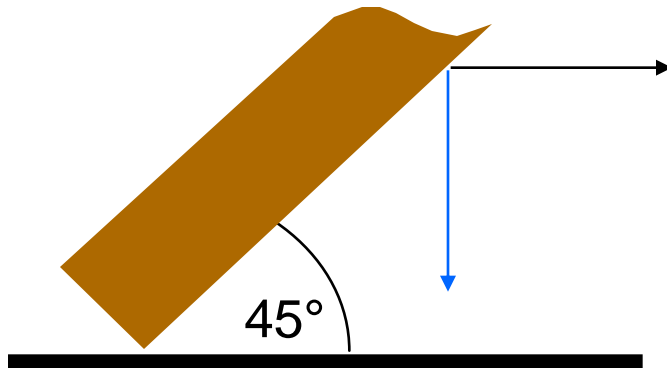


colour volume: 27,5 cm³/m²



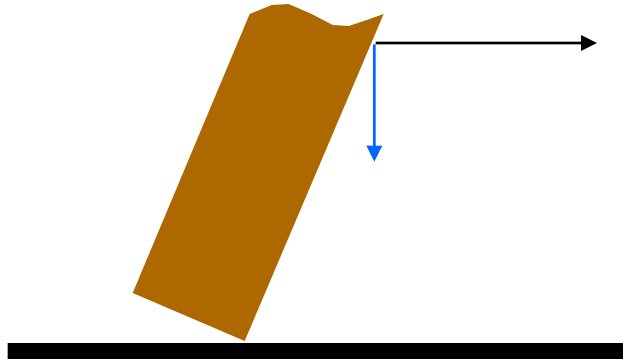
Steep angle:

Low thickness
High resolution



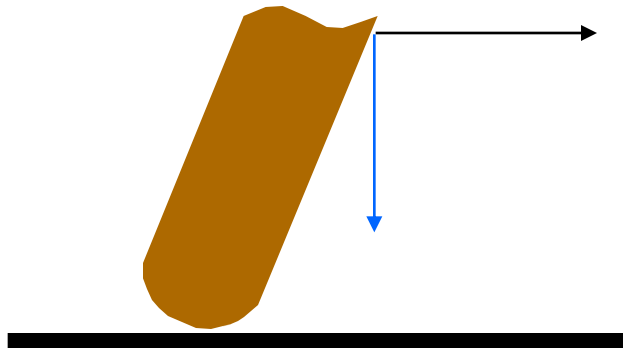
Small angle:

Higher thickness
Low resolution



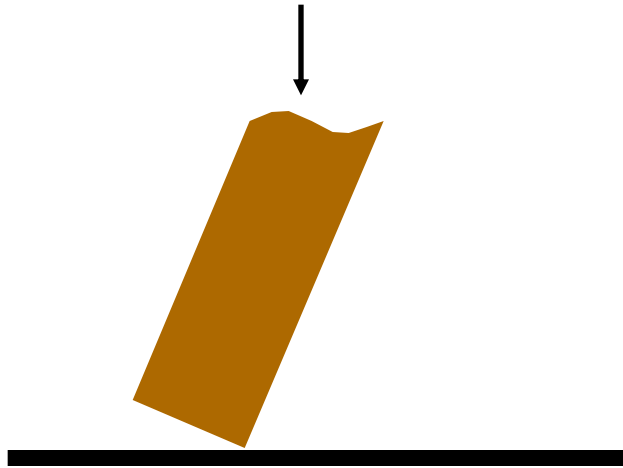
Sharp edge:

Low thickness
High resolution



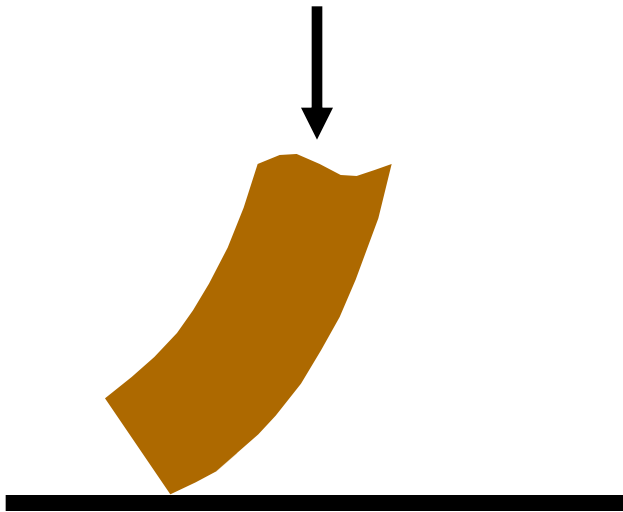
Rounded edge:

Higher thickness
Low resolution



**Low pressure or
hard squeegee:**

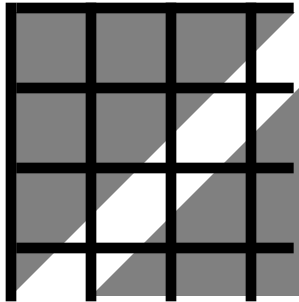
Low thickness
High resolution



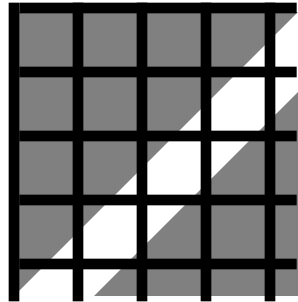
**High pressure or
soft squeegee:**

Higher thickness
Low resolution

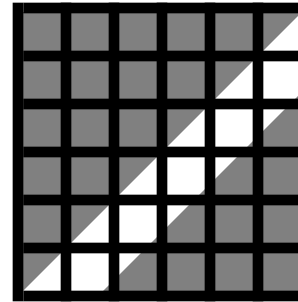
Print quality as function of mesh no.



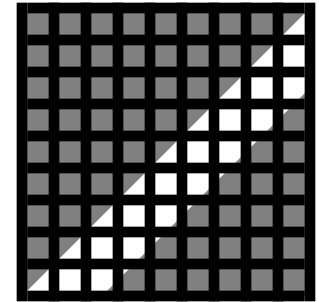
125 mesh



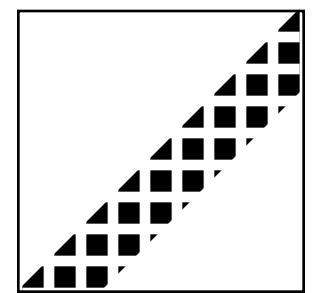
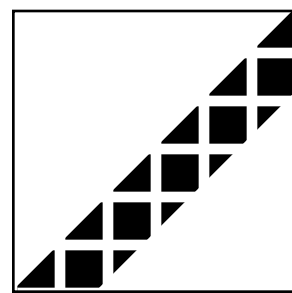
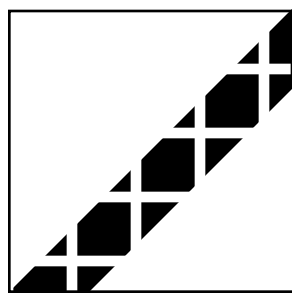
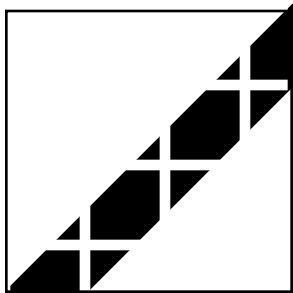
160 mesh



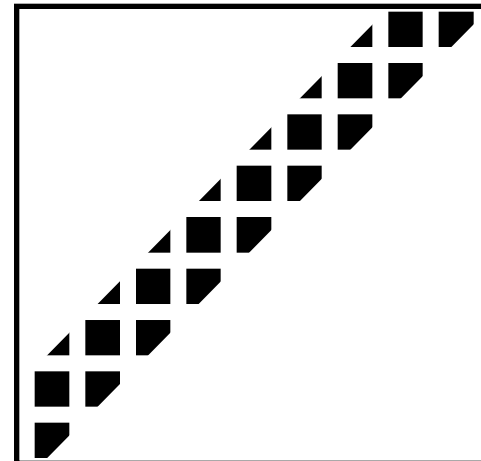
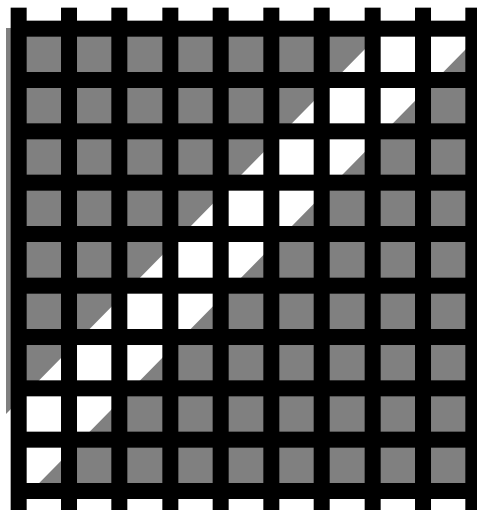
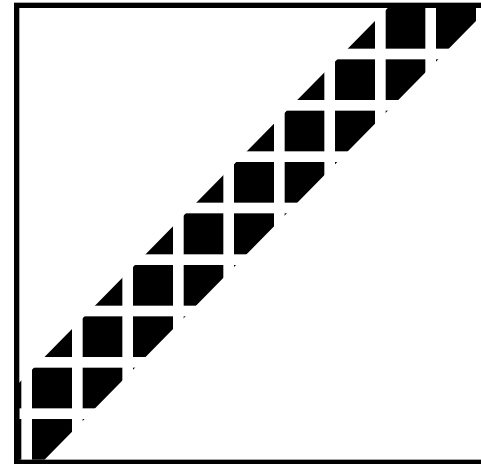
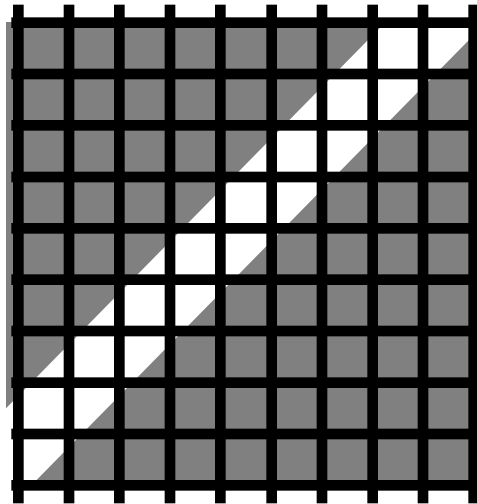
195 mesh



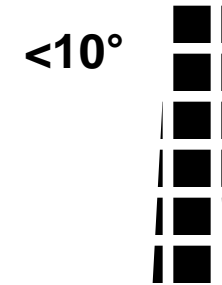
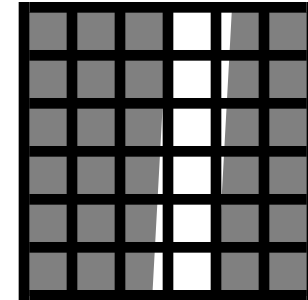
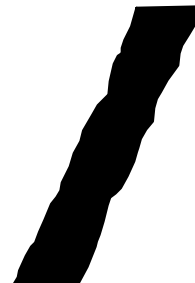
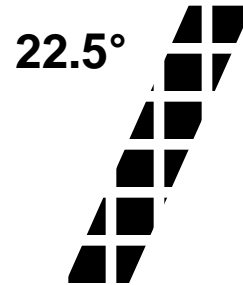
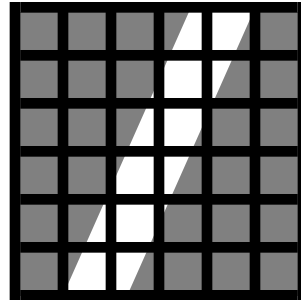
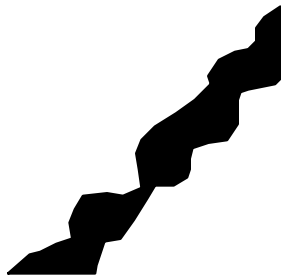
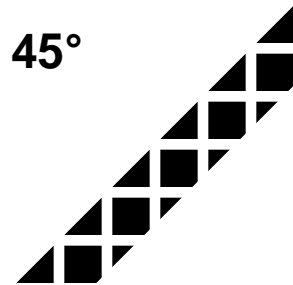
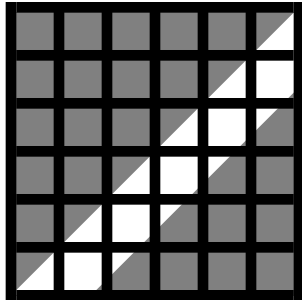
280 mesh



Print quality as function of thread thickness



Line resolution as function screen angle



Incomplete print

- Squeegee speed too high
- Clogged screen
- Wrong snap-off distance
- Paste viscosity too high

Bad resolution

- Wrong squeegee angle (rounded edge)
- Wrong squeegee hardness
- Squeegee pressure too high
- Squeegee speed too high
- Screen-tension too low
- Paste viscosity too low
- Clogged screen

Irregular prints

- Squeegee not parallel to screen
- Squeegee damaged

Prints too thin

- Squeegee too hard
- Squeegee angle too big
- Squeegee speed too high
- Paste viscosity too high
- Wrong fabric

Prints too thick

- Squeegee too soft
- Squeegee angle too low
- Paste viscosity too low
- Wrong fabric