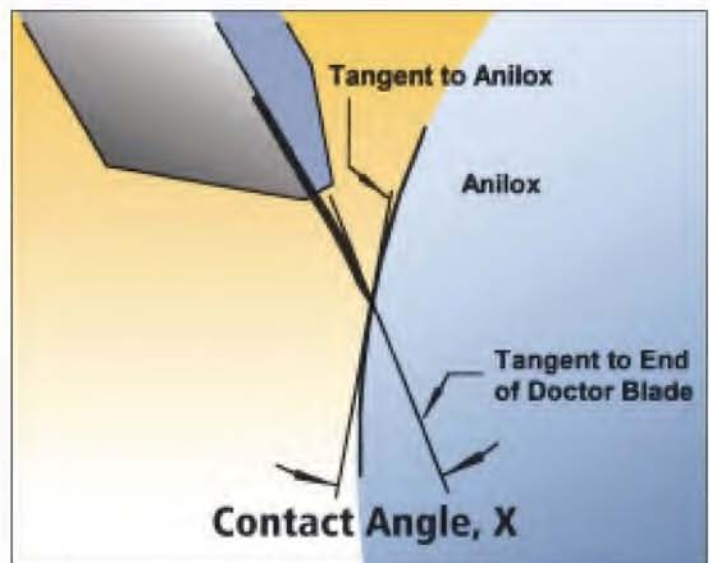


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FLEXO

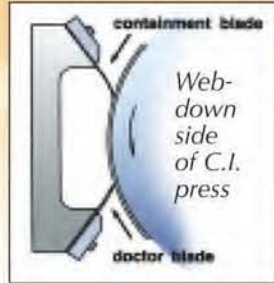
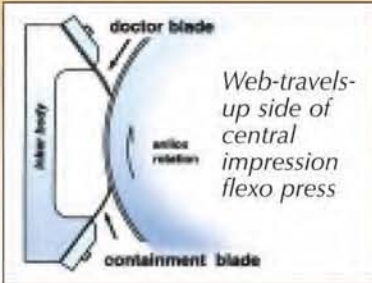
FLEXO BLADE **ANALYSIS SERVICE**



**CONTACT, ANGLE, WEAR, AND FLAT
MEASUREMENT ANALYSIS**

FLEXO BLADE ANALYSIS

DOCTOR BLADE TERMINOLOGY FOR FLEXO INKERS



SHIMS



Shims are needed where the inker clamp bar was designed for steel blades, but thicker plastic or composite blades are being used. Shims let you clamp the thicker blade without distortion or squeezing it out of the holder. Shim thickness should at least equal blade thickness.

FILLERS



Fillers are needed when the clamp bar, (or the inker itself), was made with an undercut or slot to accept thick plastic blades. When using a thin composite or steel blade, say .010" thick, in an .090" slot, a filler is needed. The inker must be initially set slightly closer to the anilox than it would with a thicker blade.



Filler on underside

A filler on the underside of the blade should be used only when it is necessary to use a thick containment blade with a thin doctor blade, or if moving the inker a little closer to the anilox (to use two thin blades) is not practical.

BACK-UP BLADES



In flexo, a steel back-up blade gives spring support to plastic doctor blade.

TYPES

Composite:
0.011" - 0.040"

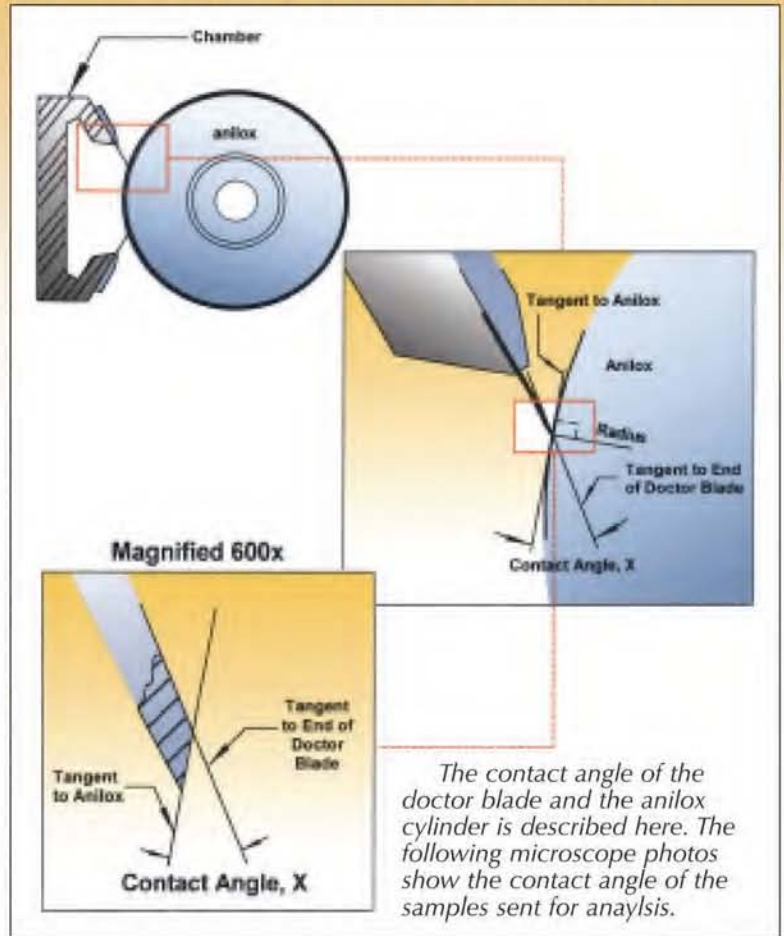
Plastic: 0.050" - 0.125"

Metal:
0.004" - 0.012"

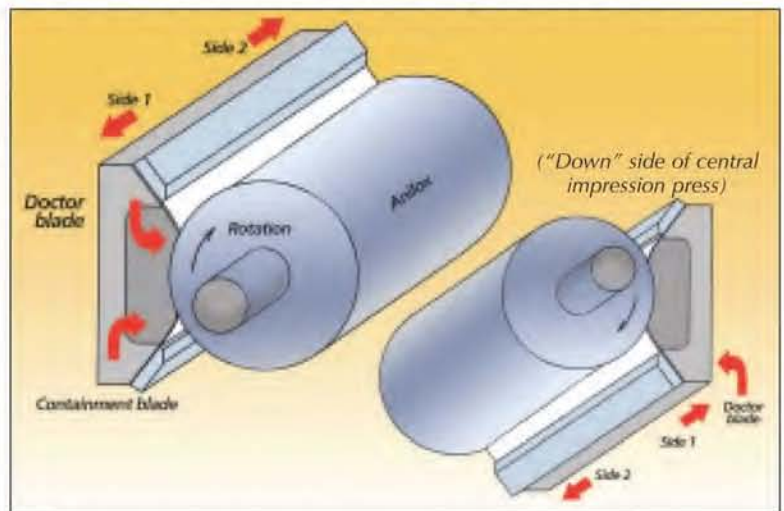
"Floppy" plastic containment blade

*Use wherever possible to reduce particle trapping, anilox scoring, and to save money. Make 1/8" longer than doctor if inker permits.

FLEXO CONTACT ANGLE DEFINITION

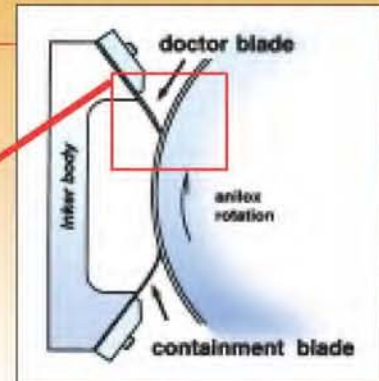
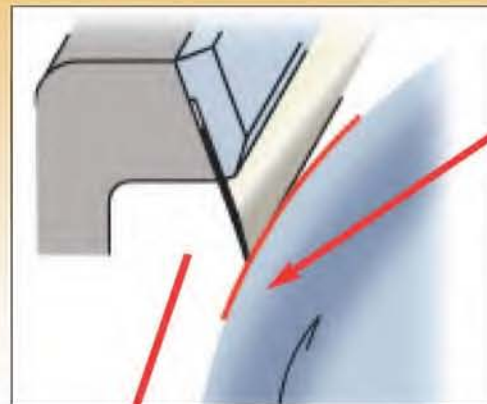


MICROSCOPE PICTURE LOCATIONS



Caution: Installation or removal of doctor, containment, fillers, shims or back-up blades represent a cut hazard since hands may come in contact with sharp edges. Use of cut-resistant gloves is recommended. Follow all plant safety rules for handling and disposal of blades.

SIGNIFICANCE OF FLEXO DOCTOR BLADE CONTACT ANGLE



Web-travels-up side of central impression flexo press

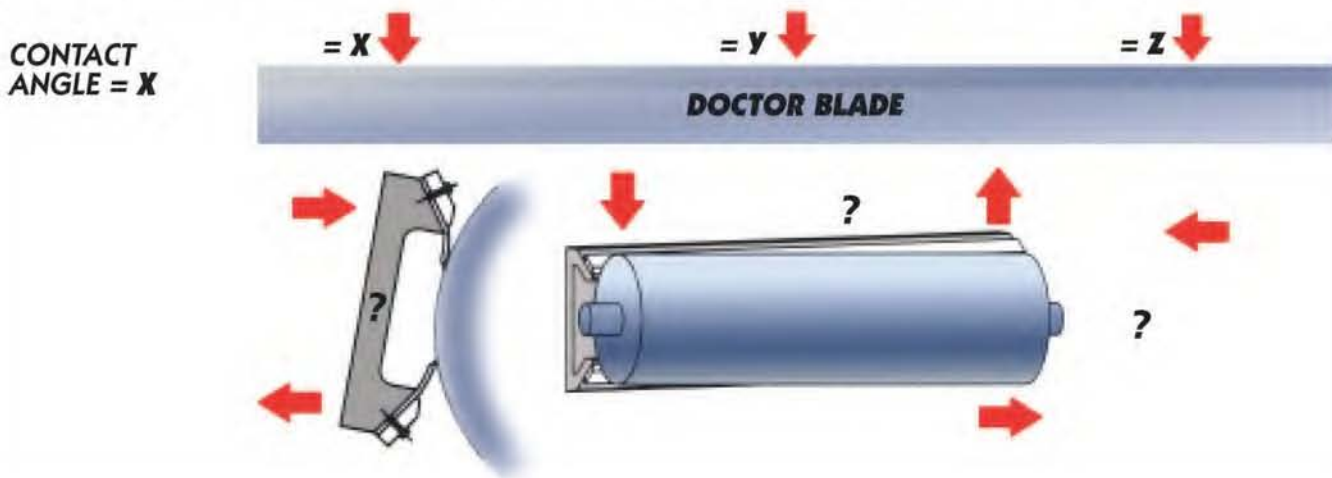
30° - 40° = OK*

Less than 30° = Not OK*

• Fluid dynamic effects under a large, flat blade footprint can result in anilox surface ink . . . a "shiny" anilox.

*usually

CONTACT ANGLES ALONG A WORN BLADE PROVIDE IMPORTANT INFORMATION ABOUT INKER ALIGNMENT, BLADE STABILITY, AND INKER SETTING.



MICROSCOPE PICTURE ANALYSIS – SAMPLE 1

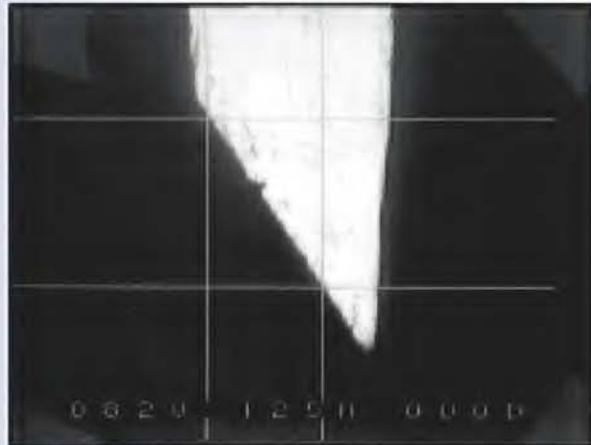
Company Name XYZ
Date 11/21
Test DG 6 Sample 9
Other Identifier #23 Blue

Side Two
Contact Angle
is 33.26°

Sample



Side Two Microscope Picture

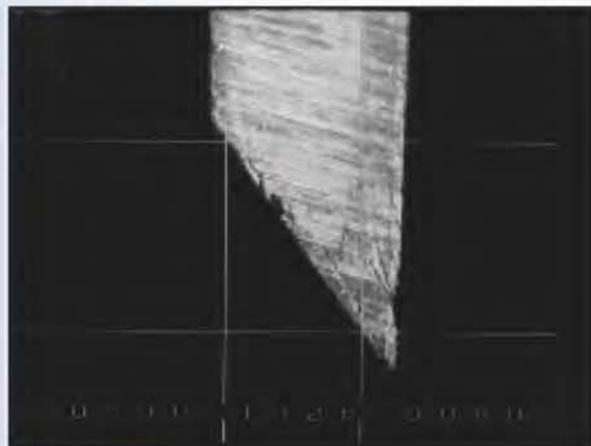


Center
Contact Angle
is 34.88°

Sample



Center Microscope Picture

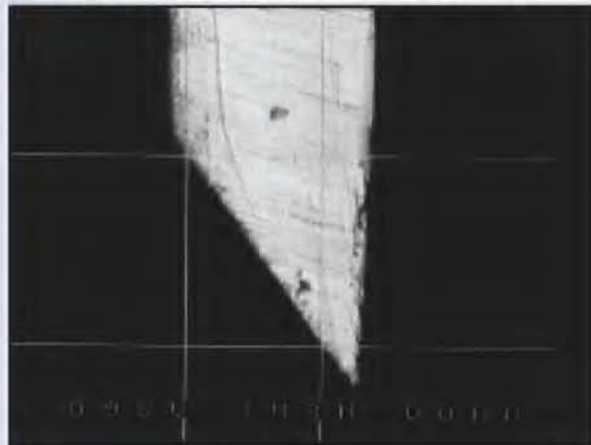


Side One
Contact Angle
is 34.42°

Sample


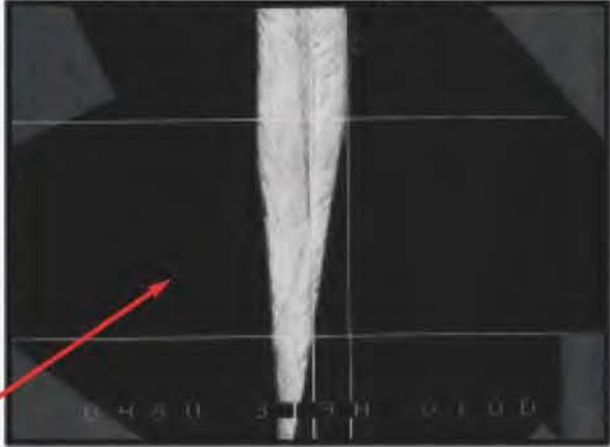

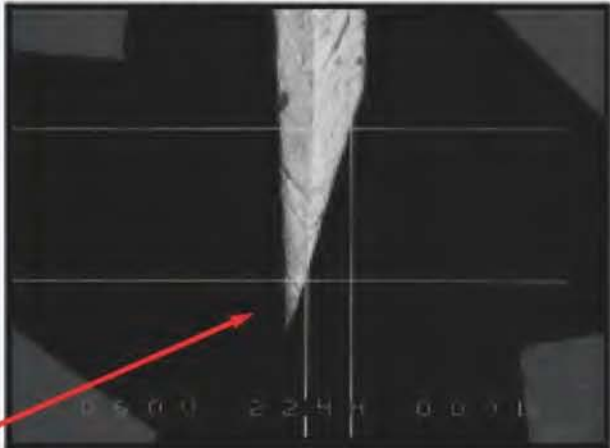

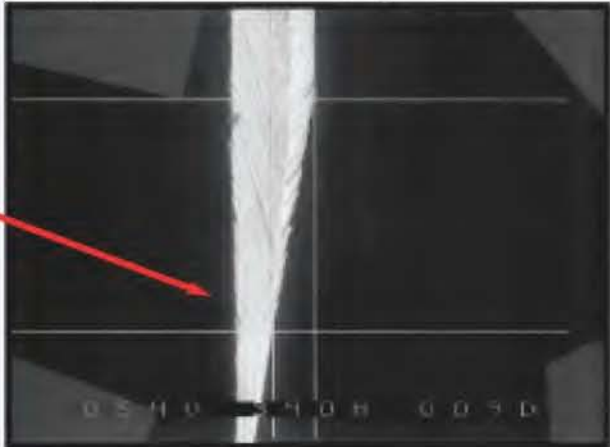


Side One Microscope Picture



ALLISON SYSTEMS GETS THE EDGE,

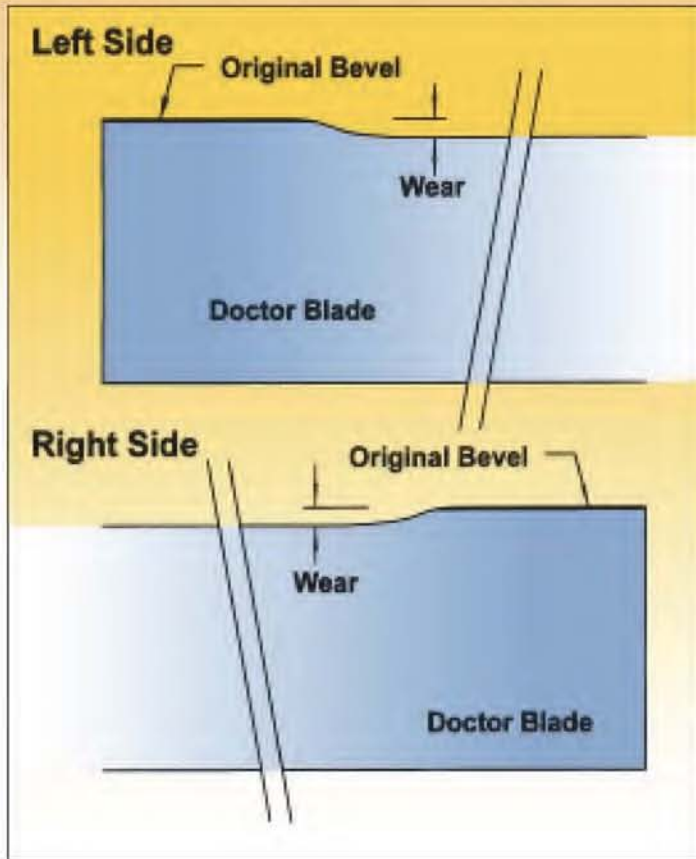
MICROSCOPE PICTURE ANALYSIS – SAMPLE 2

<p>Company Name <u>XYZ</u> Date <u>2/3</u> Test <u>P2</u> Sample <u>12</u> Other Identifier <u>Red B143</u></p> <p>Left Side Contact Angle is <u>8.6°</u></p> <p>Sample</p> 	<p>Left Side Microscope Picture</p> 
<p><i>Trouble- Way too flat-</i></p> <p>Center Contact Angle is <u>15.0°</u></p> <p>Sample</p> 	<p>Center Microscope Picture</p> 
<p><i>May cause anilox damage!</i></p> <p>Right Side Contact Angle is <u>9.0°</u></p> <p>Sample</p> 	<p>Right Side Microscope Picture</p> 

GETS THE QUALITY, AND DOCUMENTS IT.

FORCE

Excessive wear on the doctor blade usually means that too much force is being applied to the blade. The following picture illustrates the wear on a doctor blade:



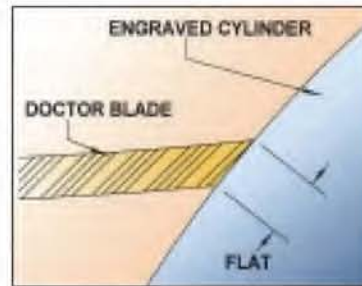
The contact angle of the doctor blade and the anilox cylinder is described below. The microscope photos are examples of sample blades that we have analyzed for contact angles.

The chart below contains sample wear calculations:

Wear Calculations

Sample	Original Width	Left side	Center Side	Right Side
1	2.7555	2.7480	2.7500	2.7500
Wear		0.0075	0.0055	0.0055
2	2.7610	2.7525	2.7555	2.7570
Wear		0.0085	0.0055	0.0040

All measurements are in inches



The tip of the blade that actually contacts the cylinder is referred to as the flat of the blade. The picture at left illustrates the flat.

Sample flat measurements are shown in the table below:

Flat Measurements

Sample	Left Side	Center Side	Right Side
1	0.0021	0.0025	0.0022
2	0.0032	0.0030	0.0029

All measurements are in inches

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LEADING THE WAY IN DOCTOR BLADE INNOVATION SINCE 1968.

220 Adams Street, Riverside, NJ 08075
Tel: 856-461-9111 • Fax: 856-461-9373 • Toll Free: 877-461-9111
Website: www.allisonblades.com