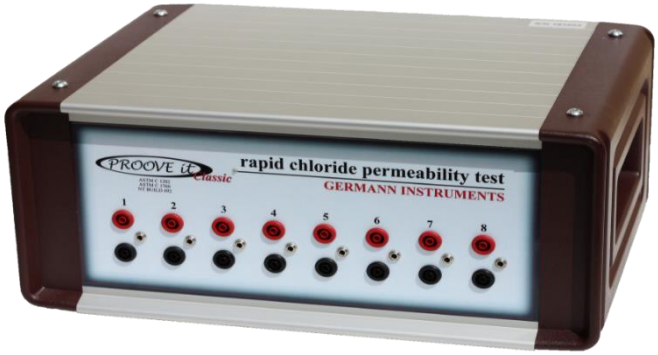
NDTitans in action

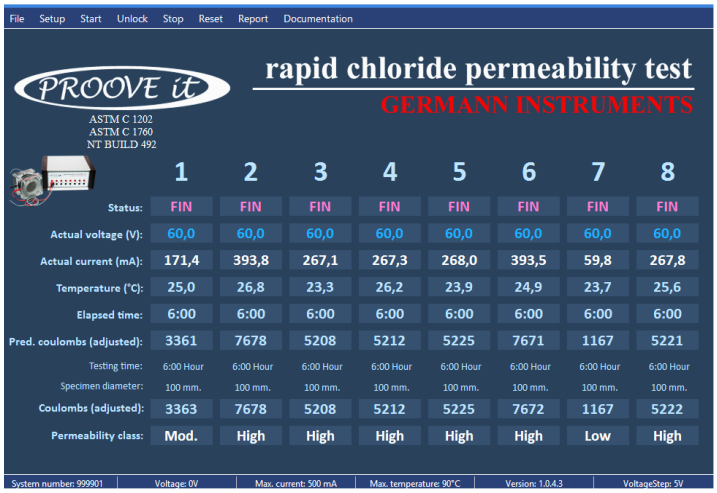
Case 1.4 PROOVE´it Electrical methods for chloride ingress

ASTM C 1202 (RCPT)
ASTM C 1760 (Bulk Conductivity)
NT BUILD 492 (Migration Coefficient)

With cell type (a)
With cell type (b)
With cell type (c)

(a) (b) (c)





	1	2	3	4	5	6	7	8
Status:	FIN	FIN	FIN	FIN	FIN	FIN	FIN	FIN
Actual voltage (V):	60,0	60,0	60,0	60,0	60,0	60,0	60,0	60,0
Actual current (mA):	171,4	393,8	267,1	267,3	268,0	393,5	59,8	267,8
Temperature (°C):	25,0	26,8	23,3	26,2	23,9	24,9	23,7	25,6
Elapsed time:	6:00	6:00	6:00	6:00	6:00	6:00	6:00	6:00
Pred. coulombs (adjusted):	3361	7678	5208	5212	5225	7671	1167	5221
Testing time:	6:00 Hour	6:00 Hour	6:00 Hour	6:00 Hour	6:00 Hour	6:00 Hour	6:00 Hour	6:00 Hour
Specimen diameter:	100 mm.	100 mm.	100 mm.	100 mm.	100 mm.	100 mm.	100 mm.	100 mm.
Coulombs (adjusted):	3363	7678	5208	5212	5225	7672	1167	5222
Permeability class:	Mod.	High	High	High	High	High	Low	High

System number: 999901 | Voltage: 0V | Max. current: 500 mA | Max. temperature: 90°C | Version: 1.0.4.3 | VoltageStep: 5V

	1	2	3	4	5	6	7	8
Status:	OFF	FIN	OFF	OFF	OFF	OFF	OFF	OFF
Actual voltage (V):	----	60,0	----	----	----	----	----	----
Actual current (mA):	----	60,0	----	----	----	----	----	----
Temperature (°C):	----	N.A.	----	----	----	----	----	----
Elapsed time:	0:00	1:05	0:00	0:00	0:00	0:00	0:00	0:00
Current after 60 second:	----	60,0	----	----	----	----	----	----
Testing time:	1 minute	1 minute	1 minute	1 minute	1 minute	1 minute	1 minute	1 minute
Specimen diameter:	100 mm.	100 mm.	100 mm.	100 mm.	100 mm.	100 mm.	100 mm.	100 mm.
Specimen length:	200 mm.	200 mm.	133 mm.	200 mm.	200 mm.	200 mm.	200 mm.	200 mm.
Conductivity mS/m:	----	25,472	----	----	----	----	----	----

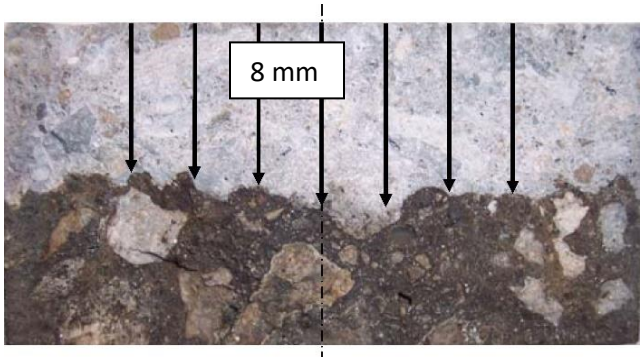
System number: 999901 | Voltage: 60V | Max. current: 500 mA | Max. temperature: 90°C | Version: 2.0.1.1 | VoltageStep: 5V

Testing examples:

ASTM C 1202 Right, 8 specimens tested simultaneously. The permeability classes are stated at the bottom of the screen. Testing time 6 hours with predicted Coulombs after 5 minutes.

ASTM C 1760 Below to the right, one specimen tested for Bulk Conductivity. The conductivity after 1 minute of testing was 25 mS/m

NT BUILD 492 below an example of a chloride penetration tested in accordance with NT BUILD 492 using the PR-1100 cell and the PR-1040 software to evaluate the non-steady-state diffusion migration coefficient. For an applied voltage 30V, test duration t = 24 hours the chloride penetration depth was 8 mm equiv. to a chloride migration coefficient D_{nssm} of 106 mm^2/y following the NT BUILD 492 calculations.



Reporting by **NDTitan Claus Germann Petersen**