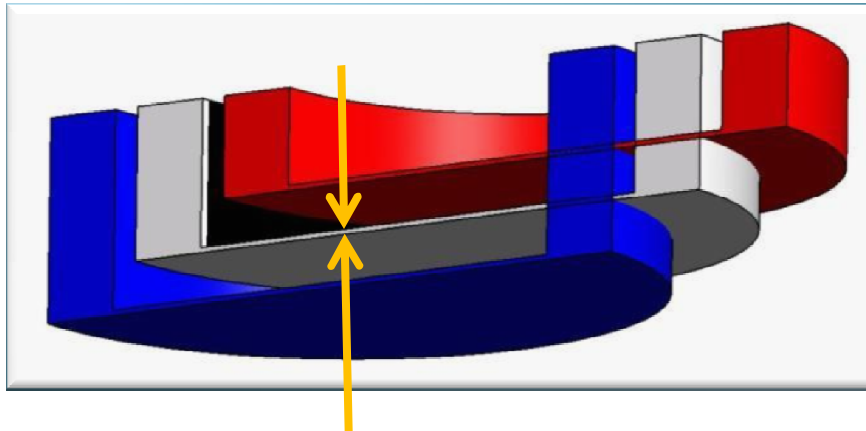


Discussions in recent vertexMT meetings at Nikhef

- Thinner foil: loss of foil stability
- Open foil for screening and wake field, while detector are in UHV beam vacuum.
- Same foil thickness 0.3 mm:
 - Present hot-pressed foil, favoured choice.
 - New foil with milling
(part of earlier presentation by Frans Mul at CERN).

Material survey by milling on 3 levels



0.46 mm

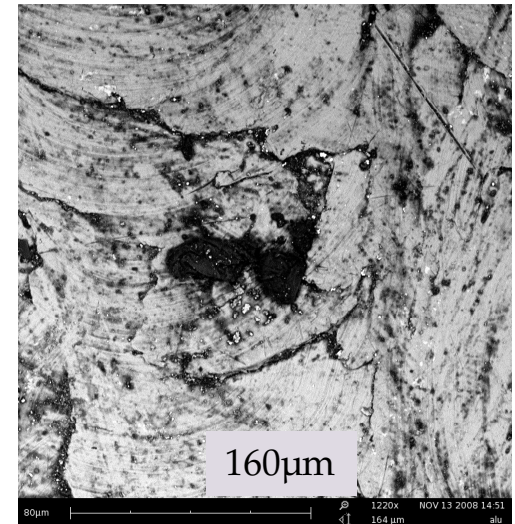
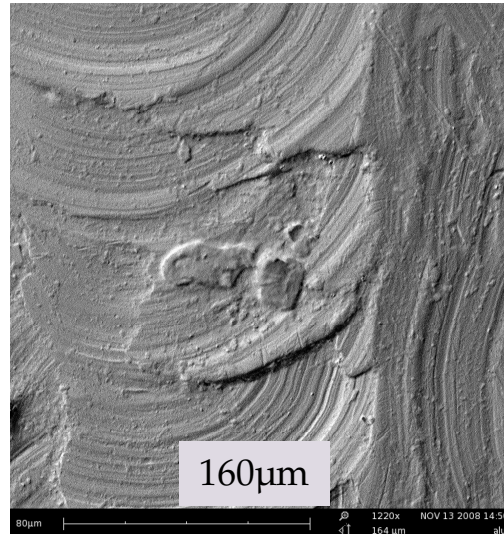
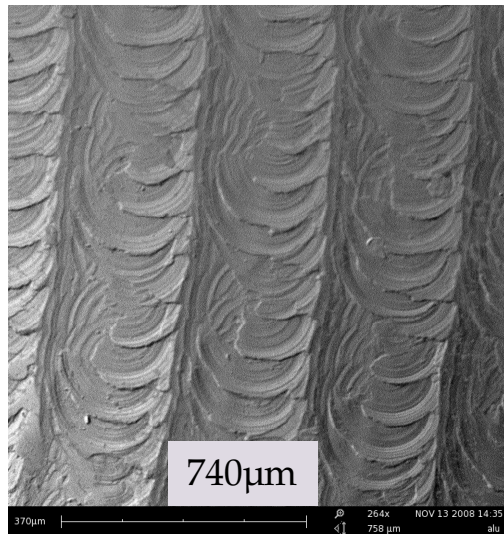
Milling:
Convex cutter Ø 12 mm
Speed 5000 r/min
Milling feed 250 m/min

Vacuum test on different levels
in a ACP 5080''S'' plate

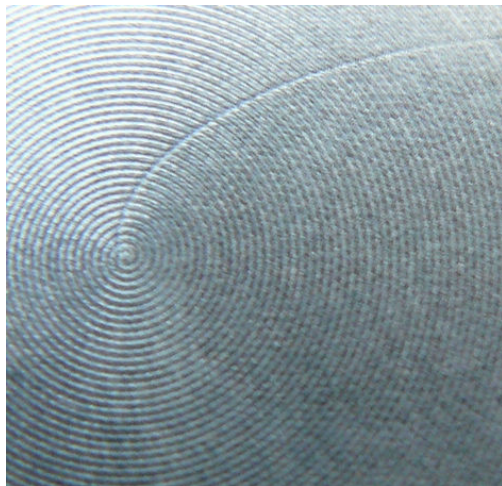
100% good

level	Leak rate
10.1	00X10 ⁻⁹ mbar l/s
	00X10 ⁻⁹ mbar l/s
20.1 20.2	00X10 ⁻⁹ mbar l/s 00X10 ⁻⁹ mbar l/s

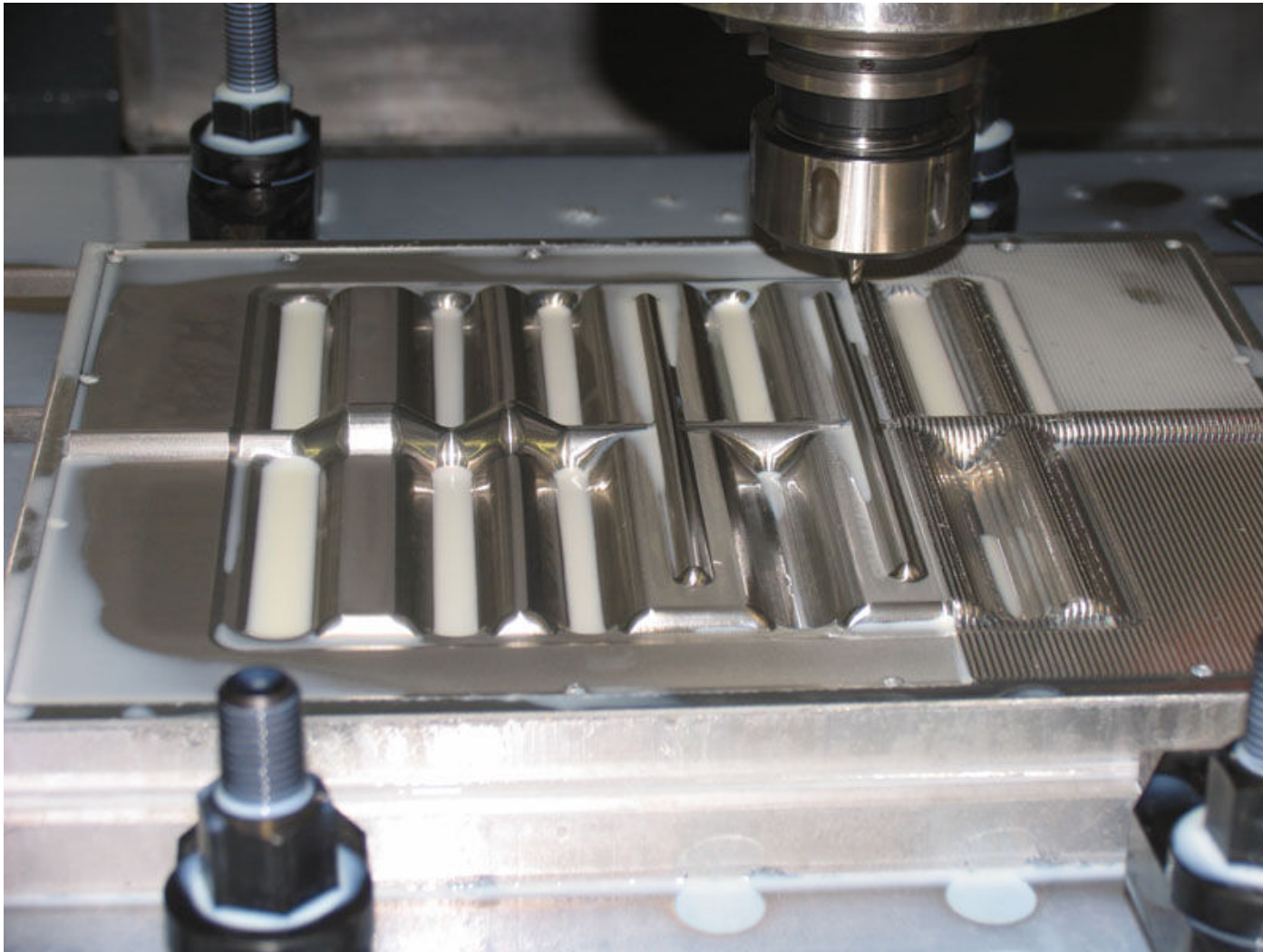
Electron microscope ACP 5080"S" test



ACP 5080"S": milling



Milling process



Progress in pressing

As a result of:

- Better temperature control
- Constant pressure increase
- Better vacuum tightness
- Better size tolerance

Progress in milling

As a result of:

- Homogeneous ACP 5080 "S"
- Better vacuum tightness
- Better size tolerance
- Welding borders are adjustable

Milling results

Milling tools

Convex cutter Ø 5 mm carbide tool type SC 2 FL SE BN EM

Convex cutter Ø 12 mm carbide tool (Phantom)

Beam side milling

Pre milling:

Convex cutter Ø 12 mm

Speed 5000 r/min

Milling feed 550 m/min

DATE	PROCES	MATERIAL	LENGHT	WIDTH	THICKNESS	FOIL THICKNESS
22-09-2008	milling	ACP 5080"S"	330 mm	260 mm	25 mm	0.2mm-0.35mm

Fine milling:

Convex cutter Ø 5 mm

Speed 5000 r/min

Milling feed 275 m/min

LEAK-RATE	QUALITY	LEAK TEST
< 3x10 ⁻⁸ mbar l/sec	usable	He Surface tested
1.4x10 ⁻⁹ mbar l/s	usable	Differential tested

Detector side milling (vacuum mold)

Pre milling:

Convex cutter Ø 12 mm

Speed 5000 r/min

Milling feed 400 m/min

Fine milling:

Convex cutter Ø 5 mm

Speed 5000 r/min

Milling feed 250 m/min