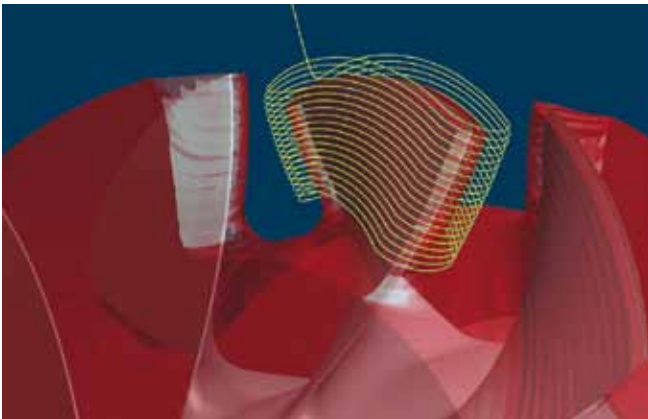
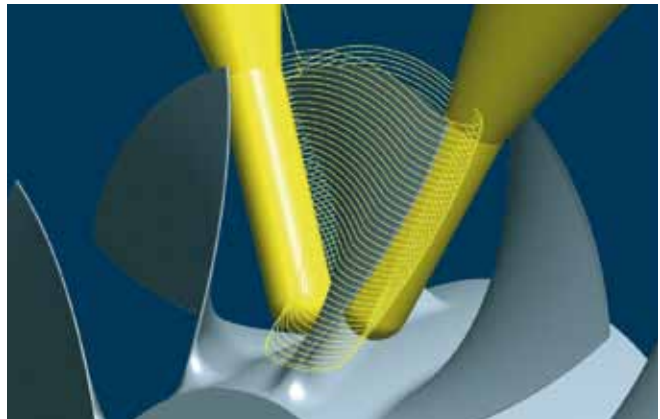


### Blisk: Milled on a Mikron HSM 400U

Very twisted and thin blades with narrow clearances place great demands on process reliability. *hyperMILL*® multiblade package makes the programming and milling of these geometries very easy and reliable thanks to, amongst other things, the numerous integrated automated functions and fully automated collision avoidance.



**Multiblade roughing:** Due to stability problems, thin blades are often alternately roughed and finished during machining. The special roughing function for blisks makes it easy to define a pre-machining cycle for a succession of roughing and finishing jobs.



**Point finishing:** This strategy machines the blades in point contact mode following a continuous spiral path. Point finishing mills a perfect transition between contiguous areas.

#### Machine: Mikron HSM 400U



Processing	Tool	Diameter [mm]			Spindle Speed [min <sup>-1</sup> ]	Feed Rate [mm/min]	Lateral Feed [mm]	Axial Feed [mm]	Processing Time [min <sup>''</sup> ]
		D	R	z					
Drilling	Drill tool	3	-	2	6.500	350	-	-	0'15"
Outside roughing	End mill	4	0	3	7.500	1.000	-3	0,5	2'25"
Blade roughing	Ball mill	1	0,5	2	40.000	1.000	0,3	0,2	38'00"
Blade finishing	Ball mill	1	0,5	2	42.000	2.500	0,1	0,02	33'35"
Hub finishing	Ball mill	1	0,6	2	42.000	2.500	0,1	0,1	2'55"
Cutting	End mill	2	0	2	20.000	600	2	0,2	2'00"
<b>Processing time (Total)</b>									<b>79'10"</b>

**Spindle:** 42.000 min<sup>-1</sup> **Material** Titanium 5 (3.7165) **Specifications** small blisk with 11 blades, sophisticated machine dynamics, machining using small tools