

LMA report summary

Serial Number: **C14082/10+C14095/10 on ITM01**

		Advanced LIGO Requirements	LMA Measurements
Coating Nature	Surface 2	Antireflective Coating 326 mm diameter	Antireflective Coating 326 mm diameter
Coating Diameter	Surface 1	High Reflectivity Coating 326 mm diameter	High Reflectivity Coating 326 mm diameter
Figure Change Before/After Coating	Surface 2	Sagitta Variation < 8 nm All Zernike terms < 0.5 nm	Not measurable (AR coating)
	Surface 1	Sagitta Variation < 8 nm All Zernike terms < 0.5 nm	RoC 1937 m Sph. Aberr 0.7 nm, Other Zernike terms < 0.5 nm
Average Scattering (4° incidence) Surface 1		x	3 ppm Ø 160mm
Absorption HR (Surface 1)		<0.5 ppm	0.21 +/- 0,06 ppm Ø 160mm
Transmission at 1064 nm (3° incidence)		1.3% <T < 1.5%	1.496 +/- 0.009 % Ø 160 mm
Transmission at 532 nm (Witness sample)		0.5% < T < 2%	0.96 %
Transmission at 532 nm Center		0.5% < T < 2%	1.01% +/- 0.08%
Reflection at 1064 nm AR coating - Surface2 (3° incidence)		R < 100 ppm Goal R<50 ppm	48 +/- 4 ppm Ø 160 mm

» Other Bookmarks

96/10 on ITM05

LMA Measurements
Antireflective Coating 326 mm diameter
High Reflectivity Coating 326 mm diameter
Not measurable (AR coating)
RoC 1938 m Sph. Aberr 1 nm Other Zernike terms < 0.5 nm
2.8 ppm Ø 160mm
0.16 +/- 0.03 ppm Ø 160mm
1.414 % /- 0.004% Ø 160 mm
0.996 %
1.02 +/- 0.07 %
13 +/- 6 ppm Ø 160 mm

3055/20+C15009

LMA Measurements
Antireflective Coating 326 mm diameter
High Reflectivity Coating 326 mm diameter
Not measurable (AR coating)
RoC 1934.3 m All Zernike terms < 0.5 nm (Caltech Measurement)
3 ppm Ø 160mm
0.29 +/- 0.11 ppm Ø 160mm
1.487 % /- 0.003% Ø 160 mm
0.995 %
25 +/- 14 ppm Ø 160 mm

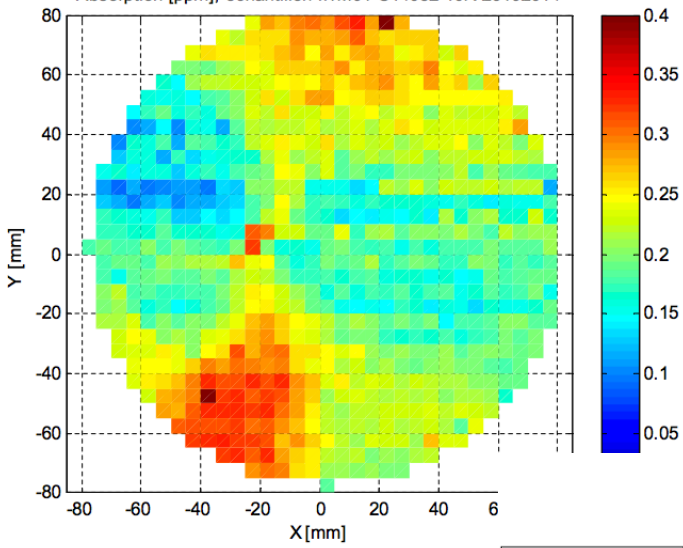
1/20 on ITM 07

LMA Measurements
Antireflective Coating 326 mm diameter
High Reflectivity Coating 326 mm diameter
Not measurable (AR coating)
RoC 1937.5 m Sph. Aberr 0.7 nm Other Zernike terms < 0.5 nm
3 ppm Ø 160mm
0.28 +/- 0.09 ppm Ø 160mm
1.50 +/- 0.01 % Ø 160 mm
0.96 %
0.99 +/- 0.07 %
54 +/- 6 ppm Ø 160 mm

C14096/20 on ITM10

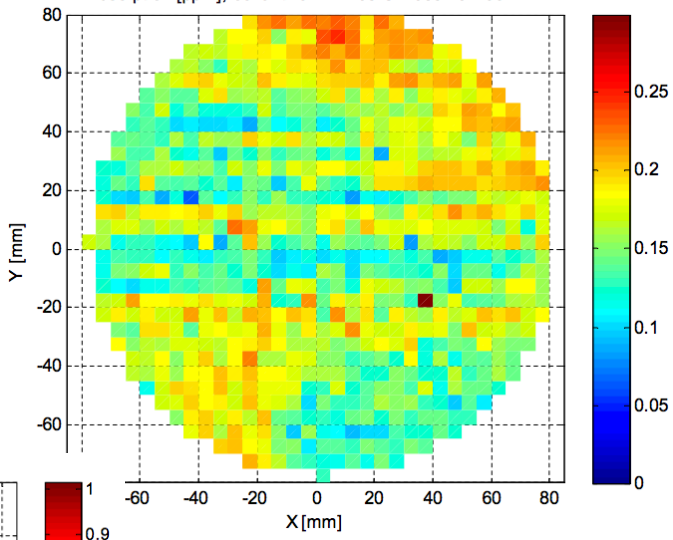
LMA Measurements
Antireflective Coating 326 mm diameter
High Reflectivity Coating 326 mm diameter
Not measurable (AR coating)
RoC 1938.5 m Sph. Aberr 1.1 nm Other Zernike terms < 0.5 nm
5.5 ppm Ø 160mm
0.24 +/- 0.04 ppm Ø 160mm
1.406 % /- 0.007% Ø 160 mm
0.996 %
1.03 +/- 0.07 %
49 +/- 9 ppm Ø 160 mm

Absorption [ppm], échantillon :ITM01-C14082-10R-29102014



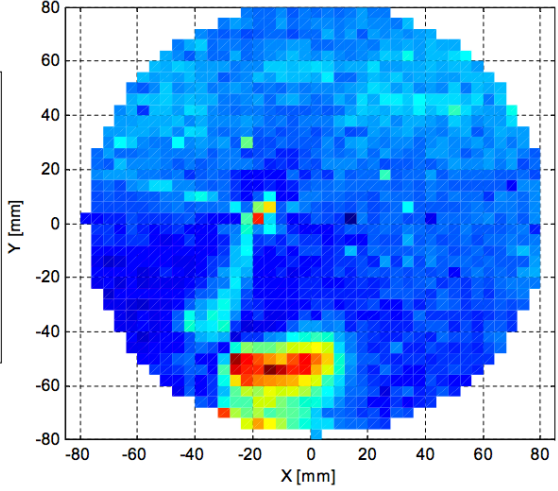
LMA Absorption
 All reports have the
 same comment
 about the lower left

Absorption [ppm], échantillon :ITM05-C14083-10R-061114

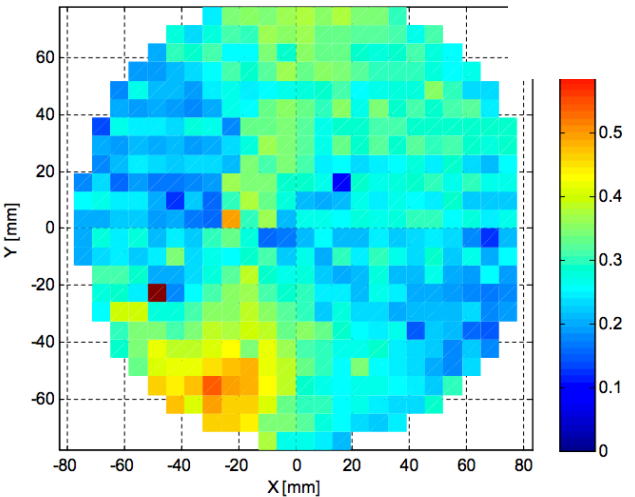


Comment:
 The area on the map
 bottom showing a
 larger absorption level
 is linked to the
 absorption bench
 itself (parasite
 beam?). We did the
 same measurement
 after having rotated
 the mirror in its mount
 and this area did not
 move.
 So it should not be
 taken into account

Absorption [ppm], échantillon :ITM06-C13030R-280613



Absorption [ppm], échantillon :ITM07-pas6-5-22102014



Absorption [ppm], échantillon :ITM10-C14083-20R-24102014

