

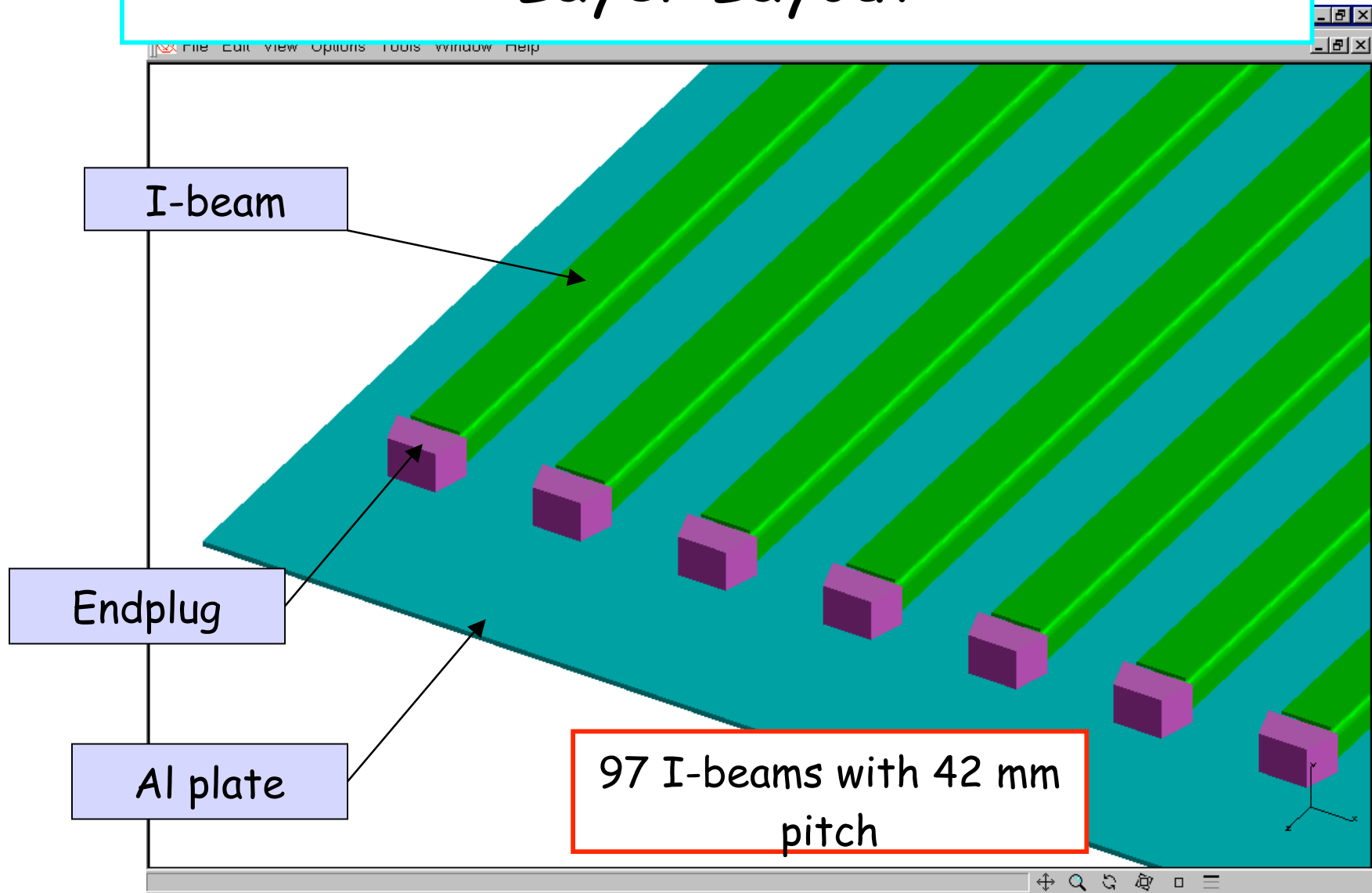
MB4 Superlayer Design Specs.

MB/W/4/S, S=1,2,3,5,6,7 – s.l. phi – I-beams, endplugs and wires positions – 0006												
PLATES	Plates dimensions											
	X	W										
tolerance	+/-0.5	+/-0.5										
outer plates	4074	2487										
inner plates	4074	2411										
I-BEAMS, ENDPLUGS, WIRES												
	m	g	g'	h	j	n. lbeam	n' pitches	p	n	a	d	e
tolerance	I-beams +/-0.5 endplugs +/-0.1	+0/-1	+0.5/-1.5	+2/-0	+2.4/-0	per layer		I-beams +/-1 endplugs +/-0.2	I-beams +/-1 endplugs +/-0.6	+/-0.1	+/-0.2	+/-0.6
1st layer	31.5	58	58	2371	1.5	96	95	3990	52.5	52.5	3948	73.5
2nd layer	10.5	20	20	2371	1.5	97	96	4032	31.5	31.5	3990	52.5
3rd layer	31.5	20	20	2371	1.5	97	96	4032	10.5	52.5	3990	31.5
4th layer	52.5	20	20	2371	1.5	96	95	3990	31.5	73.5	3948	52.5
	quantity											
	per s.l											
I-beams	386	L lbeam	2368	+/-0.4								
I-endplugs	772											
wires	382	L wire	2379	+0/-0.5	not including crimping blocks							
wire-endplugs	764											

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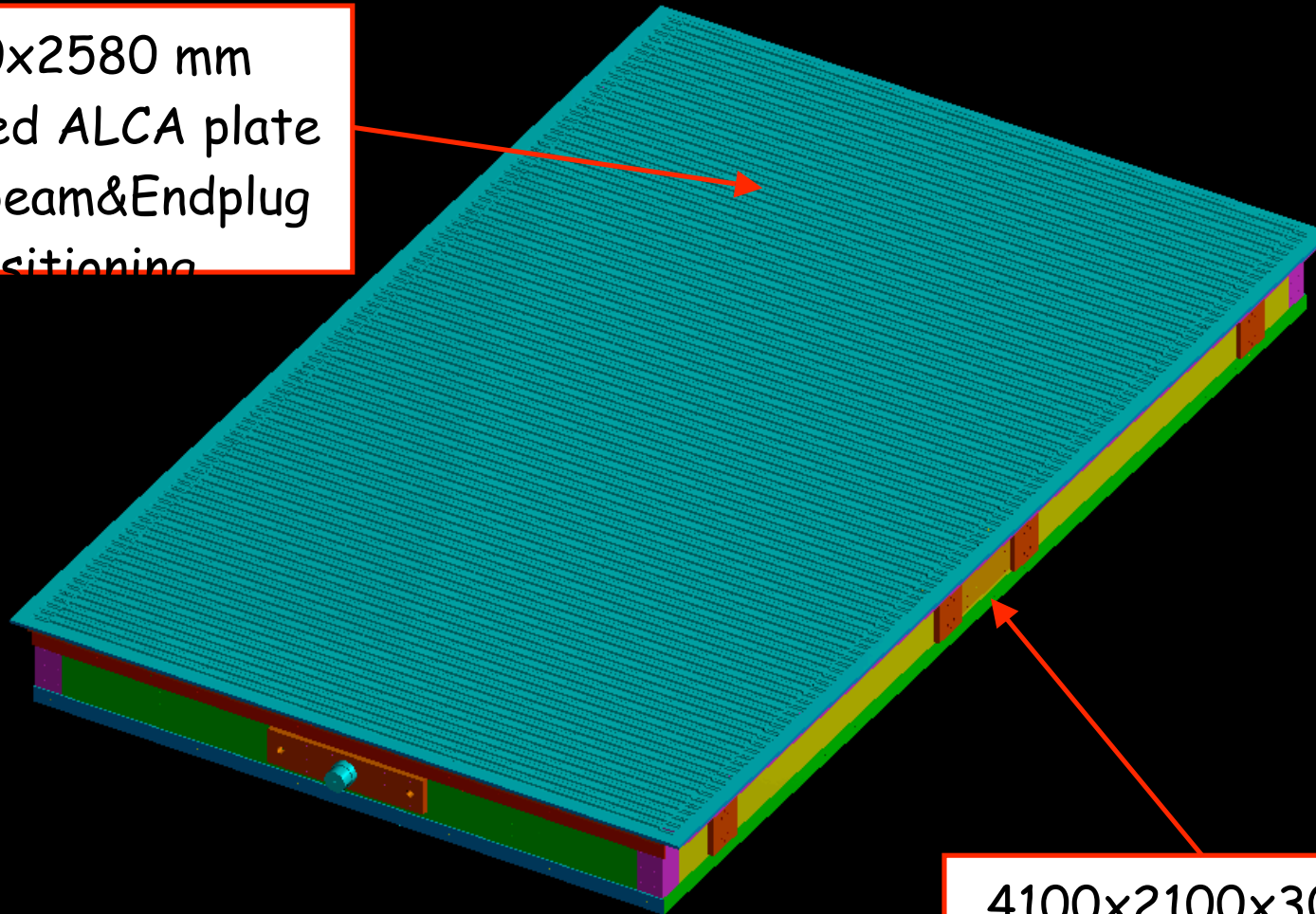
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Layer Layout



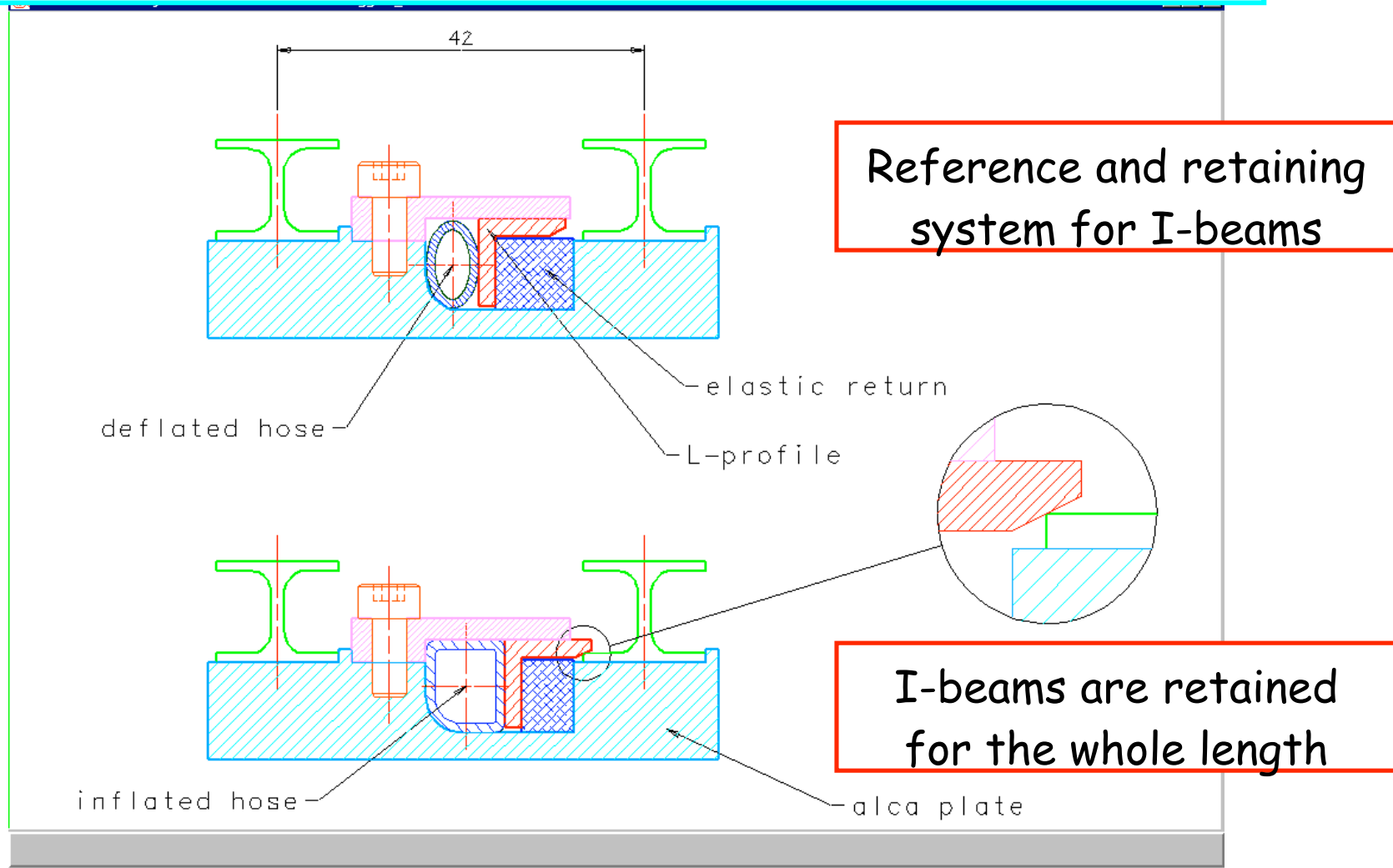
MB4 I-beam Tooling

4190x2580 mm
machined ALCA plate
for I-beam&Endplug
positioning



4100x2100x300 mm
Al honeycomb panel

Tooling Functional Characteristics



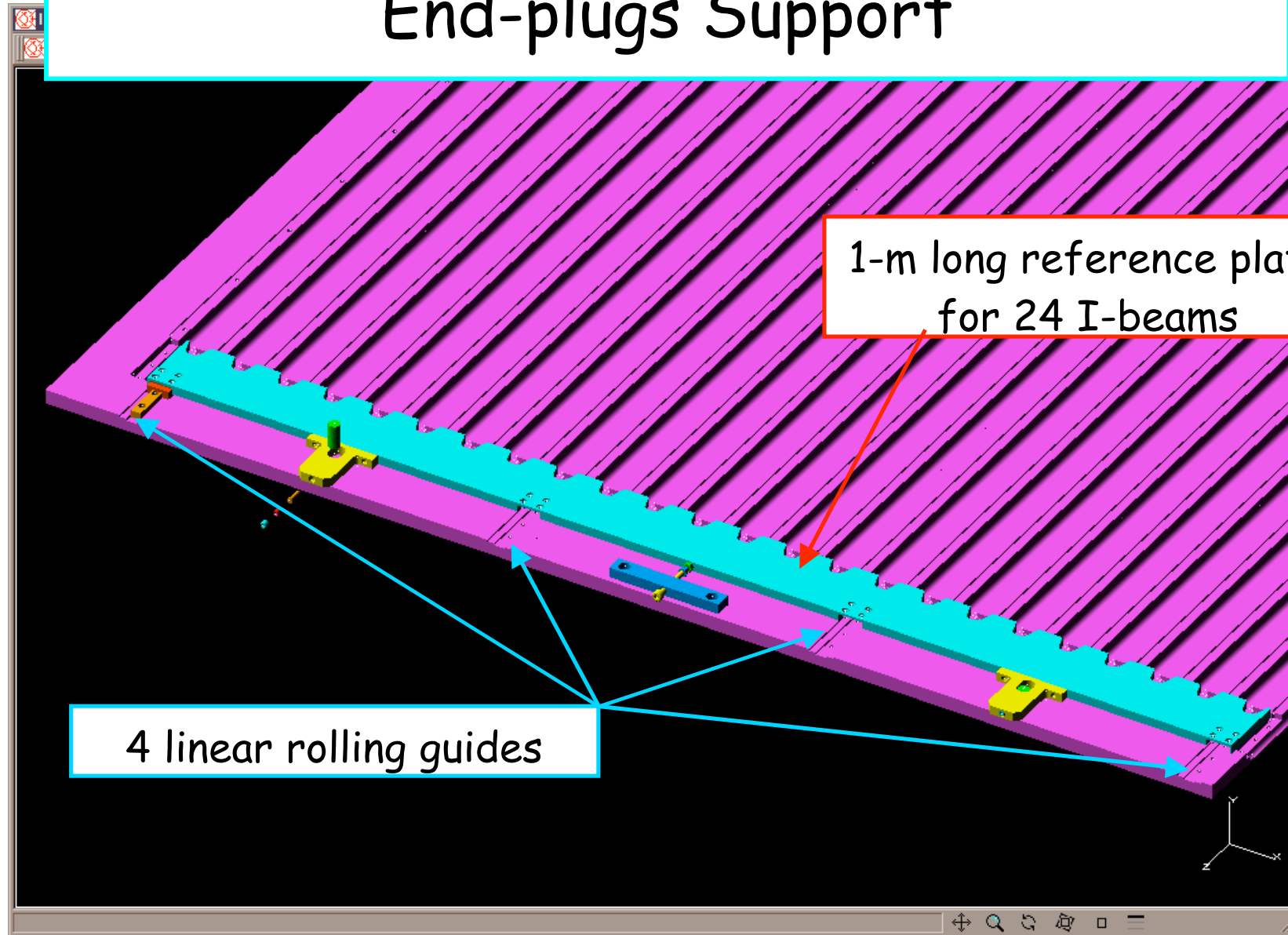
End-plugs Support Detail

Housing for the rolling guides and reference for I-beams are machined together

Linear rolling guide

Reference plate for end-plugs

End-plugs Support

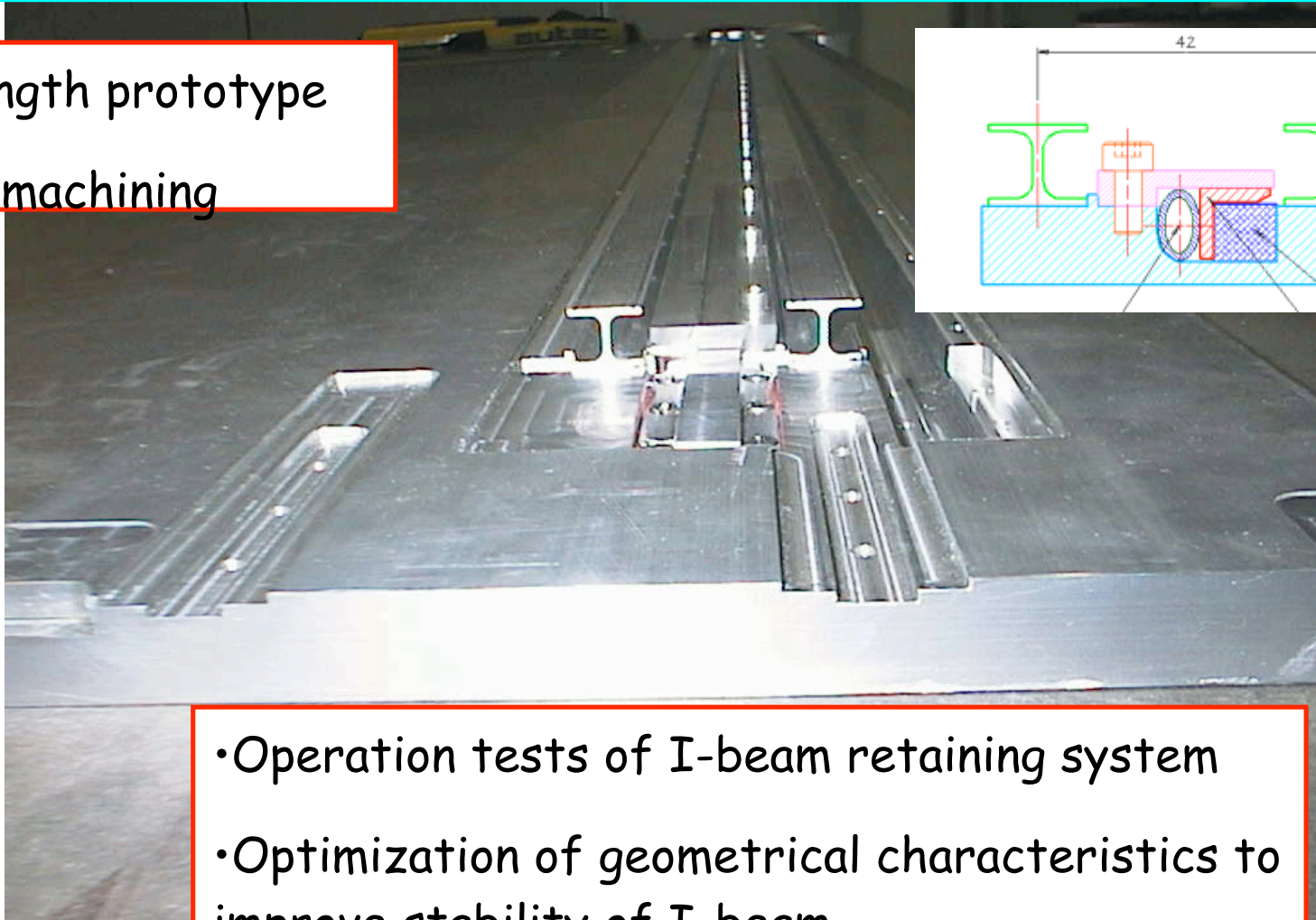


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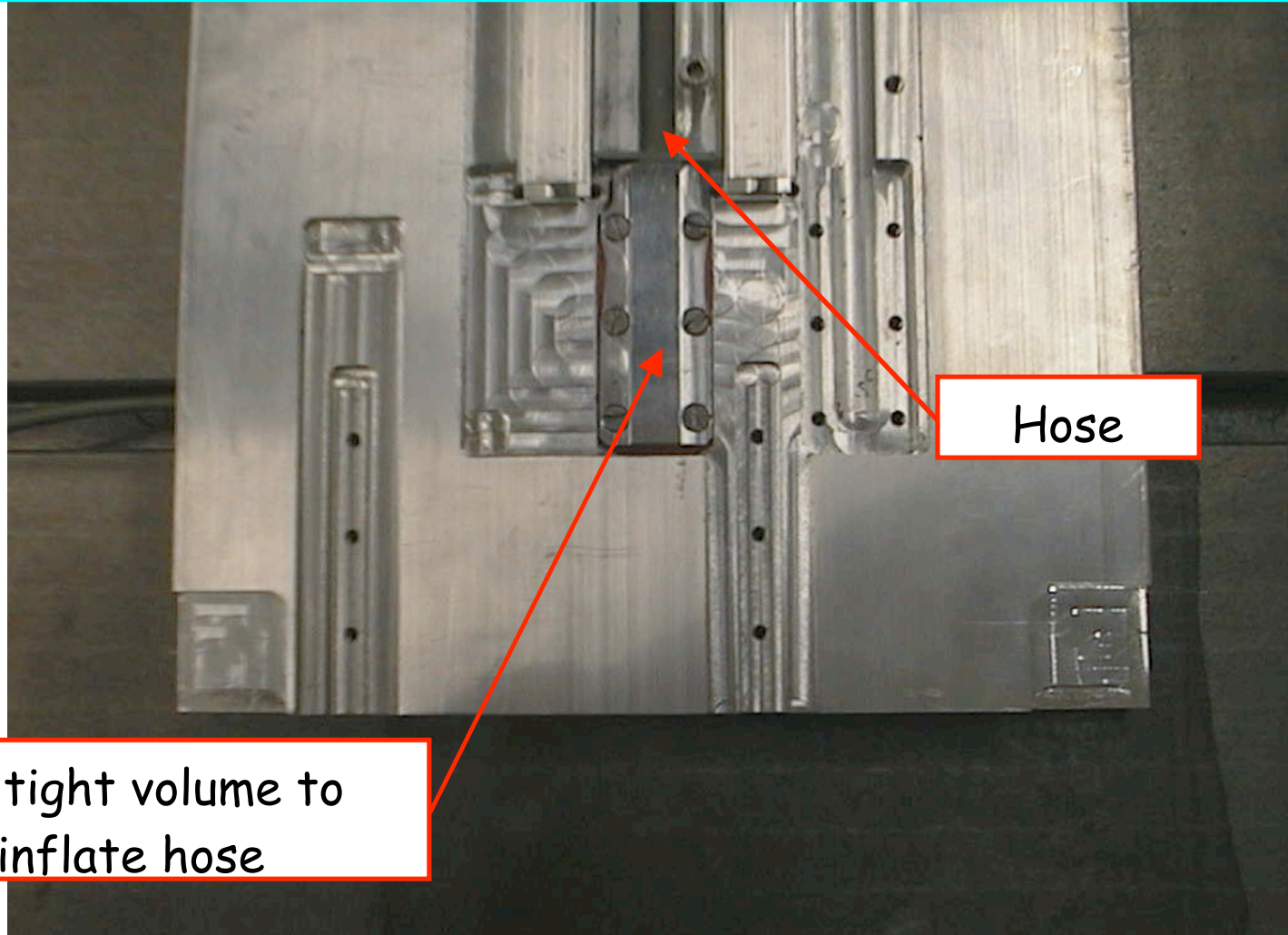
MB4 I-beam Tooling Prototype

- Real length prototype
- Actual machining



- Operation tests of I-beam retaining system
- Optimization of geometrical characteristics to improve stability of I-beam

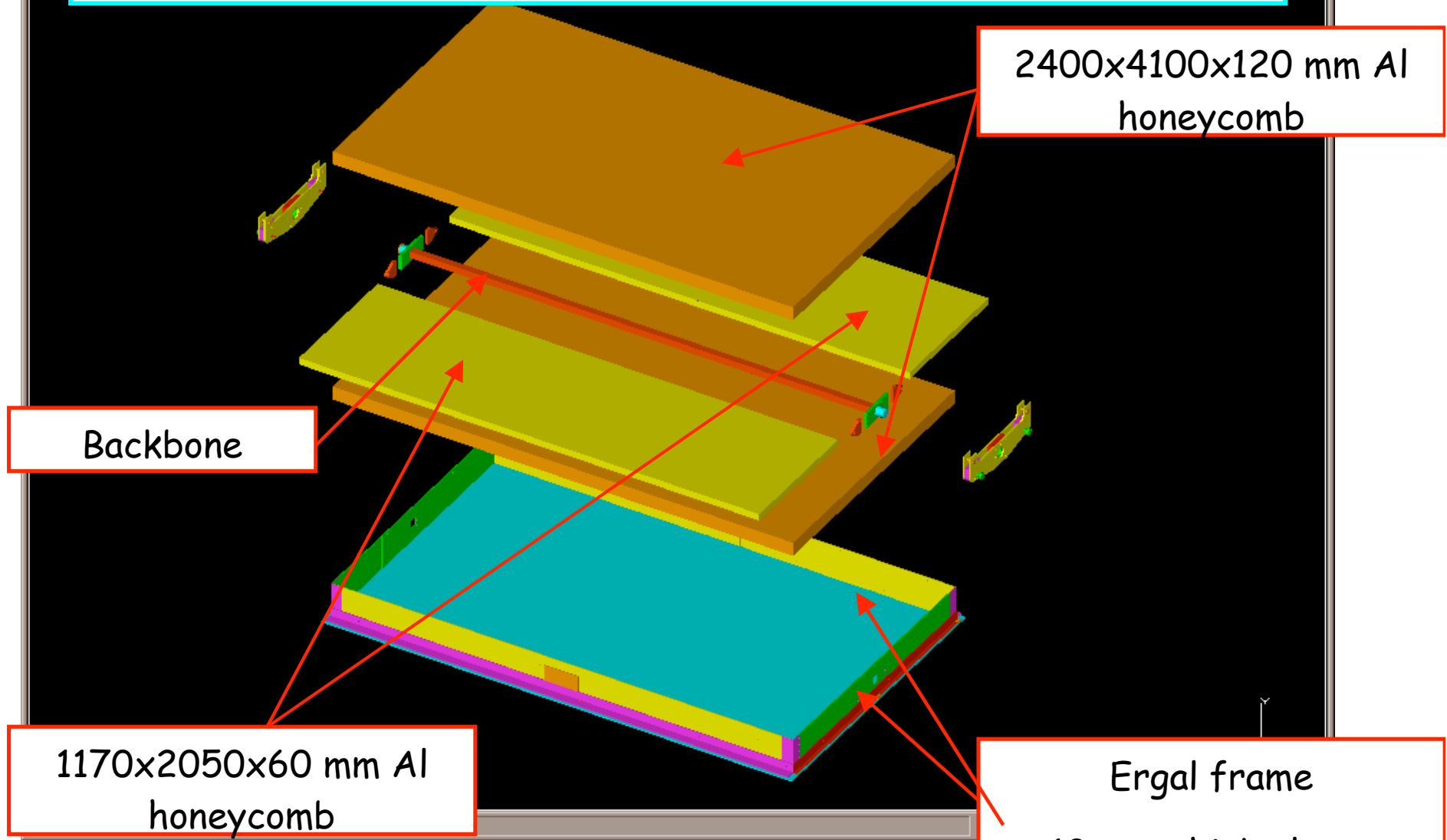
MB4 I-beam Tooling Prototype



Air tight volume to
inflate hose

Hose

MB4 I-beam Tooling



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10-mm thick plates

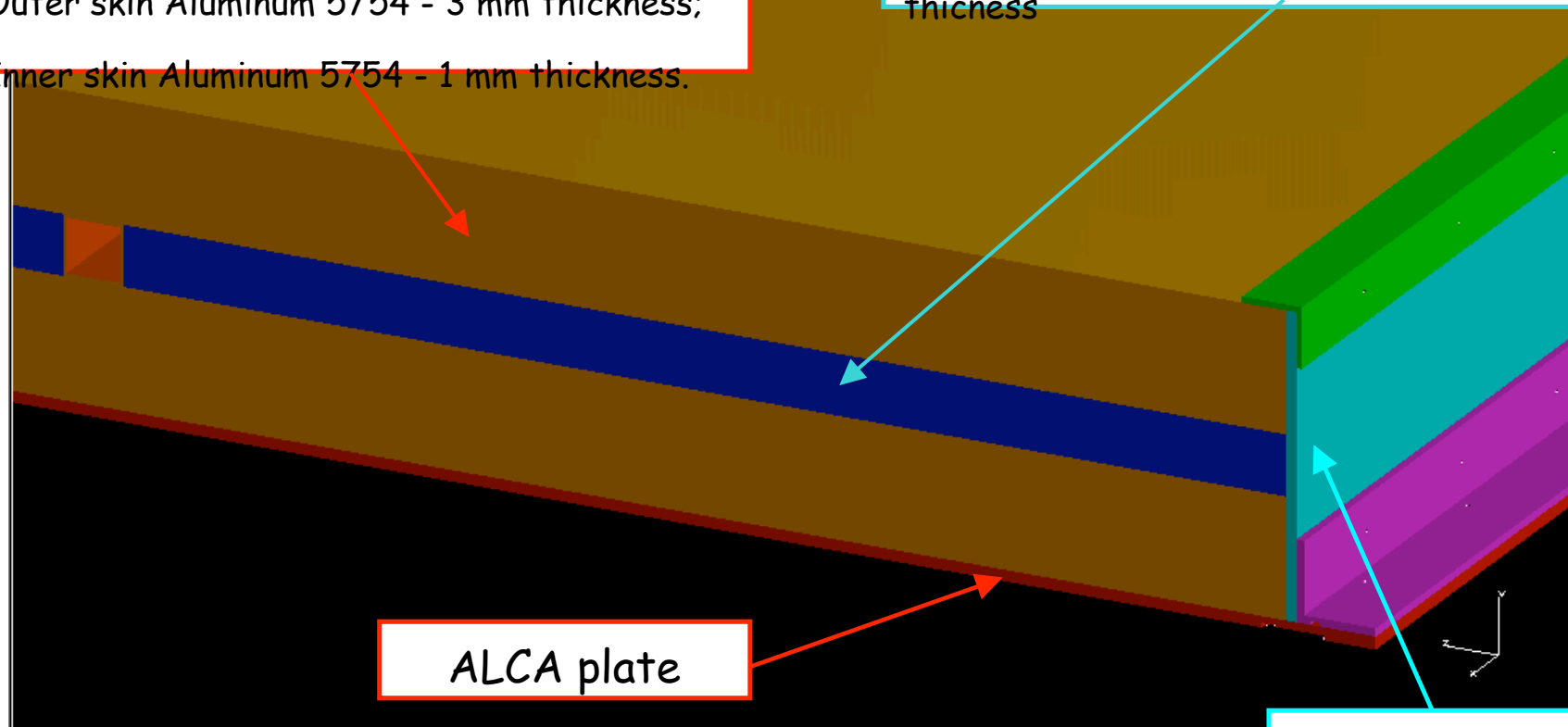
MB4 I-beam Tooling

120 mm Honeycomb characteristics:

- Aluminum 3003 - Cell size 9,14 mm;
- Outer skin Aluminum 5754 - 3 mm thickness;
- Inner skin Aluminum 5754 - 1 mm thickness.

60 mm Honeycomb characteristics:

- Aluminum 3003 - Cell size 9,14 mm;
- Outer & inner skin Aluminum 5754 - 1 mm thickness



Use values from previously set

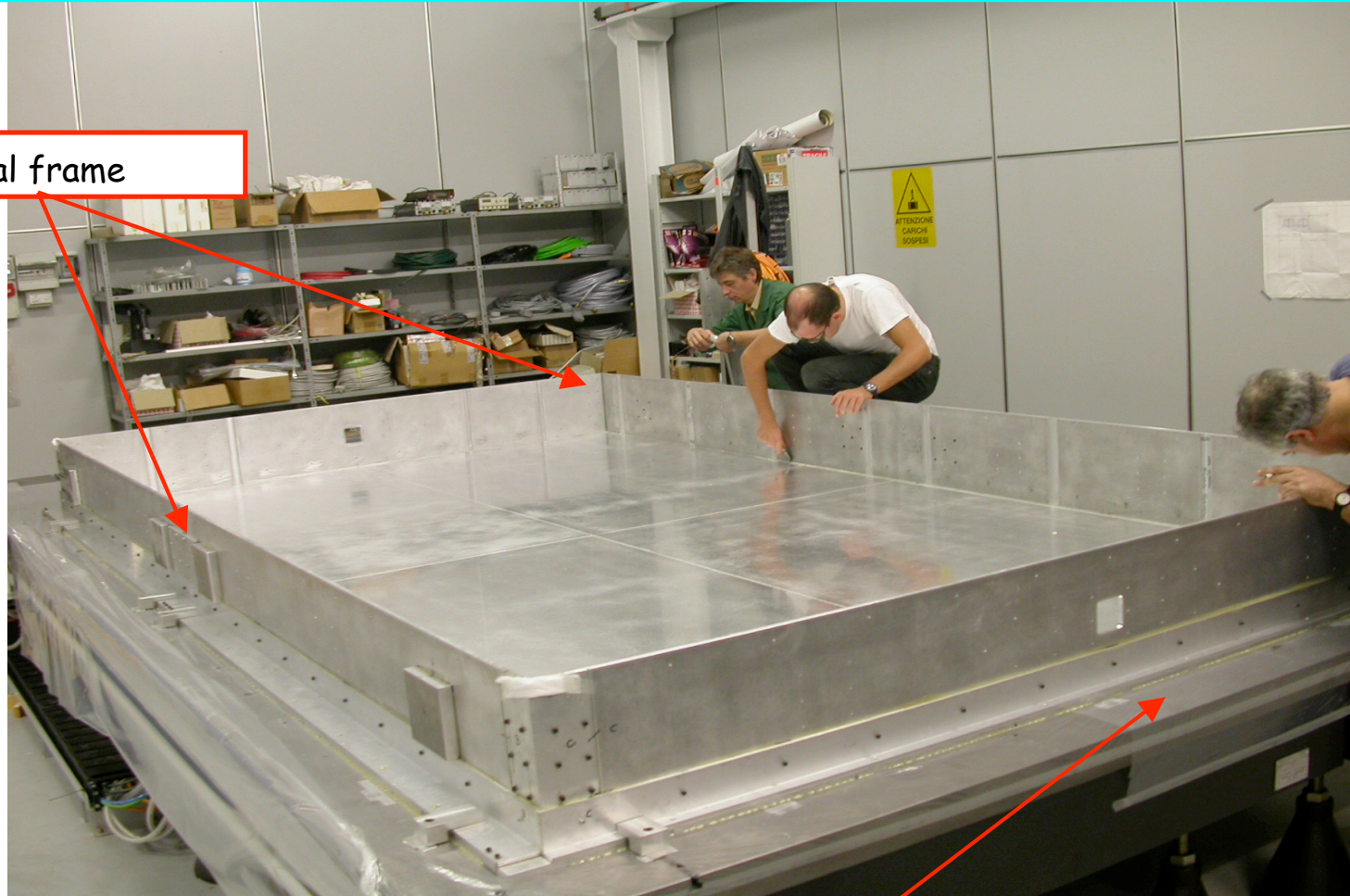
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Ergal frame

MB4 I-beam Tooling - Assembly

Ergal frame

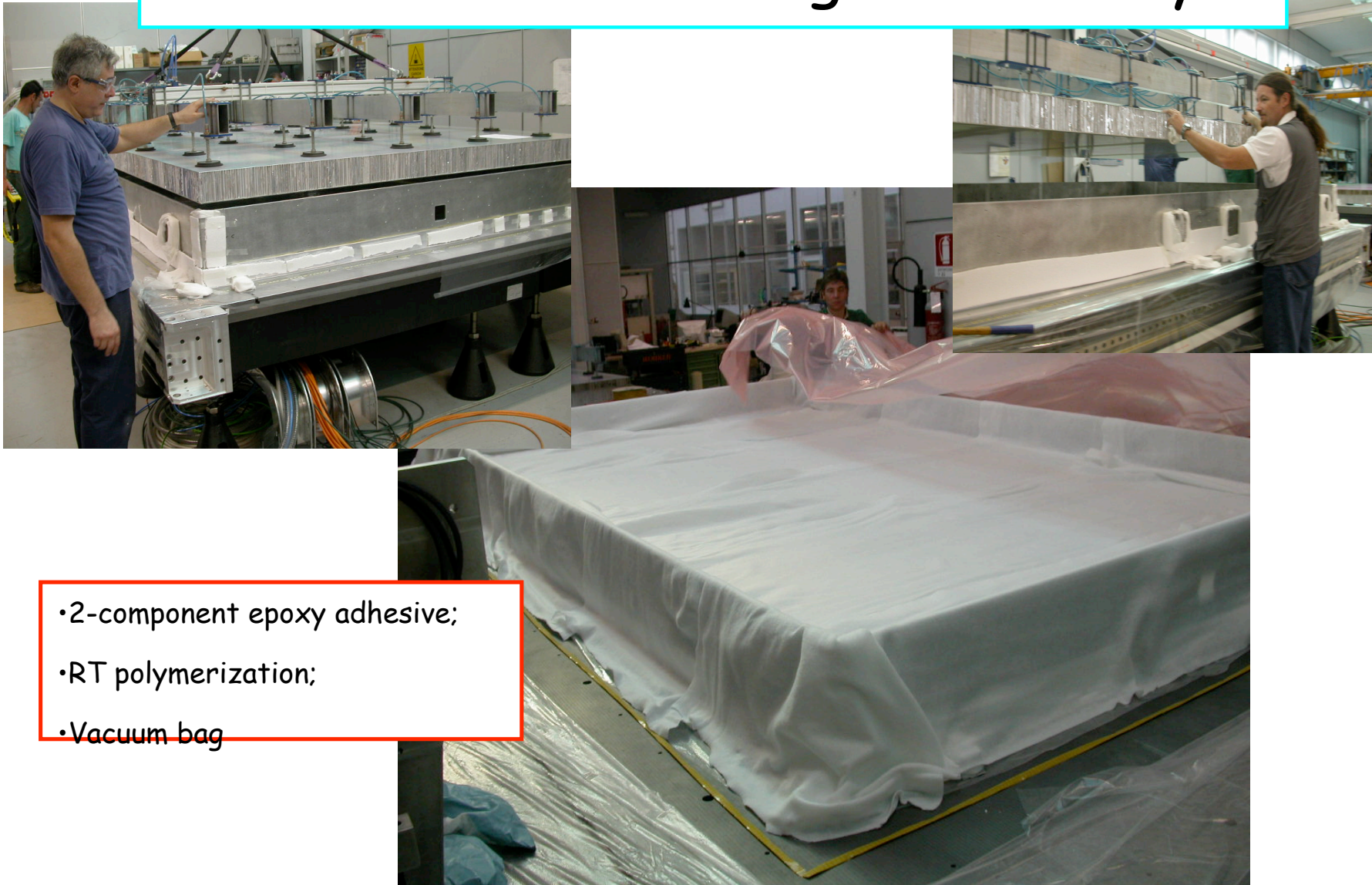


5500 x 3500 mm cast iron table - flatness 0,2 mm

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MB4 I-beam Tooling - Assembly

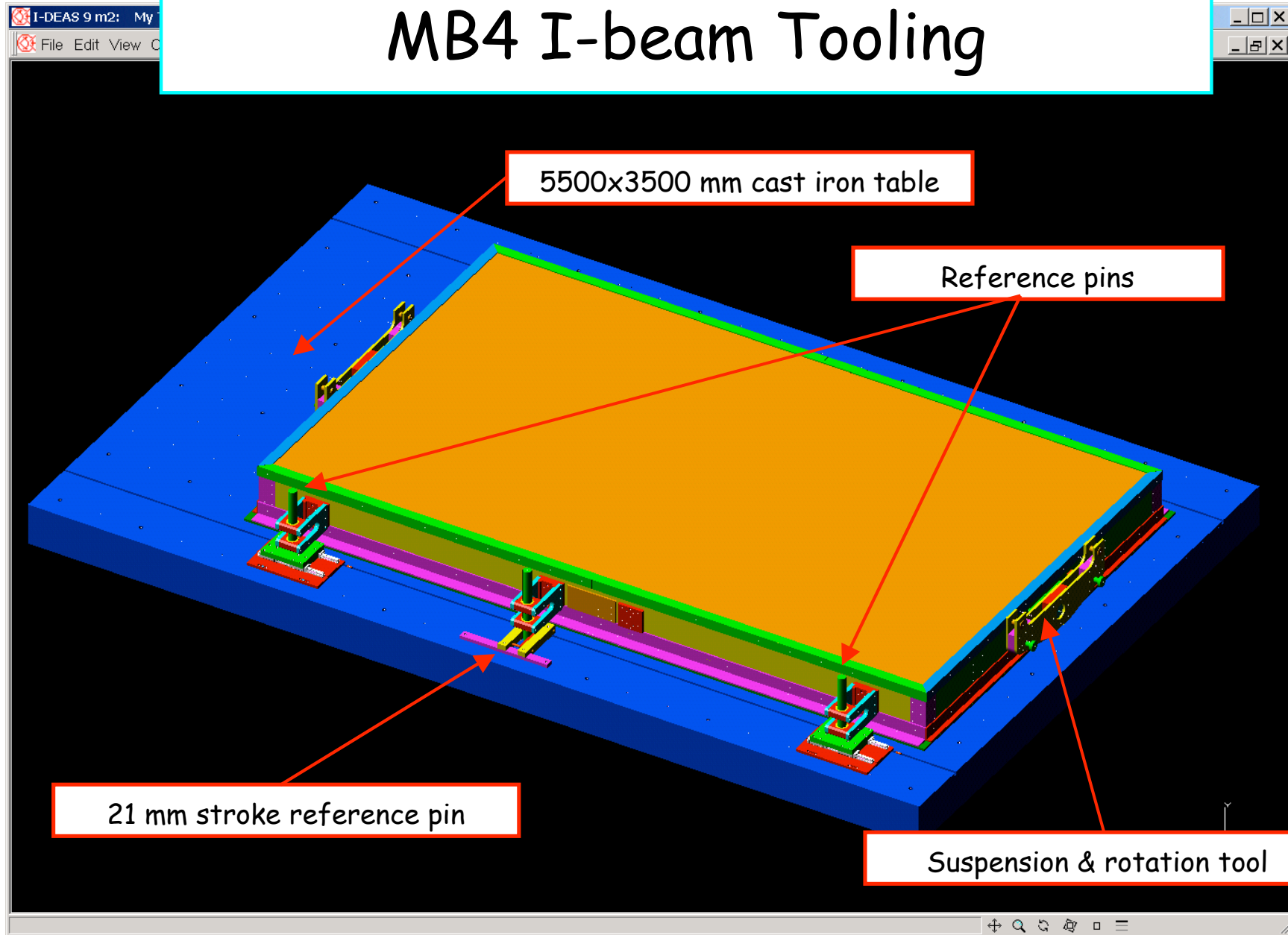


- 2-component epoxy adhesive;
- RT polymerization;
- Vacuum bag

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MB4 I-beam Tooling



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