

Memo

Date: 11/18/2009

Re: Dye Penetration Test Result for NobelActive Samples

Sample Description

Sample #	REF	Description	Lot No.	Exp Date
#1	34125	NobelActive Internal NP 3.5x10mm	708813	2014-04
#2	34125	NobelActive Internal NP 3.5x10mm	708813	2014-04
#3	34126	NobelActive Internal NP 3.5x11.5mm	709757	2014-05
#4	34126	NobelActive Internal NP 3.5x11.5mm	709757	2014-05
#5	34126	NobelActive Internal NP 3.5x11.5mm	703630	2013-12
#6	34127	NobelActive Internal NP 3.5x13mm	702923	2013-11
#7	34132	NobelActive Internal RP 4.3x11.5mm	709964	2014-05

Testing Procedure

1. Pictures of each sample were taken from different views before the dye penetration test (Reference Attachment for the comparison before and after dye penetration test).
2. Pressure inside the pressure tank was kept at -70 ± 5 kpa for 10 minutes.
3. The samples were submerged into the dye solution at -70 ± 5 kpa pressure for 1 hour.
4. Vacuum was removed and samples were exposed to ambient pressure for 30 seconds.
5. Samples were rinsed and carefully examined and pictures were taken (Reference Attachment for the comparison before and after dye penetration test).

Test Result

1. All samples showed leakage as shown in the pictures taken after the dye penetration test.

Attachment
Comparison before and after the dye penetration test
Sample #1: NobelActive NP3.5x10mm



Sample #1 before dye penetration test



Sample #1 after dye penetration test



Sample #1 before dye penetration test



Sample #1 after dye penetration test

Sample #2: NobelActive NP3.5x10mm



Sample #2 before dye penetration test



Sample #2 after dye penetration test



Sample #2 before dye penetration test



Sample #2 after dye penetration test

Sample #3: NobelActive NP3.5x11.5mm



Sample #3 before dye penetration test



Sample #3 after dye penetration test



Sample #3 before dye penetration test

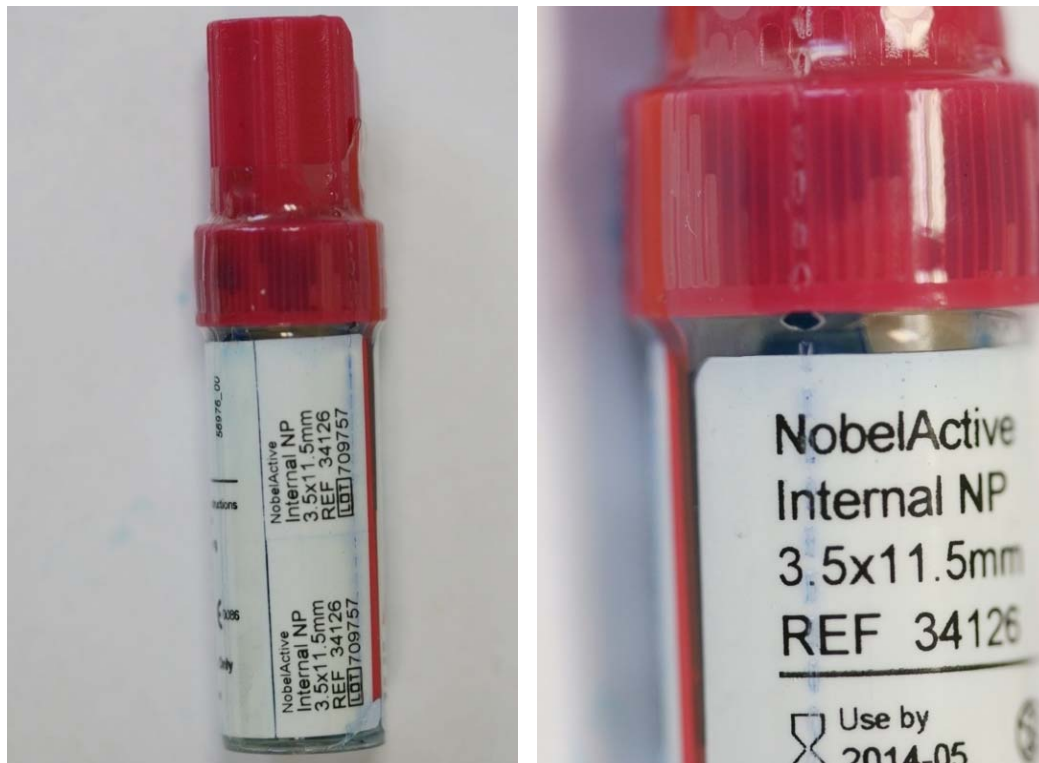


Sample #3 after dye penetration test

Sample #4: NobelActive NP3.5x11.5mm



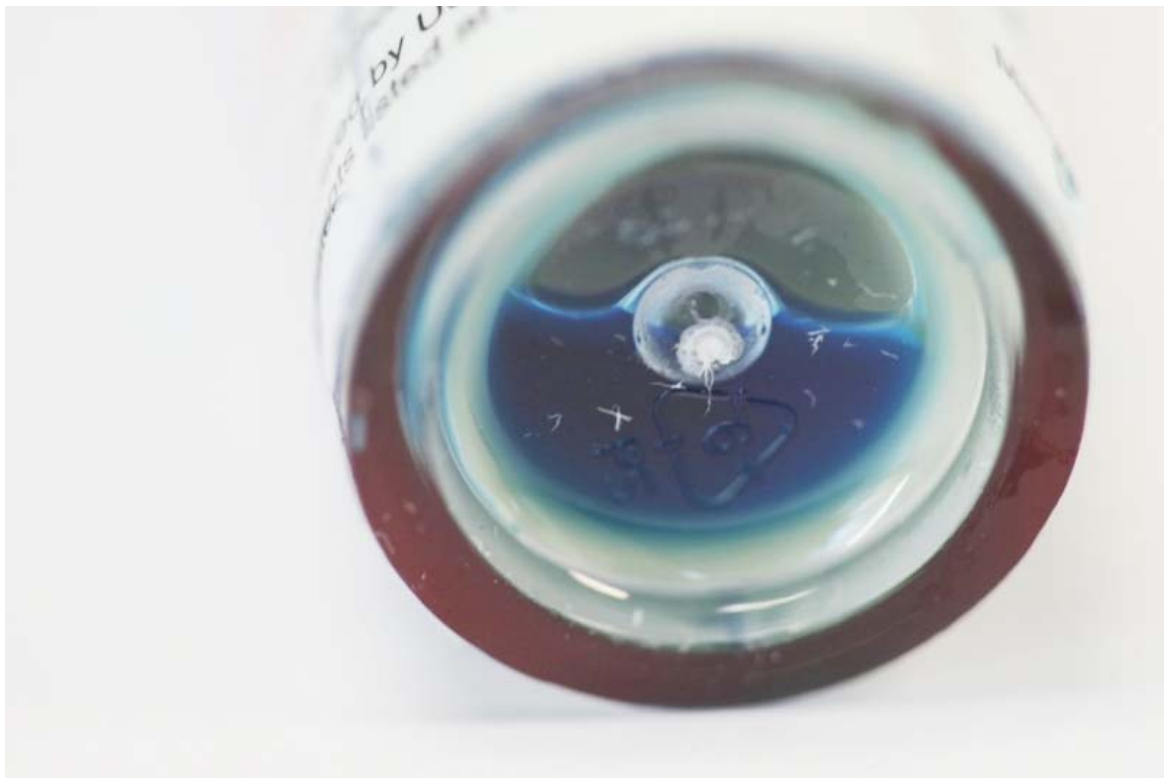
Sample #4 before dye penetration test



Sample #4 after dye penetration test



Sample #4 before dye penetration test



Sample #4 after dye penetration test

Sample #5: NobelActive NP3.5x11.5mm



Sample #5 before dye penetration test



Sample #5 after dye penetration test



Sample #5 before dye penetration test



Sample #5 after dye penetration test

Sample #6: NobelActive NP3.5x13mm



Sample #6 before dye penetration test



Sample #6 after dye penetration test



Sample #6 before dye penetration test



Sample #6 after dye penetration test

Sample #7: NobelActive RP4.3x11.5mm



Sample #7 before dye penetration test



Sample #7 after dye penetration test



Sample #7 before dye penetration test



Sample #7 after dye penetration test