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Comparison of the Proove-it PR-1100 Measuring Cell with cooling ribs to the NT BUILD 492 Chloride Migration Test

Although the Proove-it PR-1100 Measuring cell with cooling ribs does not physically resemble the design shown in NT Build 492 for the Chloride Migration test procedure, other designs can be used as per Section 6.2.2 in NT Build 492.

The chloride migration test requires that a specimen be subjected to sodium chloride on one face and sodium hydroxide to the other. A DC voltage is connected with the negative or cathode to the side with the sodium chloride, and the positive or anode going to the side with the sodium hydroxide.

NT Build 492 requires that the specimen have a silicone sleeve clamped over the specimen to isolate the solutions from each other. This setup is immersed in a container with the sodium chloride, which has two jobs 1) supply the chlorides that migrate into the specimen, and 2) act as a cooling bath by its large amount of liquid. The sodium hydroxide is poured into the sleeve that has the positive anode.

The PR-1100 cell has a separate reservoir to hold the solutions and each has a terminal for connecting the appropriate polarity of the DC voltage. The specimen is held to each reservoir by bolts that when tightened, compress rubber sealing rings around the specimen. The cooling ribs dissipate any heat generated to keep the solutions between 20 and 25° C. A fan can be used to further reduce the temperature is necessary.

The PR-1100 cell cooling ribs take the place of the bath used by NT Build 492.