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## **Evaluation of Self – Sealing Capacity & Fragmentation Test for Rubber Closure of Pharmaceutical Importance**

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The different types rubber are used in pharmaceutical packaging e.g. butyl rubber, nitrile rubber, chloroprene rubber, silicon rubber. The variation should be minimized to apply fragmentations and self-sealing test in pharmaceutical rubber closure. The fragmentation test is used to compare with another rubber closure to number of fragment found in water with the help of piercing with the hypodermic syringe. After the fragmentation test it was seen that number of fragment in water where found to be higher in case of natural rubber as compare to latex rubber which indicates that latex rubber is best as closure for aqueous preparation. The self – sealing test was performed on few sample of natural rubber closure. One of the rubber was plugged on a first vial containing purified water in nominal volume than it was pierce 10 times with the help of 21 SWG hypodermic needle and immerse in to dye solution and left for 30 min. second vial plugged with fresh rubber plug and heated in water bath for 1 hour and pierce in 10 times immerse in dye solution. Similarly third vial plugged with another fresh rubber plug was heated in water bath for two hour and pierced with the needle and immersed in dye solution for 30 min. In first and the second container no color was found so rubber plug passes the self- sealing test but color was found in the third vial which was heated for a longer period, this shows that self-sealing capacity of rubber decreases with increasing temp and time.