

State of Nevada
Department of Transportation
Materials Division

METHOD OF TEST FOR RUBBER PROPERTY – EFFECT OF LIQUIDS

Follow ASTM D471 in its entirety with the following exceptions:

Add the following for testing resistance to swelling of latex films in a rejuvenating agent:

Suitable substrate for film formation shall be polyethylene boards, silicone rubber sheeting, glass, or any substrate which produces a cured film of uniform cross-section. Polymer film shall be prepared from latex as follows:

Polymer films shall be formed by using a 50 mil drawdown bar and drawing down 50 mils of the latex on polyethylene boards. Films shall be cured for 14 days at 23.9°C (75°F) and 50% humidity. Samples for resistance to swelling in rejuvenating agent shall be 1” by 2” rectangles cut from the cured film. Cut at least 3 specimens for each sample to be tested for swelling. Fill three 8 oz cylindrical seamless metal containers to a minimum of ½” deep with rejuvenating agent. Swelling samples shall be weighed and then placed in the containers on top of the rejuvenating agent. Add at a minimum an additional ½” of rejuvenating agent over each of the latex samples. The containers shall be covered and placed in an oven at 40°C (104°F) for 48 hours +/- 15 minutes. The containers are allowed to cool to 23.9°C (75°F) and then the latex films are removed from the tins. Unabsorbed rejuvenating agent is removed from the intact latex film by scraping the film with a rubber policeman and blotting with paper towels. If the latex film does not remain intact during removal from the tins or while removing the unabsorbed rejuvenating agent the sample shall be rejected. After the rejuvenating agent is removed from the samples they are then weighed. Percent swelling is reported as weight increase of the polymer film. Report the mass increase as a percent by weight of the original latex film mass upon exposure of films to the recycling agent.