



## Technical Guide for Glass Cutting

### Recommendations for Cutting Wheel Angle Selection

The purpose of the accompanying report is to give recommendations for cutting wheel angle selection over a practical range of glass thickness. The recommendations are made according to major types of cutting applications. The recommendations are based on results from lab wheel testing and in-plant wheel experience. They are intended to help in selecting a starting point for determining the optimum wheel angle for your process.

Please call us at (585) 467-1920 if you need further help with your particular application.

#### Wheel Angle Selection

The older system of identifying standard wheel angles by number is as follows:

#1	105°	#4	134°	#7	154°
#2	115°	#5	138°	#8	158°
#3	125°	#6	145°	#9	160°

More commonly, customers order by the wheel angle that is best suited for their cutting operation.

The following charts indicate recommended wheel angle starting points to achieve the score required for that glass:

- Machine Scoring (Conventional) - Straight Line and Pattern
- Machine Scoring (Vent or Pressure) - Straight Line and Pattern
- Hand Scoring

### Machine Scoring (Conventional) - Straight Line and Pattern

This type of scoring is characterized by nominal scoring loads and cutting wheel angles ranging from 115° to 160°. The following chart has recommended cutting wheel angles for float glass thickness ranging from 3/32" through 1/2". The angles shown are intended as starting points to achieve the "target fissure depth" of 10% glass thickness.

		Glass Thickness							
		in.	.0938	.1250	.1875	.2500	.3125	.3750	.5000
Wheel Code	mm.	2.381	3.175	4.762	6.350	7.938	9.525	12.700	
<b>732</b>		128°	134°	138°	145°	148°	152°	152°	
<b>532</b>		134°	140°	145°	152°	152°	154°	154°	

**Notes:** Pyrolytic coated glass may have a hard surface and require sharper wheel angles.

### Machine Scoring (Vent or Pressure) - Straight Line and Pattern

This type of scoring is characterized by heavier scoring loads and cutting wheel angles ranging from 145° to 160°. The following chart has recommended cutting wheel angles for float glass thickness ranging from 3/32" through 1/2". The angles shown are intended as starting points to achieve the "target fissure depth" of 17-20% of glass thickness.

		Glass Thickness							
		in.	.0938	.1250	.1875	.2500	.3125	.3750	.5000
Wheel Code	mm.	2.381	3.175	4.762	6.350	7.938	9.525	12.700	
<b>500</b>		--	--	--	--	145°	152°	157°	
<b>380</b>		--	--	--	--	152°	157°	160°	
<b>732</b>		145°	145°	148°	154°	157°	--	--	
<b>532</b>		148°	152°	154°	154°	--	--	--	
<b>125</b>		150°	154°	--	--	--	--	--	

## Hand Scoring

The practical range of cutting wheel angles for hand scoring is between 105° and 138°. The following chart has recommended cutting wheel angles for glass thickness ranging from 1/16" through 5/16". Hand cutting pressure need only be enough to generate a fissure depth deep enough for hand snapping or cut running. Thinner glass or hard surface glass requires sharper angles. When large quantities of hand cuts are made, a switch from a 7/32" diameter wheel to a 5/32" diameter wheel will generate a good score with reduced hand pressure.

		<b>Glass Thickness</b>							
		in.	.0625	.0934	.1250	.1875	.2500	.3125	.3750
<b>Wheel Code</b>	mm.		1.588	2.381	3.175	4.762	6.350	7.938	9.525
<b>732</b>		125°	125°	134°	134°	134°	138°	138°	
<b>532</b>		125°	134°	134°	138°	138°	138°	145°	

When cutting 1/4" or 5/16" glass with a 7/32" diameter wheel it is sometimes helpful to use a 145° angle. Please ask to speak to Kevin Crane for a recommendation before you order.