



+ECO GRAPH

Swiss Printing Doctor Blades
for Flexo & Rotogravure.

MADE IN SWITZERLAND



Our Company

ECOGRAPH AG is a Swiss company specialised in manufacturing **high quality Printing Doctor Blades**.

Located about 60 km from Zurich, the technological & manufacturing heart of Switzerland, we self engineered and created all our mechanical & chemical production lines which allow us to achieve an incomparable quality for our Printing Doctor Blades.

Experienced staff including mechanical & chemical engineers keep quality consistency at the top possible level by continuously developing new solutions for worldwide printers' highest expectations.

Edge Finishing & Profiles

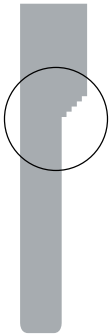
CGT “CROSS GRINDING TECHNOLOGY” “KEY TO PERFECTION

At Ecograph AG we developed the unique “Cross Grinding Technology”. This technology allows to manufacture lamella & bevel edges with the finest surface finishing.

With Ecograph’s Cross Grinding Technology CGT the ground edge surface is smooth & totally “marks free”.

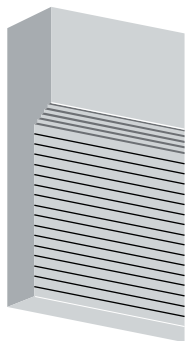
Grinding marks (parallel or transversal) are causing faster blade wear and originate blade cracks. **The CGT super smooth “silver like”** Ecograph’s edge eliminates such marks granting the most consistent printing quality & the longest blade life.

Conventional solutions:



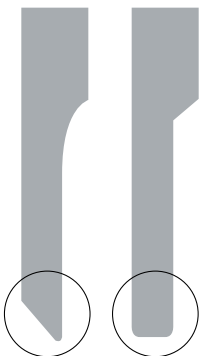
The dynamic zone

Sharp edges in the dynamic zone causes the breakage of the doctor blade.



Grinding pattern

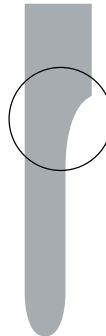
Doctor blades with longitudinal grinding pattern are exposed to break where the longitudinal streaks overlap with the crystalline lines of fracture.



Lapping

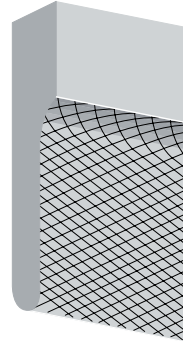
Unlapped doctor blades negatively influence the function during the start-up of printing job (waste of printing substrate).

ECOGRAPH solutions:



The dynamic zone

The lamella parallel zone ends in a smooth radius to the full thickness base material.



Grinding pattern

The fine cross grinding pattern of ECOGRAPH Doctor Blades results into the best possible surface quality of the lamella.



Lapping

ECOGRAPH Doctor Blades have lapped lamella tips. With the use of especially fine lapped edge the doctor blade wipes the cylinder 100% clean from the first meters of each printing job.

→ Cost savings

- Longer service life
 - Less waste
 - Less problems
- = Lower costs

STEEL TYPES

PreciSwiss 1



- SUPERIOR Quality Carbon Swedish Steel
- PURE Chemical Composition
- STRICT Straightness Tolerance
- FINE Structure
- CONSISTENT Hardening

TECHNICAL DATA

PreciSwiss 1 printing doctor blades (high carbon steel)

Surface:	bright polished
Tensile Strength:	1960 ± 100 N/mm ² (580 Hv)
Straightness maximum deviation:	1,0/3000 mm
Flatness maximum deviation:	0,3% across the strip width
Width tolerance (blade):	± 0,10 mm if blade width < 50 mm
	± 0,15 mm if blade width ≥ 50 mm
Thickness tolerance (blade):	± 0,009 mm if blade thickness ≤ 0,152 mm
	± 0,011 mm if blade thickness > 0,152 mm
Width tolerance (lamella):	± 0,025 mm
Thickness tolerance (lamella):	± 0,003 mm
Contact edge roughness:	Ra 0,10 ± 0,05 µm

PreciSwiss 2



- CHROME Added Carbon Swedish Steel
- ENRICHED Chemical Composition
- HIGHER Wear Resistance (flexo)

TECHNICAL DATA

PreciSwiss 2 printing doctor blades (high carbon alloyed steel) Cr added

Surface:	bright polished
Tensile Strength:	2060 ± 100 N/mm ² (605 Hv)
Straightness maximum deviation:	1,0/3000 mm
Flatness maximum deviation:	0,3% across the strip width
Width tolerance (blade):	± 0,10 mm if blade width < 50 mm
	± 0,15 mm if blade width ≥ 50 mm
Thickness tolerance (blade):	± 0,009 mm if blade thickness ≤ 0,152 mm
	± 0,011 mm if blade thickness > 0,152 mm
Width tolerance (lamella):	± 0,025 mm
Thickness tolerance (lamella):	± 0,003 mm
Contact edge roughness:	Ra 0,10 ± 0,05 µm

STEEL TYPES

PreciSwiss 3



- SUPER Refined Swedish Carbon Steel
- PECULIAR Steel Metallurgical Structure
- MINIMAL Carbides Size & High Carbide Dispersion
- HIGHER Wear Resistance (rotogravure)

TECHNICAL DATA

PreciSwiss 3 printing doctor blades (high carbon steel super refined)

Surface:	bright polished
Tensile Strength:	1960 ± 100 N/mm ² (580 Hv)
Straightness maximum deviation:	0,6/3000 mm
Flatness maximum deviation:	0,3% across the strip width
Width tolerance (blade):	± 0,10 mm if blade width < 50 mm
	± 0,15 mm if blade width ≥ 50 mm
Thickness tolerance (blade):	± 0,009 mm if blade thickness ≤ 0,152 mm
	± 0,011 mm if blade thickness > 0,152 mm
Width tolerance (lamella):	± 0,025 mm
Thickness tolerance (lamella):	± 0,003 mm
Contact edge roughness:	Ra 0,10 ± 0,05 μm

PreciSwiss 4



- SUPER Lasting High Alloyed Swedish Steel
- SPECIALLY Enriched Chemical Composition
- EXTREMELY High Wear Resistance (flexo & rotogravure)

TECHNICAL DATA

PreciSwiss 4 printing doctor blades (micro alloyed long life steel)

Surface:	yellow polished
Tensile Strength:	2100 ± 100 N/mm ² (615 Hv)
Straightness maximum deviation:	1,3/3000 mm
Flatness maximum deviation:	0,3% across the strip width
Width tolerance (blade):	± 0,10 mm if blade width < 50 mm
	± 0,15 mm if blade width ≥ 50 mm
Thickness tolerance (blade):	± 0,009 mm if blade thickness ≤ 0,152 mm
	± 0,011 mm if blade thickness > 0,152 mm
Width tolerance (lamella):	± 0,025 mm
Thickness tolerance (lamella):	± 0,003 mm
Contact edge roughness:	Ra 0,10 ± 0,05 μm

STEEL TYPES

InoxSwiss



- FINE Stainless Swedish Steel
- FULL Oxidation & Corrosion resistance
- HIGH Wear Resistance

TECHNICAL DATA

InoxSwiss printing doctor blades (stainless steel)

Surface:	bright polished
Tensile Strength:	1910 ± 100 N/ mm ² (565 Hv)
Straightness maximum deviation:	1,1/3000 mm
Flatness maximum deviation:	0,3% across the strip width
Width tolerance (blade):	± 0,10 mm if blade width < 50 mm
	± 0,15 mm if blade width ≥ 50 mm
Thickness tolerance (blade):	± 0,009 mm if blade thickness ≤ 0,152 mm
	± 0,011 mm if blade thickness > 0,152 mm
Width tolerance (lamella):	± 0,025 mm
Thickness tolerance (lamella):	± 0,003 mm
Contact edge roughness:	Ra 0,10 ± 0,05 µm

PlasticSwiss



- Polyester & Polyethylene Blades
- FAST Adaptability
- PROPER Ink Chamber Sealing (as flexo containment blade)

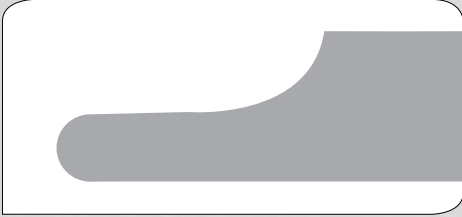
TECHNICAL DATA

PlasticSwiss printing doctor blades

Surface:	White
Tensile Strength:	None
Straightness maximum deviation:	None
Flatness maximum deviation:	None
Width tolerance (blade):	± 0,50 mm
Thickness tolerance (blade):	± 0,08 mm
Angle tolerance (bevel):	± 3°

EDGE PROFILE

Lamella EDGE

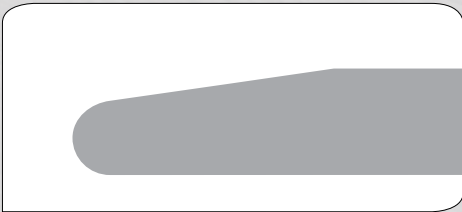


Standard pre-honed doctor blade

- EXCELLENT printing definition under all conditions
- FULLY SATISFACTORY ratio lasting-quality
- QUICK run-in time thanks to rounded tip

Blade Profile	Width (mm)	Thickness (mm)	Profile Specifications	
			Range	Standard
LAMELLA	from 8 to 90	0,102	Lamella 0,5 min - 2,5 max mm x from 0,04 mm	Thickness 0,152 mm: 1,3 x 0,070 mm
		0,152		
		0,203		
		0,254		Thickness 0,203 mm: 1,3 x 0,100 mm
		0,305		
		0,381		

Bevel EDGE



Straight bevel pre-honed doctor blade

- IDEAL blade for high pressure working conditions (minimal blade deformation)
- PERFECT for short jobs
- QUICKEST run-in time thanks to very thin rounded tip

Blade Profile	Width (mm)	Thickness (mm)	Profile Specifications	
			Range	Standard
BEVEL	from 8 to 90	0,102	Bevel from 2° to 60°	4° & 15°
		0,152		
		0,203		
		0,254		
		0,305		
		0,381		

Round EDGE



Rounded edges doctor blade

- HIGHEST blade rigidity
- LONG lasting
- Slow run-in time (depending on thickness)
- Medium printing definition
- SUGGESTED for full tones & anilox with few lines/cm

Blade Profile	Width (mm)	Thickness (mm)	Profile Specifications	
			Range	Standard
ROUND	from 8 to 90	0,065	Round	radius = ½ thickness
		0,076		
		0,102		
		0,152		
		0,203		
		0,254		

EcoCer 1

- High density coating - medium hardness (700 Hv)
- Fast run-in-time
- Lubricant contact surface

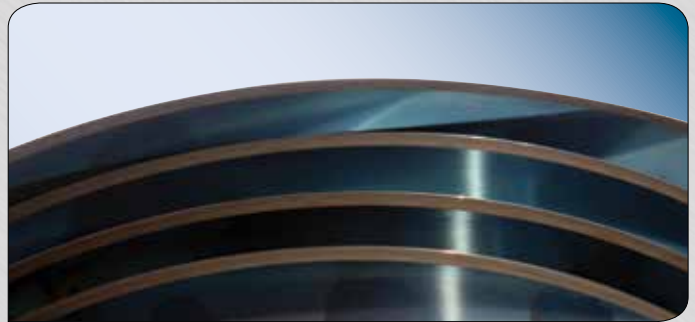


EcoCer 2

- High density coating - high hardness (950 Hv)
- Very long lasting
- Lubricant contact surface

EcoCer 3

- High density coating - medium/high hardness (750 Hv)
- Fast run-in-time
- Increased ceramic content
- Solves all troubles related to chrome surface finishing
- Lubricant contact surface

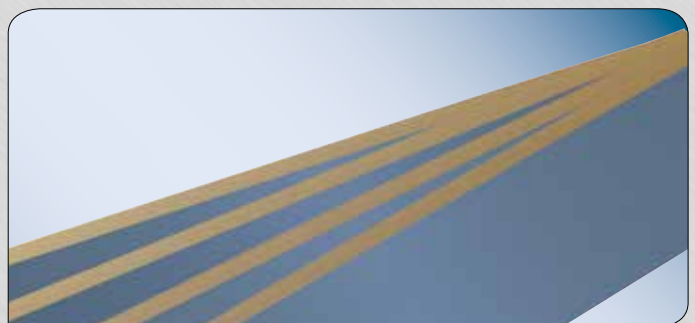


EcoCer 4

- High density coating - high hardness (850 Hv)
- Increased ceramic content
- Solves all troubles related to chrome surface finishing
- Lubricant contact surface
- Long lasting

EcoCer 5

- High density coating - high hardness (850 Hv)
- Increased ceramic content
- Increased lubricant properties
- Very fast run-in-time
- Solves all troubles related to chrome surface finishing
- Very long lasting



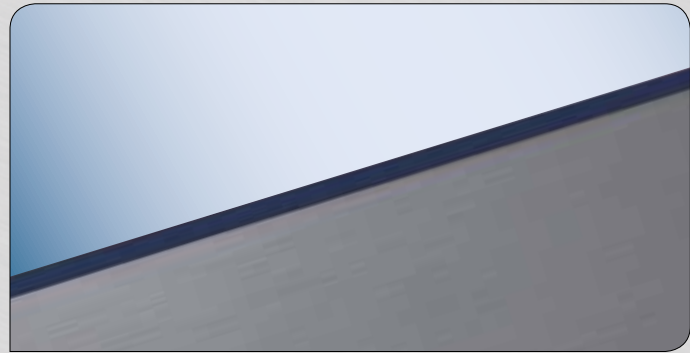
EcoCer 6

- High density coating - very high hardness (1.000 Hv)
- Increased lubricant properties
- Specific for flexo printing
- Extreme lasting

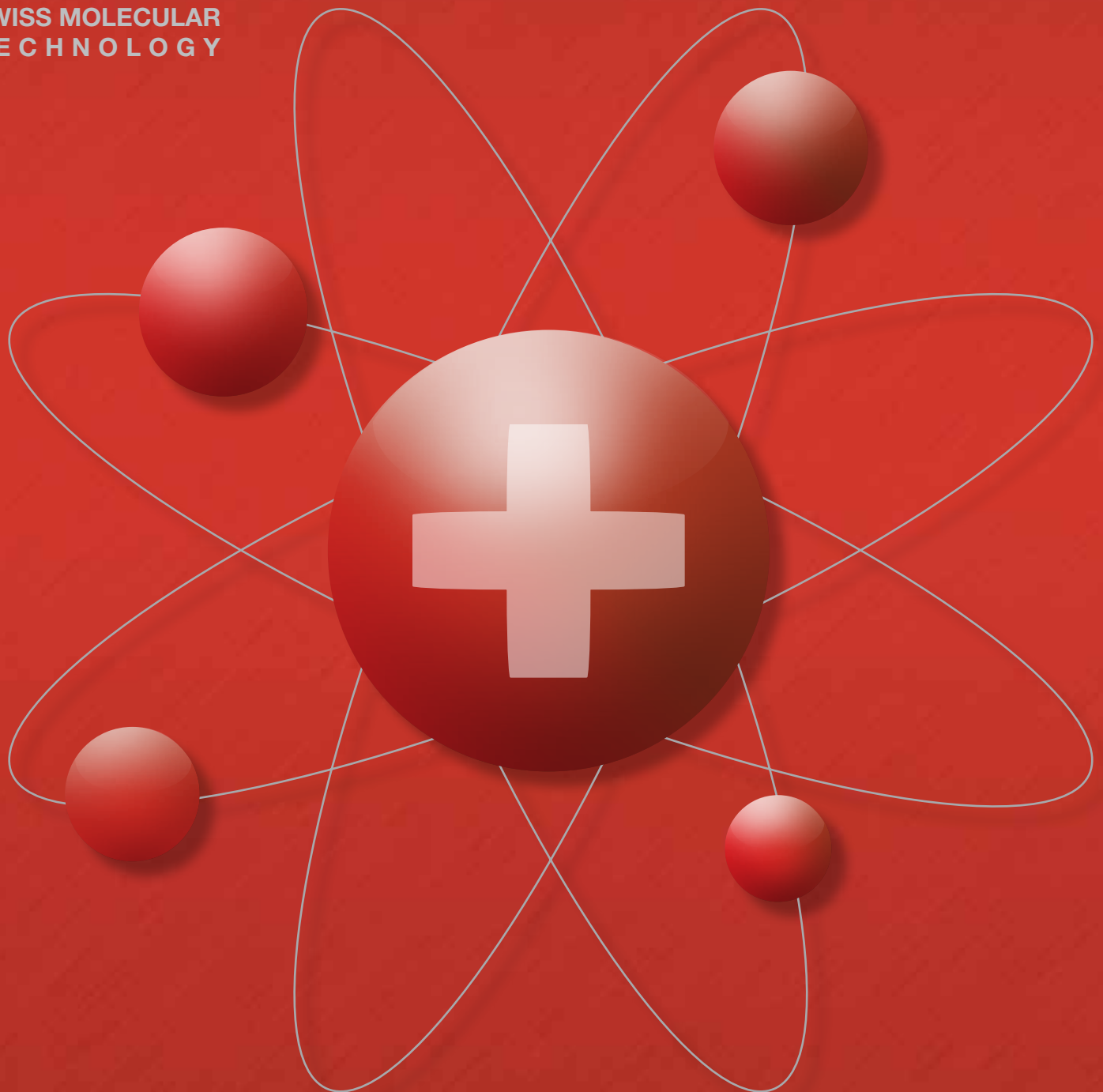
Nano

Applying the most sophisticated technologies Ecograph AG developed a unique blade: NANO.

- DEDICATED to extreme printing conditions with low viscosity & abrasive inks (ex. tobacco packaging).
- SUITABLE for very long runs beyond any conventional coated blade lasting.
- MOST compact coating in the world
- EXTREME wear resistance
- HIGH blade flexibility (no risk of "bending cracks")

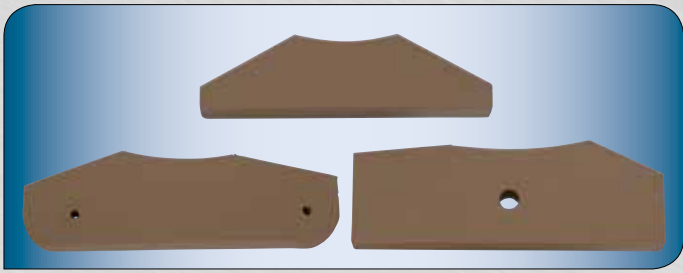


SWISS MOLECULAR
TECHNOLOGY



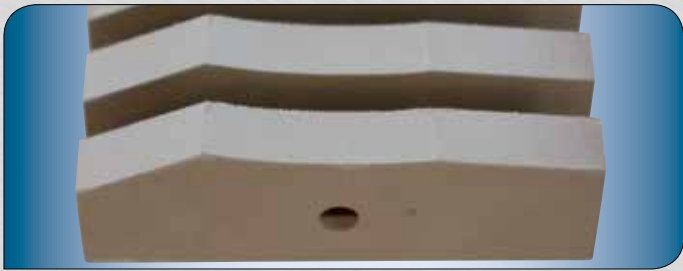
FLEXO SEALS

Seals



Foam

6 different foam grades suitable for any ink type & any working conditions



Coated Foam

For an improved seal life



Felt & Rubber

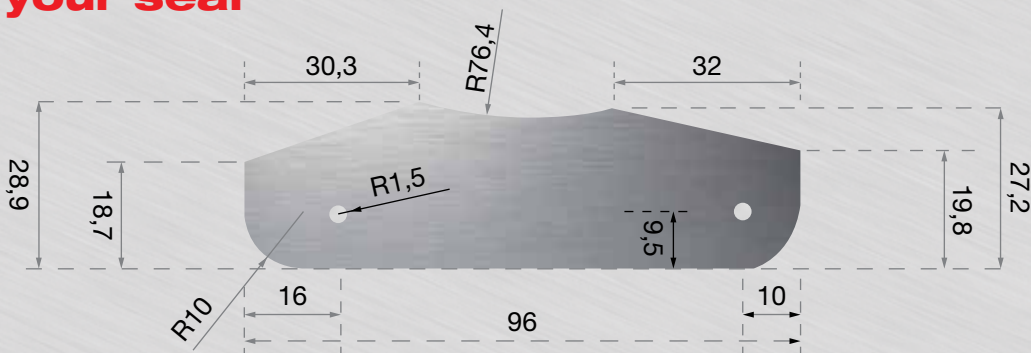
For high speed working conditions (specific models only)



Solid Rubber

For extreme working conditions and longest lasting (specific models only)

Design your seal



Standard Sizes

STEEL GRADES

WIDTH	THICKNESS
8	0,15
8,5	0,15
10	0,065 - 0,076 - 0,10 - 0,15 - 0,20
12,7	0,15 - 0,20
15	0,15 - 0,20
17	0,15 - 0,20 - 0,25
19	0,15 - 0,20
20	0,15 - 0,20 - 0,25
22	0,15 - 0,20
25	0,15 - 0,20 - 0,25
25,4	0,15 - 0,20 - 0,25
28,6	0,15 - 0,20 - 0,25
30	0,15 - 0,20 - 0,25
32	0,15 - 0,20 - 0,25
35	0,15 - 0,20 - 0,25 - 0,30
38,1	0,15 - 0,20 - 0,25
40	0,15 - 0,20 - 0,25 - 0,30
45	0,15 - 0,20 - 0,25
50	0,15 - 0,20 - 0,25 - 0,30
55	0,15 - 0,20 - 0,25 - 0,30
60	0,15 - 0,20 - 0,25 - 0,30
70	0,15 - 0,20 - 0,25 - 0,30
80	0,15 - 0,20 - 0,25

POLYESTER & POLYETHYLENE GRADES

WIDTH	THICKNESS
20	0,35 - 0,50 - 0,80 - 1,30 - 1,60 - 2,00 - 2,50 - 3,20
25	0,35 - 0,50 - 0,80 - 1,30 - 1,60 - 2,00 - 2,50 - 3,20
28	0,35 - 0,50 - 0,80 - 1,30 - 1,60 - 2,00 - 2,50 - 3,20
30	0,35 - 0,50 - 0,80 - 1,30 - 1,60 - 2,00 - 2,50 - 3,20
32	0,35 - 0,50 - 0,80 - 1,30 - 1,60 - 2,00 - 2,50 - 3,20
35	0,35 - 0,50 - 0,80 - 1,30 - 1,60 - 2,00 - 2,50 - 3,20
40	0,35 - 0,50 - 0,80 - 1,30 - 1,60 - 2,00 - 2,50 - 3,20
45	0,35 - 0,50 - 0,80 - 1,30 - 1,60 - 2,00 - 2,50 - 3,20
50	0,35 - 0,50 - 0,80 - 1,30 - 1,60 - 2,00 - 2,50 - 3,20
60	0,35 - 0,50 - 0,80 - 1,30 - 1,60 - 2,00 - 2,50 - 3,20



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