General Info

Cutter blades are used to cut various types of soft, flexible and semi-rigid materials. This blade guide gives general information on selecting the proper blade, blade holder and accessories to use for a variety of common sign industry materials.

Compatibility

There are two styles of blades; the first are Drag Knife blades which swivel around corners while staying in contact with the material. The second are Tangential Knife blades which lift and rotate the blade to the correct orientation giving a more precise cut.

Drag Knife Blades (D- Series & T-Series)

Currently, Summa offers 3 Drag knife blades.

391-360	**391-231**	**391-358**
Standard Drag 36° Blade	Specialty 60° Blade	Sandblast 55° Blade
		
Required Tool Holder		
391-332 Standard Black Drag Knife Holder		**391-363** Drag Knife Holder Copper
		
395-323 Drag Knife Holder T Head S Class		
		

Note: blades may be available in 5-packs or single

Tangential Knife Blades (T-Series)

Currently, Summa offers 4 Tangential knife blades.

390-534	**390-551**	**390-560**	**390-550**
Standard 36° Blade	Double Edge 36° Blade	Double Wedge 45° Blade	Sandblast 60° Blade
			
Required Tool Holder			
395-322 Tangential Knife Holder S Class			
			

Note: blades may be available in 5-packs or single

Blade Specifications

When picking a blade to cut your material, always use the lowest degree blade (shallowest angle). Example: While you might be able to cut vinyl with a 60° blade, you may get better results with a 45° blade and still even better results with a 36° blade (assuming the thickness of the material did not exceed the maximum listed for that blade).

Cuttable material thickness in millimeter	391-360 36° Drag Blade	391-231 60° Drag Blade	391-163 55° Drag Bade	390-534 36° Tang Blade	390-551 36° Double Edge	390-560 45° Double Wedge	390-550 60° Tang Blade
Maximum thickness (mm)	0.25(1)	0.6(2)	0.8(1)	0.25(1)	0.25(1)	0.75(3)	1.2(1)
Max Flex Thickness (mm)	0.5(4)	0.6(4)	0.8(4)	0.5	0.5	0.75(3)	1.2

general remark	For tangential units always install the proper nose piece to have optimal free space between the material and the knife in up position.

(1) Historical values based on achieving high quality in vinyl and sandblast materials.

(2) Knife introduced for Rhinestone application in 0.6mm sandblast material. This knife becomes more and more popular because it can cut deep enough for many sandblast (and flock) materials and an extra (copper) knife holder is not required

(3) Knife introduced for cutting prismatic materials (=simple shapes) on the F1612. The high wear resistance makes it also suitable to several types of thin plastics with higher pressures on the table. For roll-plotters the knife is still interesting due to its high wear resistance. However it will not cut such thick material as it needs more pressure and will quickly push away the material in the roll cutter.

(4) Using drag-knife for cutting through thicker materials can result in unexpected results due the lack of depth control and the fact that the knife is not fixed in the holder (possibility that knife comes out of the holder).

Material Applications

Material thickness is the first specification to determine which blade to use. If material thickness is unknown use this recommended chart.

	D-Series			T-Series			
	391-360 36° Drag Blade	391-231 60° Drag Blade	391-163 55° Drag Bade	390-534 36° Tang Blade	390-551 36° Double Edge	390-560 45° Double Wedge	390-550 60° Tang Blade
Standard Vinyl	■			■	▒	▒	
Engineering Reflective	▒			▒	▒	■	
Sandblast (Monument)			■				■
Rhinestone		■	▒			▒	■
Heat Press (Apparel)	▒	■		■		▒	
Automotive (Paint Protect)	▒			■		▒	

Recommended ■ Alternative ▒

Adjustments

Setting the physical blade depth and testing the pressure varies depending on the machine. See your user manual for specific details and menu structures. The user manuals are available on our website … www.summa.eu.

Additional information specific per blade.	391-360 36° Drag Blade	391-231 60° Drag Blade	391-163 55° Drag Bade	390-534 36° Tang Blade	390-551 36° Double Edge	390-560 45° Single Wedge	390-550 60° Tang Blade
Standard Drag Knife Holder (Black)	■	■					
Thick Materials Drag Knife Holder (Gold)			■				
Drag Knife Holder for Tangential Head	■	■					
Tangential Knife Holder for all Tangential blades				■	■	■	■
Standard Tangential Nose Piece (Silver)				■	■	■	
Thick Materials Tangential Nose Piece (Black)				▒	▒	▒	■

Knife Offset	0.43	0.50	0.90	___	___	___	___
Overcut	0.1	0.5	0.1	0.1	0.1	0.1	0.1
Needs Knife Calibration	No	No	No	Yes	Yes	Yes	Yes
Knife Pressure	Varies by material type and thickness. See manual for blade depth and pressure adjustments specific to your machine.						
Cutting Speed (Velocity)	Varies by material type and thickness. If the material is thicker or thinner than standard vinyl, slow down the Velocity.						

Recommended ■ Alternative ▒

Warranty

Blades are not covered under the warranty of the machines. They are consumable items and both their functionality and usable life depend on materials and settings.

Maintenance

Apart from keeping the parts clean and free of vinyl debris, no special maintenance is required.

Knife Geometry