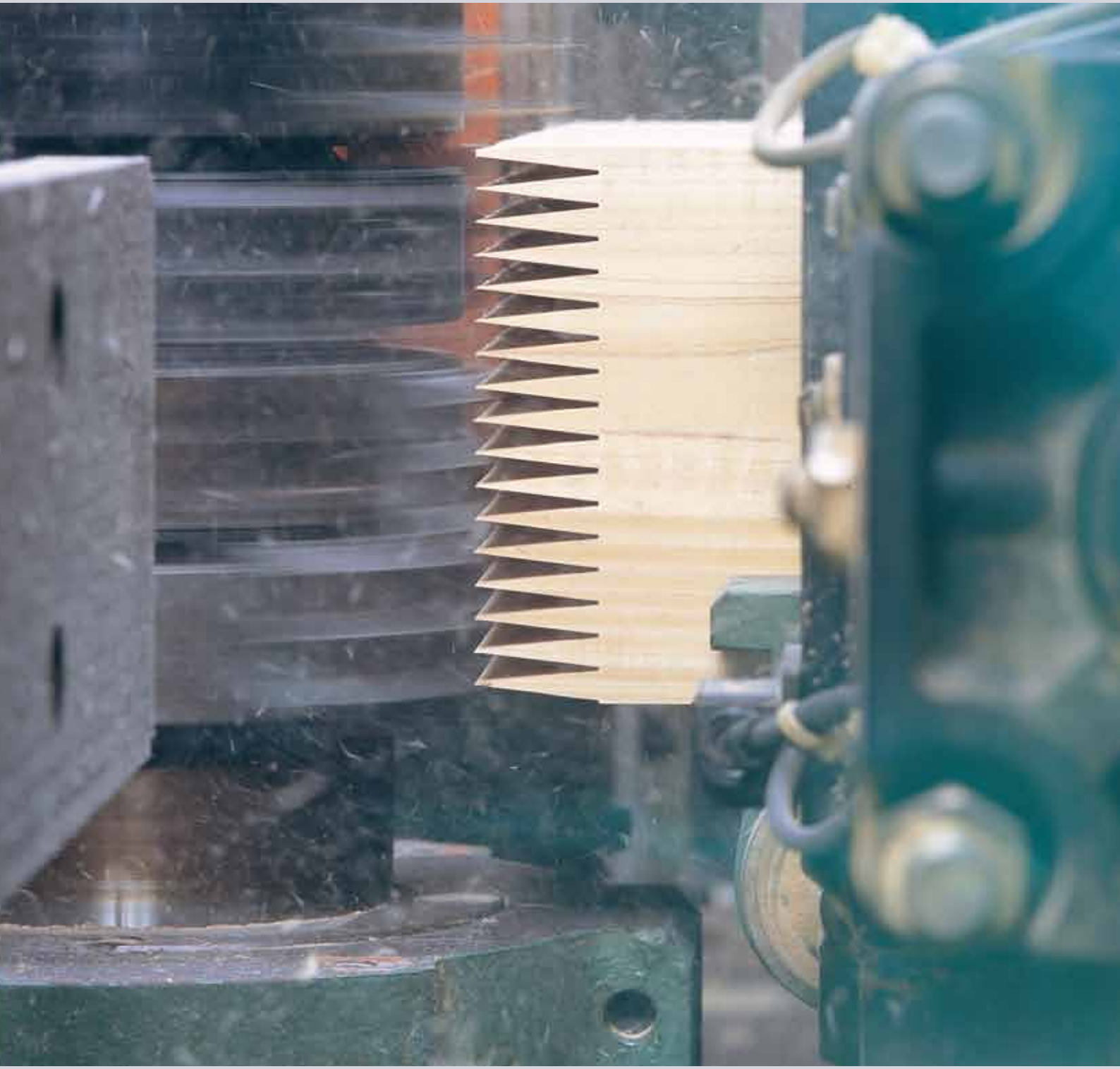
Finger Joint Cutter

Structural Finger Joints

KANEFUSA



Kanefusa - A New Dimension of Performance

ISO 9001 JQA-QM3710

ISO 14001 JQA-EM3137 Head Office Factory

0-21E-11
[Class] [Article] [Revision]

Advanced Material Technology

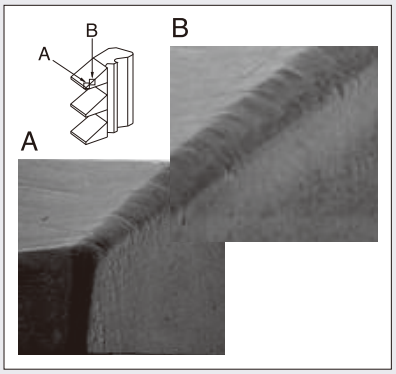
Kanefusa is the pioneer and worldwide leader in the development of advanced cutting edge materials for the woodworking industry. The result of extensive research and development has been a revolutionary new material called Advanced Material Technology.

Advanced Material Technology changes the wear characteristics of the cutting edge and reduces resin adhesion.

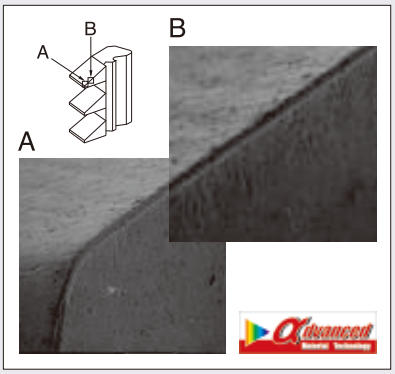
The first products treated with Advanced Material Technology were ST-1 planer knives in 1995. Two treatments which are marketed under Advanced Material Technology have been developed since:

HS-HP is applied to cutting edges with a High Speed Steel substrate.

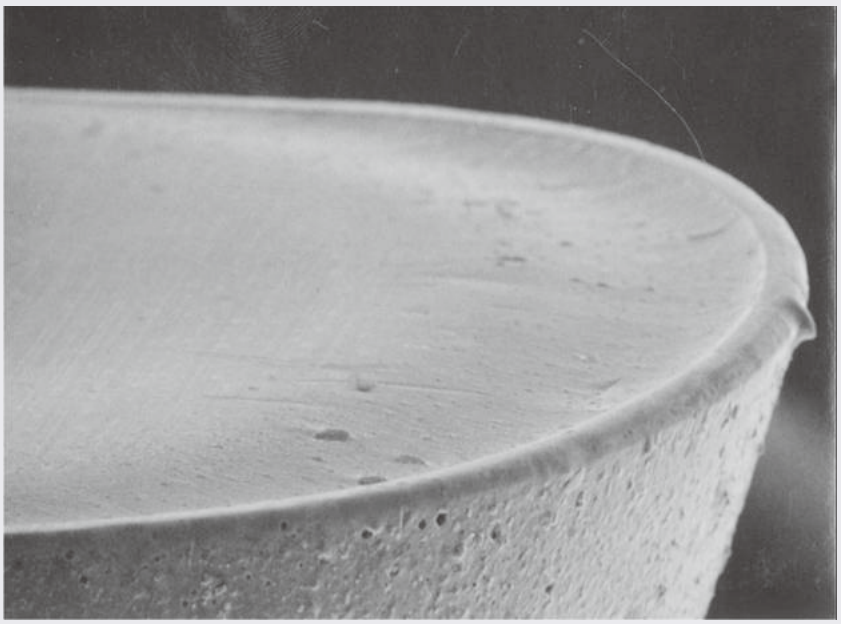
HC-UP is applied to cutting edges with a Carbide substrate.



A conventional High Speed Steel cutting edge is blunt after cutting only 1000m of spruce.



The Advanced Material Technology treated cutting edge does not show much trace of wear even after cutting 4000 m of spruce.

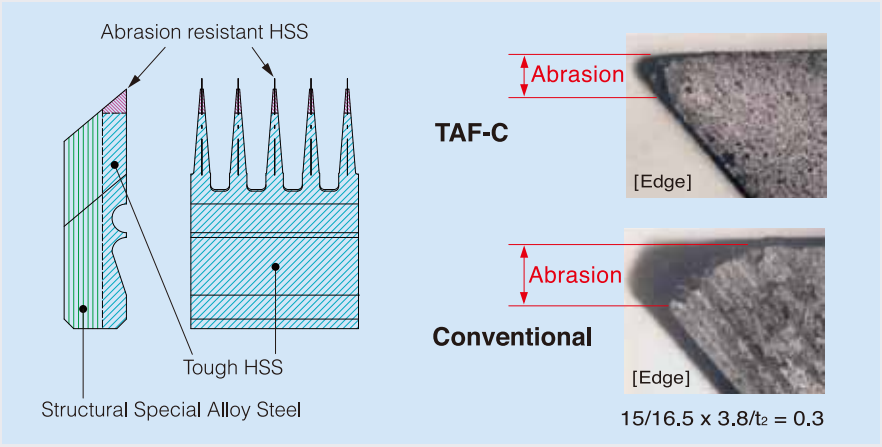


The picture aside shows the top of the cutting edge of a finger joint cutter. Advanced Material Technology is applied to the back and the wear that can be seen is best described as crater wear. Though the rake side hollows out slowly, the cutting edge itself is still sharp.

Regrinding

Advanced Material Technology is applied only to the back of the cutting edge. The finger joint cutter can be reground on any conventional grinding machine. Though Advanced Material Technology cutting edges with regular High Speed Steel substrate or a TAF-C substrate outlast regular cutting edges many times, stock removal during grinding is less than that of regular tooling. Less stock removal leads to more regrinds per cutter.

TAF-C

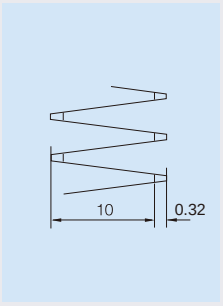


The new TAF-C finger joint knives are built from multi-layered steel. The top of the finger is made from highly abrasion resistant High Speed Steel, while the bottom has a higher toughness.
This structure is forged on special alloy steel with high shock resistance. The inserts are furthermore treated with Advanced Material Technology. As a result, the inserts outlast conventional Advanced Material Technology cutter and are less subject to breakage. Only inserts are available in TAF-C quality.

Cutter with finger joint length 10/11, 15/16.5 and 20/22 are for machines with trim saws. On these machines the finger joint length can be set from anywhere in between the two figures. I.e., between 10 mm and 11 mm. Through the variable finger joint length the fitting conditions can be set according to the wood species or press.

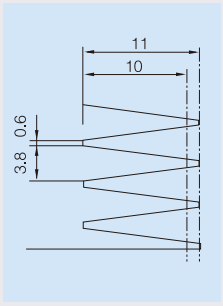
Profile examples

Finger Joint Length 10/10
Without trim saw



Theoretical size of tip gap = 0.32 mm

Finger Joint Length 10/11
With trim saw



Size of tip gap is variable by 1 mm

Typical finger joint profiles

Finger Joint Length [mm]	Pitch [mm]	Base Size [mm]	Tip gap [mm]
10	3.8	0.6	0.3-0.5
15	3.8	0.4	0.45-0.75
20	5.0	1.0	0.6-1.0
20	6.2	1.0	0.6-1.0
25	6.2	0.6	0.9-1.5

Maximum timber height [mm] which can be cut according to the number of cutters

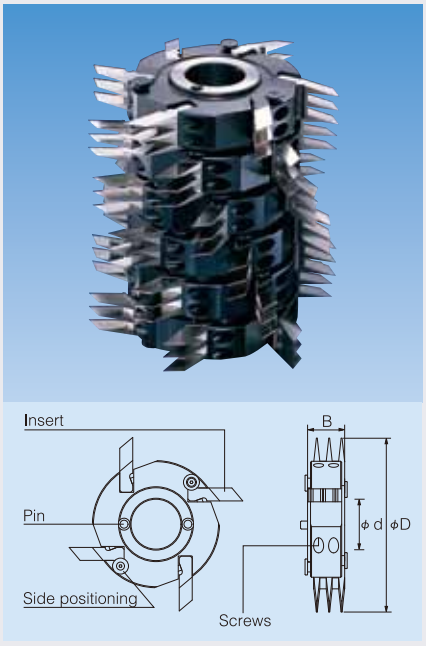
Number of tools		TAF-Pro	TAF-C	TAF-Pro	TAF-C
	[t]	3.8	3.8	6.2	6.2
	[ℓ]	10/10	10/10	20/20	20/20
		10/11	10/11	20/22	20/22
		15/15	15/15		
		15/16.5	15/16.5		
1		24	31	28	24
2		51	69	59	62
3		77	107	90	99
4		104	145	121	136
5		131	183	152	173
6		157	221	183	210
7		184	259	214	248
8		210	297	245	285
9		237	335	276	322
10		264		307	
11		290		338	
12		317			

t = Pitch ℓ = Finger Joint Length

Line Up

EP1043129, US6644896, CA2456953,
CNZL02815463, EP1424176, US7424900

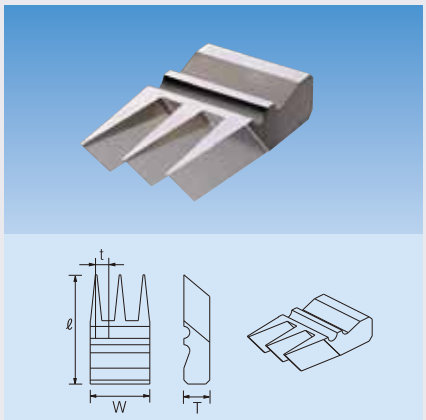
*HS-HP coating requires a special resharpening method



Cutter Heads

Grade : HS-HP / ℓ=Finger Joint Length

	Order No.	D [mm]		B [mm]		d [mm]		Z	ℓ [mm]
1	887-A105-500	160	x	38	x	50	x	4	10/10
2	887-A020-500	160	x	38	x	50	x	4	10/11
3	887-A072-500	170	x	38	x	50	x	4	15/15
4	887-A036-500	170	x	38	x	50	x	4	15/16.5
5	887-A025-500	180	x	37.2	x	50	x	4	20/20
6	887-A038-500	180	x	37.2	x	50	x	4	20/22
7	887-A004-500	250	x	38	x	50	x	6	10/11
8	887-A207-500	250	x	38	x	50	x	6	10/10
9	887-A022-500	260	x	38	x	50	x	6	15/15
10	887-A021-500	260	x	38	x	50	x	6	15/16.5



Inserts TAF-C Quality

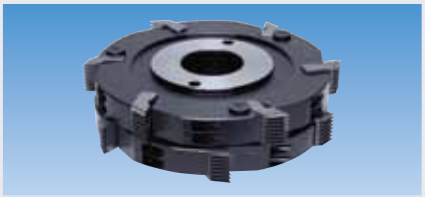
Grade : HS-HP / ℓ=Finger Joint Length

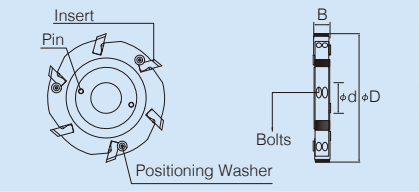
	Order No.	W [mm]		L [mm]		T [mm]	ℓ [mm]	t [mm]	F
1	779-0034-611	35	x	45	x	13	10/10	3.8	10
2	779-0068-611	35	x	45	x	13	10/11	3.8	10
3	779-0042-611	35	x	50	x	13	15/15	3.8	10
4	779-1503-611	35	x	50	x	13	15/16.5	3.8	10
5	779-0050-611	32.5	x	55	x	13	20/20	6.2	6
6	779-0109-611	30	x	55	x	13	20/22	6.0	6

t = Pitch F = Number of Finger

Carbide tipped and Advanced Material Technology treated trim saws and hogger are available upon request

Line Up



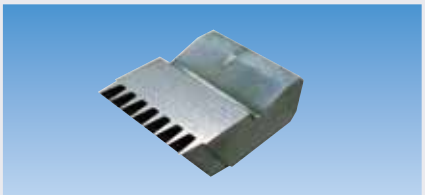


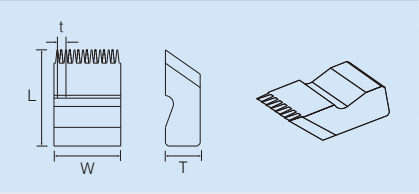
Cutter Heads

Grade : HS-HP

	Order No.	D [mm]		B [mm]		d [mm]		Z	Type
1	887-0000-500	149	x	25.6	x	50	x	4	MZ
2	887-0000-500	160	x	25.6	x	50	x	4	MZ
3	887-0000-500	170	x	25.6	x	50	x	6	MZ
4	887-0000-500	170	x	25.6	x	50	x	6	MZ

*Other specifications are available upon request.



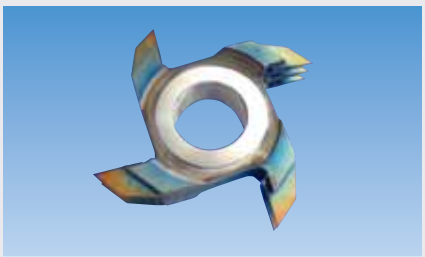


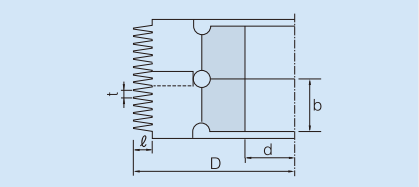
Insert

Grade : HS-HP

	Order No.	W [mm]		L [mm]		T [mm]	ℓ [mm]	t [mm]	F	Type
1	778-A013-611	25	x	36	x	13	3.5 / 4.5	1.6	16	MZ

*Number of fingers when set in the head





TAF-Pro Cutter

Grade : HS-HP / ℓ=Finger Joint Length

	Order No.	D [mm]	d [mm]	B [mm]	ℓ [mm]	Z	t	F	
1	451-A125-611	160	50	26.6	10/11	2+2	3.8	7	
2	451-A152-611	160	50	26.6	10/11	3+3	3.8	7	
3	451-A151-611	170	50	26.6	15/15S	2+2	3.8	7	
	451-A145-611			14.8				3	L
4	451-A146-611	170	50	19	15/15S	4	3.8	5	C
	451-A147-611			14.8				3	R
5	451-A140-611	170	50	26.6	15/16.5	2+2	3.8	7	
	451-A112-611			14.8				3	L
6	451-A113-611	170	50	14.8	15/16.5	4	3.8	5	R
	451-A114-611			19				3	C
7	451-A132-611	180	50	31	20/20S	2+2	6.3	5	
8	451-A128-611	250	50	26.6	10/11	3+3	3.8	7	
	451-A115-611			19				5	C
9	451-A116-611	250	50	14.8	10/11	6	3.8	3	L
	451-A117-611			14.8				3	R
10	451-A148-611	260	50	26.6	15/15S	3+3	3.8	7	
11	451-A156-611	260	50	26.6	15/16.5	3+3	3.8	7	
	451-A164-611			14.8				3	L
12	451-A165-611	260	50	14.8	15/16.5	6	3.8	5	R
	451-A166-611			19				3	C
13	451-A157-611	260	50	31	20/20S	3+3	6.2	5	
14	451-A138-611	260	50	31	20/22	3+3	6.2	5	

t = Pitch F = Number of Finger