Gambetti
Vacuum Technology
and Related Solutions

Test : Removal of SAL resist with Colibrì plasma reactor

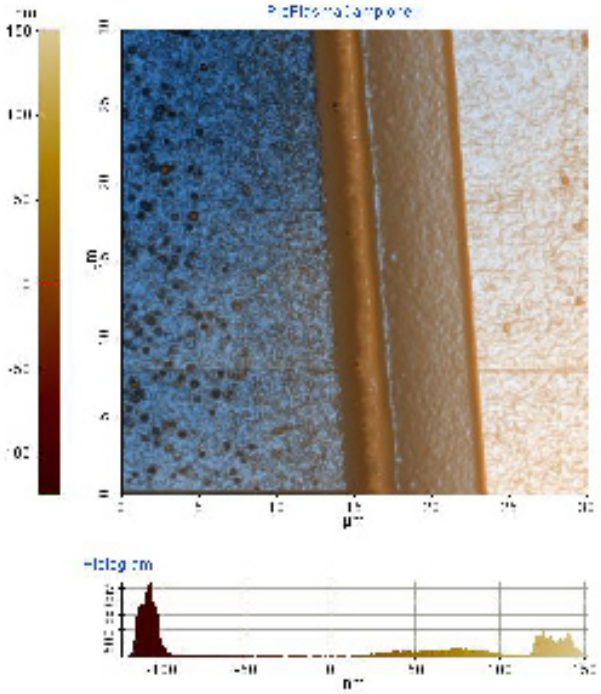
Customer : Università degli Studi Magna Grecia di Catanzaro

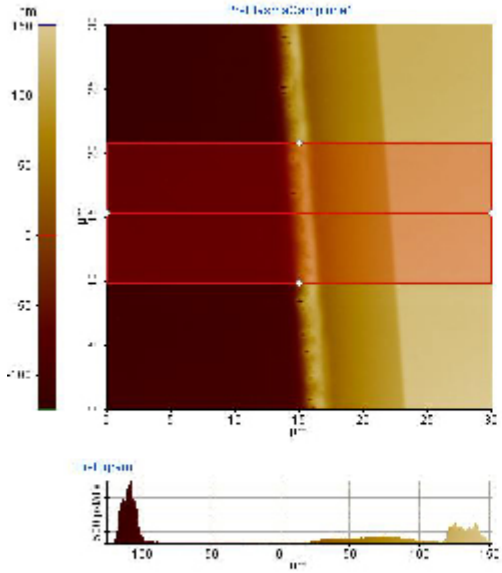
Binasco 20 Febbraio 2007

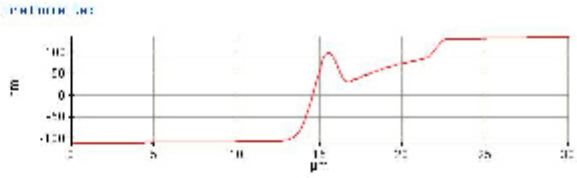
Description

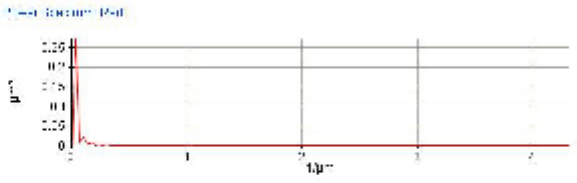
In this test, Colibrì plasma reactor, is equipped if an RF power supply 13,56 MHz 150 Watt max power.
This test has been done, using air, at a pressure of 3.5 x 10^{-1} mbar with a power of 80 watts, during the experiment was necessary to remove 250-270 nm of SAL resist.

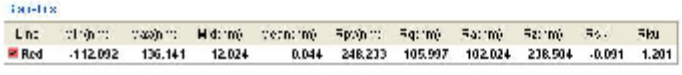
Measure performed with an AFM and SEM before plasma treatment

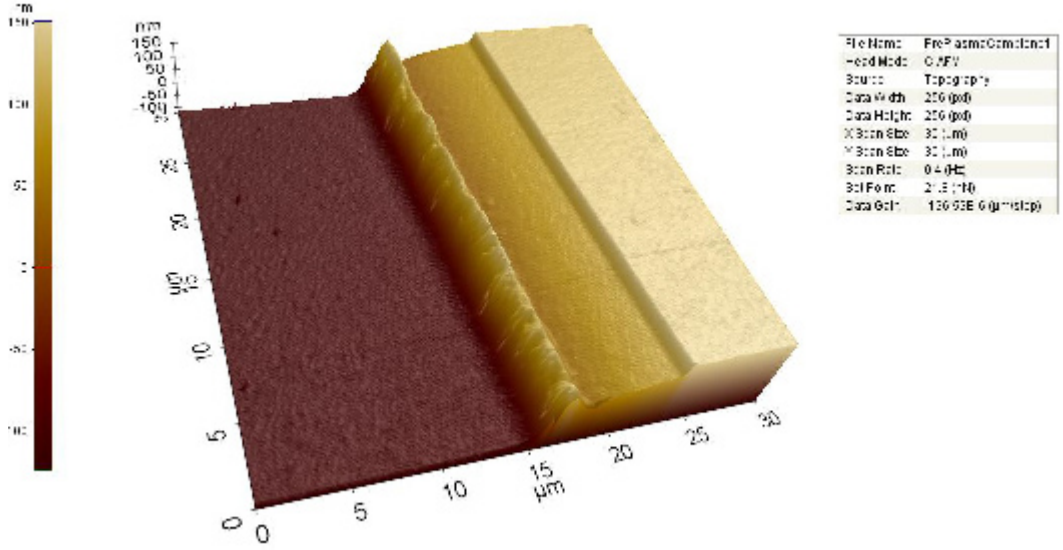


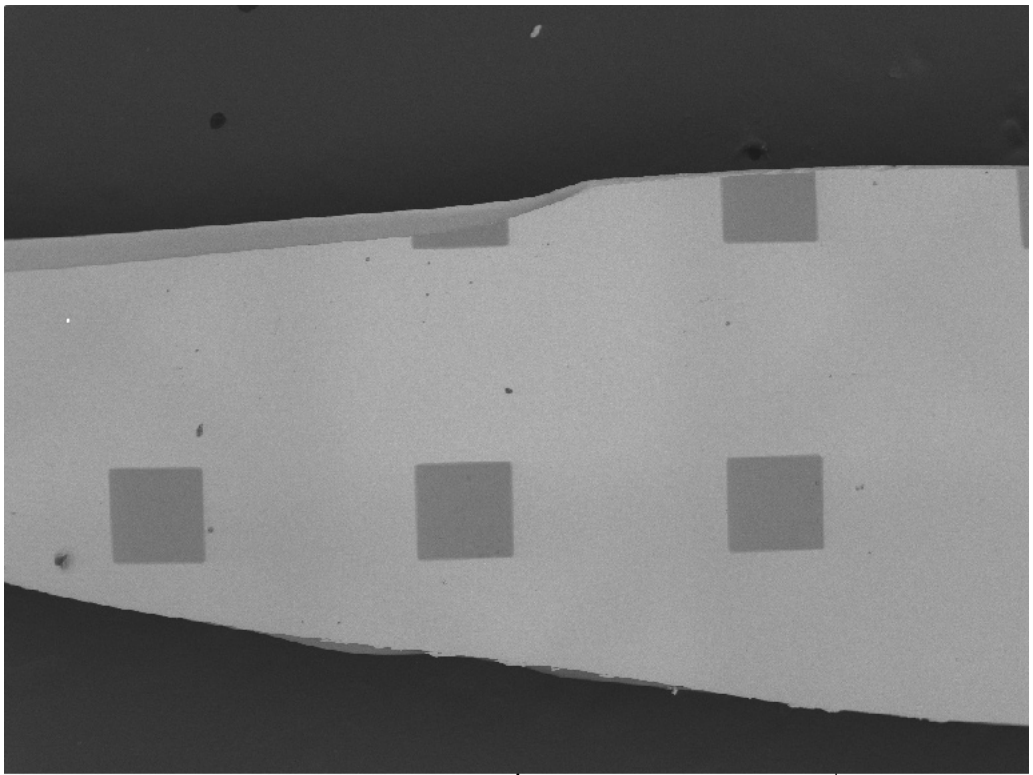









nm
150
100
50
0
-50
-100
0
5
10
15
20
25
30
µm
File Name: PrePlasmaCompliance1
Head Mode: CAFM
Source: Topography
Data Width: 256 (px)
Data Height: 256 (px)
X Scan Size: 30 (µm)
Y Scan Size: 30 (µm)
Scan Rate: 0.4 (Hz)
Set Force: 2.5 (nN)
Data Gain: 139.938 (pm/digit)


SEM MAG: 94 x
HV: 10.00 kV
View field: 3.20 mm
Det: BSE Detector
Date(m/d/y): 02/20/07
Device: TS5136LM
1 mm
VEGA\\ TESCAN
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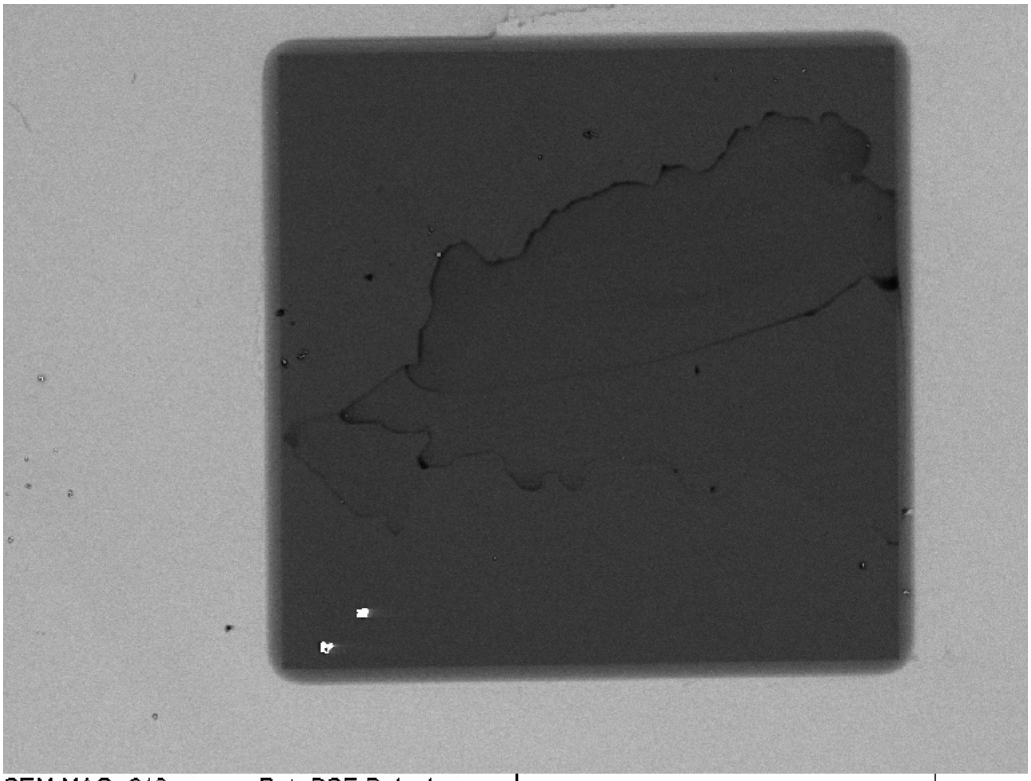

SEM MAG: 619 x
HV: 10.00 kV
View field: 487.38 µm

Det: BSE Detector
Date(m/d/y): 02/20/07
Device: TS5136LM

200 µm

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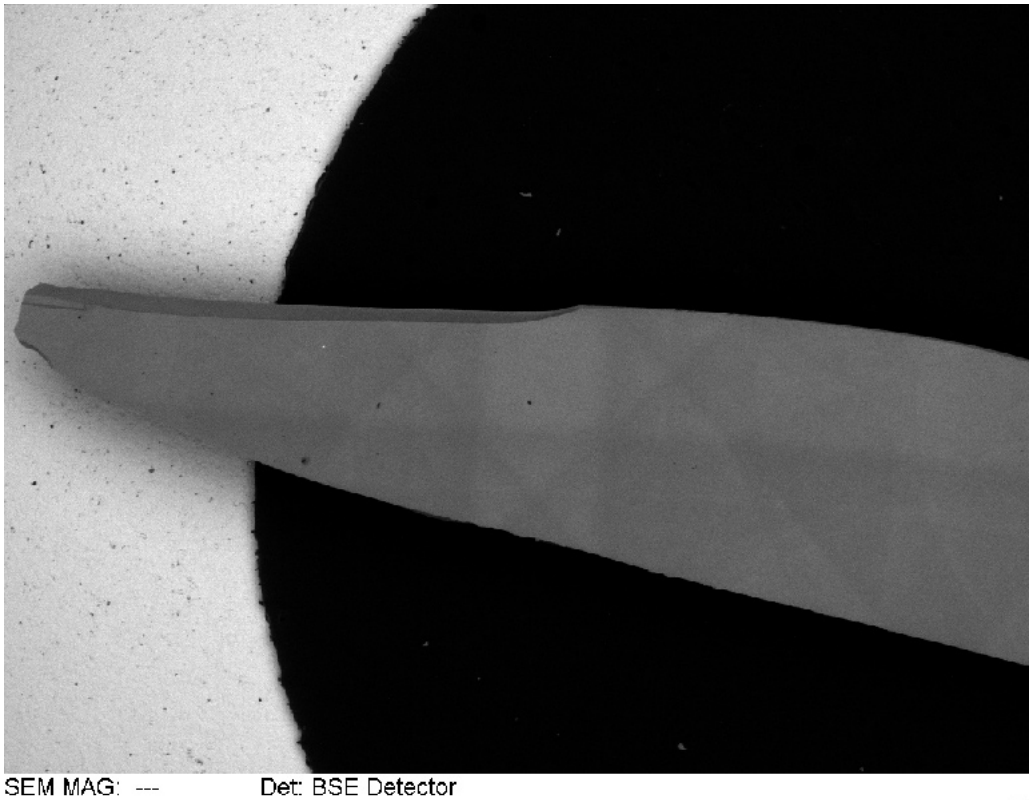
Test resoults

After five minutes of a plasma treatment with air, at a preassure of 3.5 x 10^{-1} mbar with a power of 80 watts, is clear from the pictures taken with a scanning electron microscope, that all resist has been removed.



SEM MAG: ---
HV: 10.00 kV
View field:
Det: BSE Detector
Date(m/d/y): 02/20/07
Device: TS5136LM
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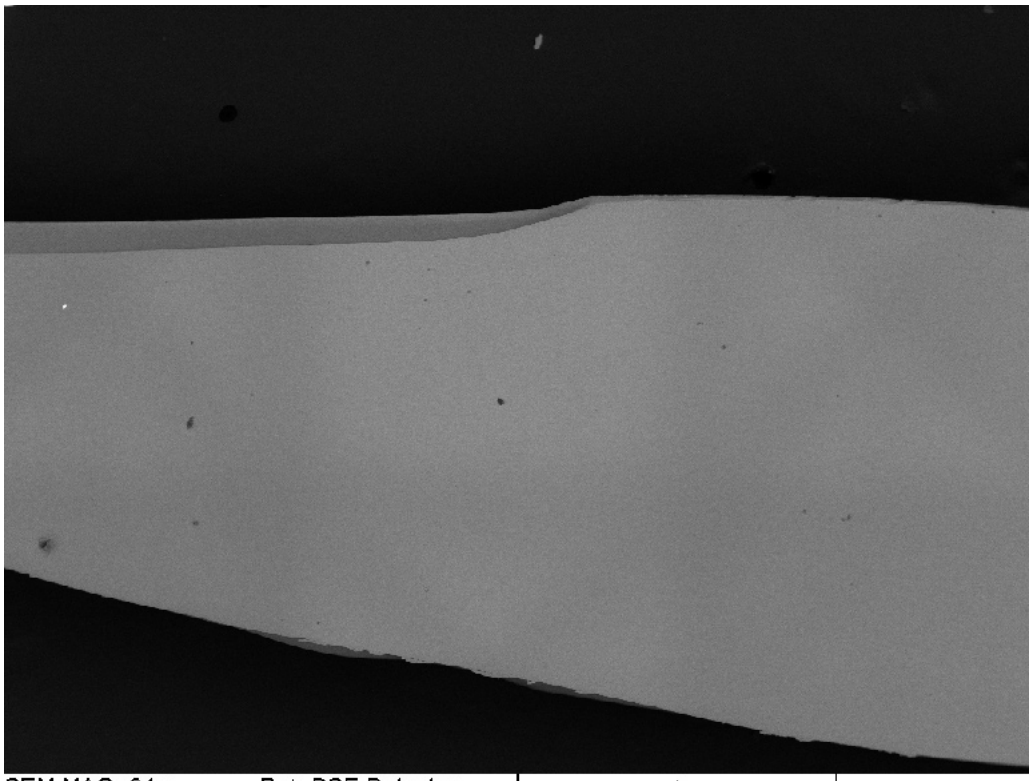

SEM MAG: 94 x
HV: 10.00 kV
View field: 3.20 mm
Det: BSE Detector
Date(m/d/y): 02/20/07
Device: TS5136LM
1 mm
VEGA\\ TESCAN
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