





ELECTRONIC MEASUREMENT OF SURFACE Chloride Contamination

A Special Presentation for:

NSRP Surface Preparation & Coating Panel

September 2, 2015

The Importance of Surface Preparation

“The most important single factor influencing the life of the paint is the proper preparation of the metal surface”

Corrosion and Corrosion Control, H.H. Uhlig and R. W. Revie

.....And Importance of Salt Decontamination

H. Mitschke's award winning 2001 JPCL article:

A $1\mu\text{g}/\text{cm}^2$ increase in chlorides has the potential to reduce coating life by 50%.



Detection & Testing Nonvisible Salts

Two Types:

1. Laboratory
2. Field

Two Parts:

1. Extraction
2. Analysis

Three Methods:

1. Qualitative
2. Conductivity
3. Ion Specific



CHLOR*TEST[®]
Chloride Ion Test for Surfaces

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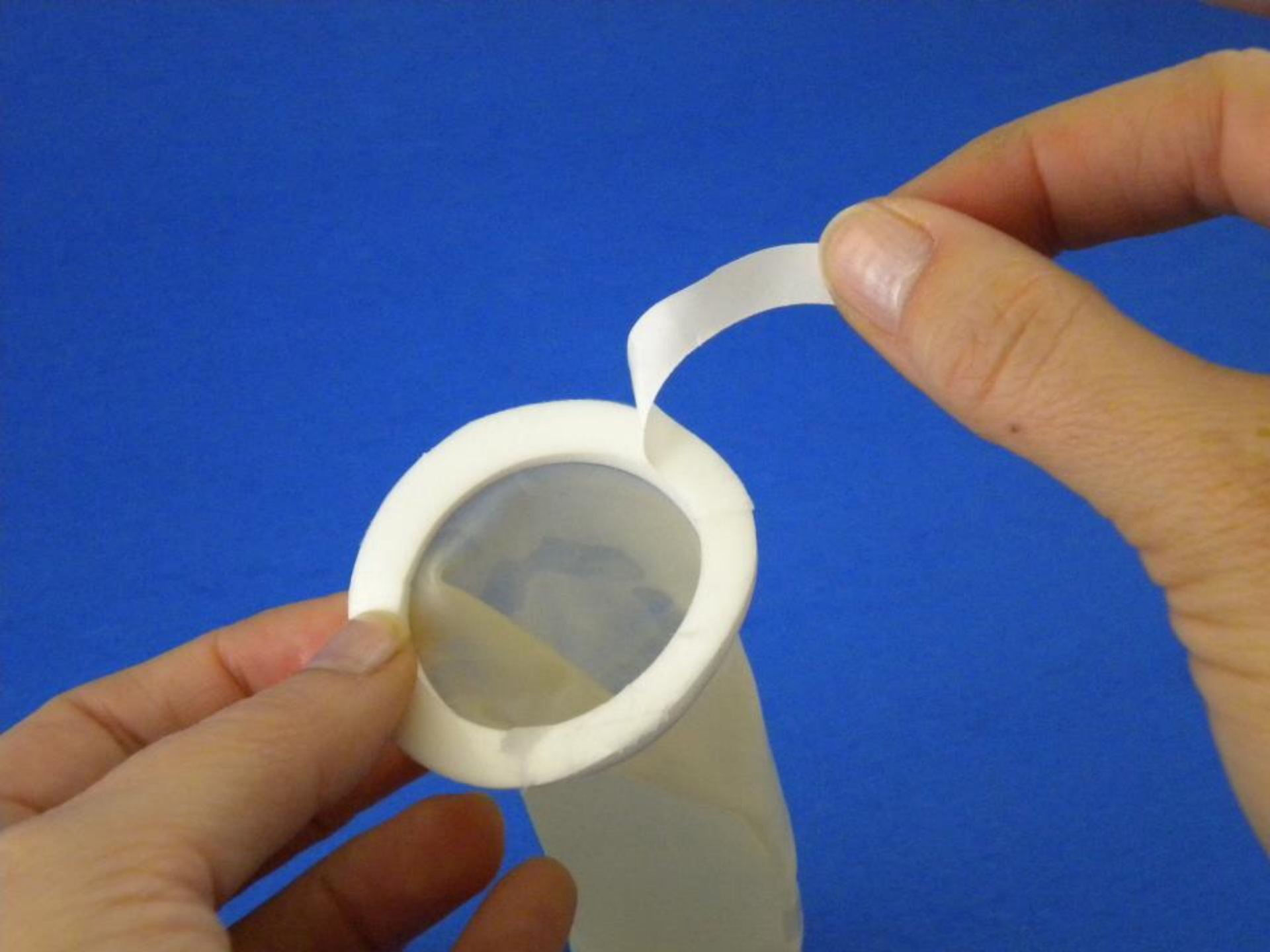
CHLOR*EXT

eCHLOR*TEST

Next generation surface chloride test kit

- Robust, field tested analyzer.
- Safe and simple to use.
- Data logging: 500 secure test results.
- Download results for reports.
- Digital readout in $\mu\text{g}/\text{cm}^2$. No need for calculations.
- Self contained test kit. All components premeasured.







Where to Test

- Locations of known corrosion
- Areas of discoloration
- Weld seams



Sample Analysis

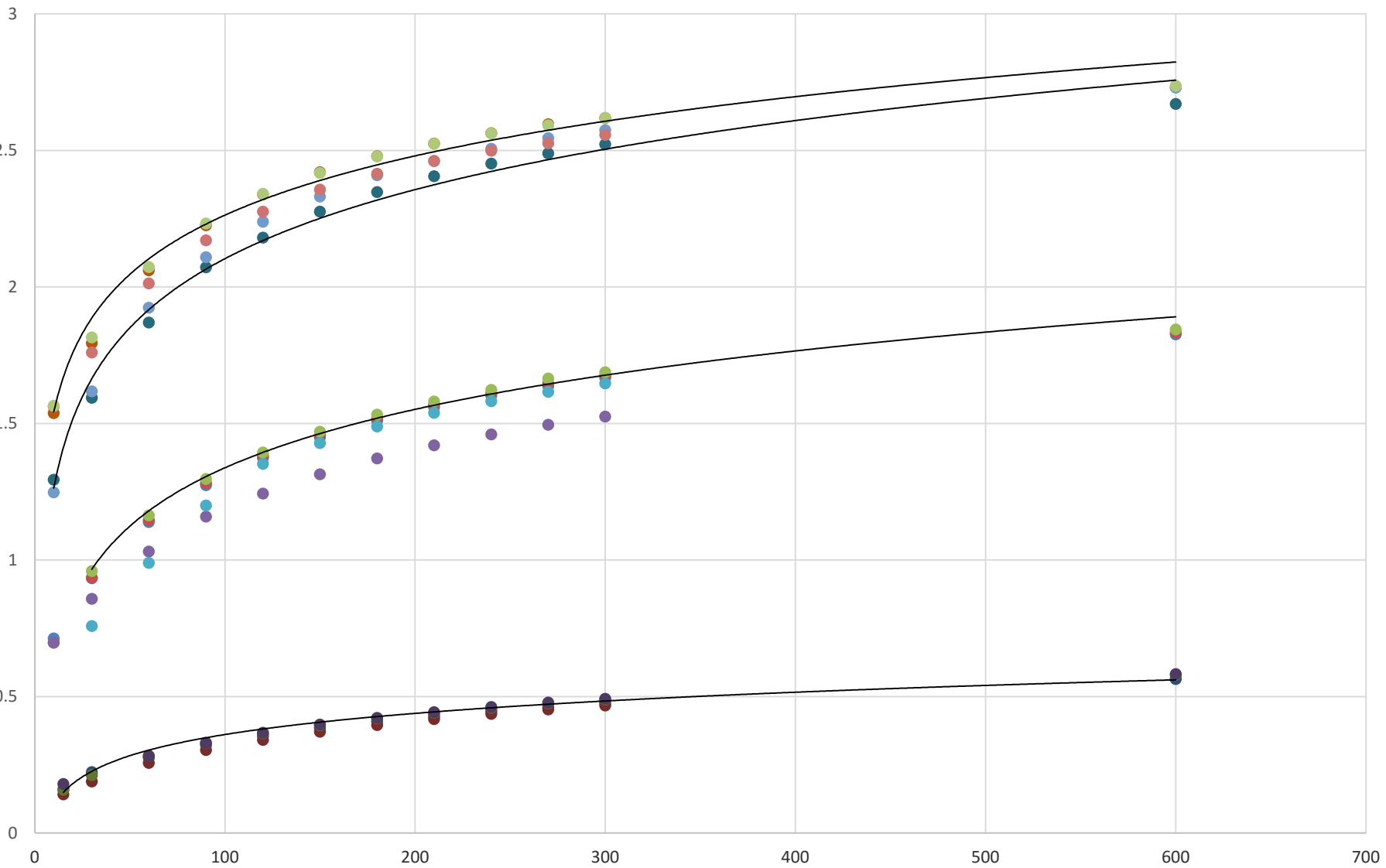


Comparative Results

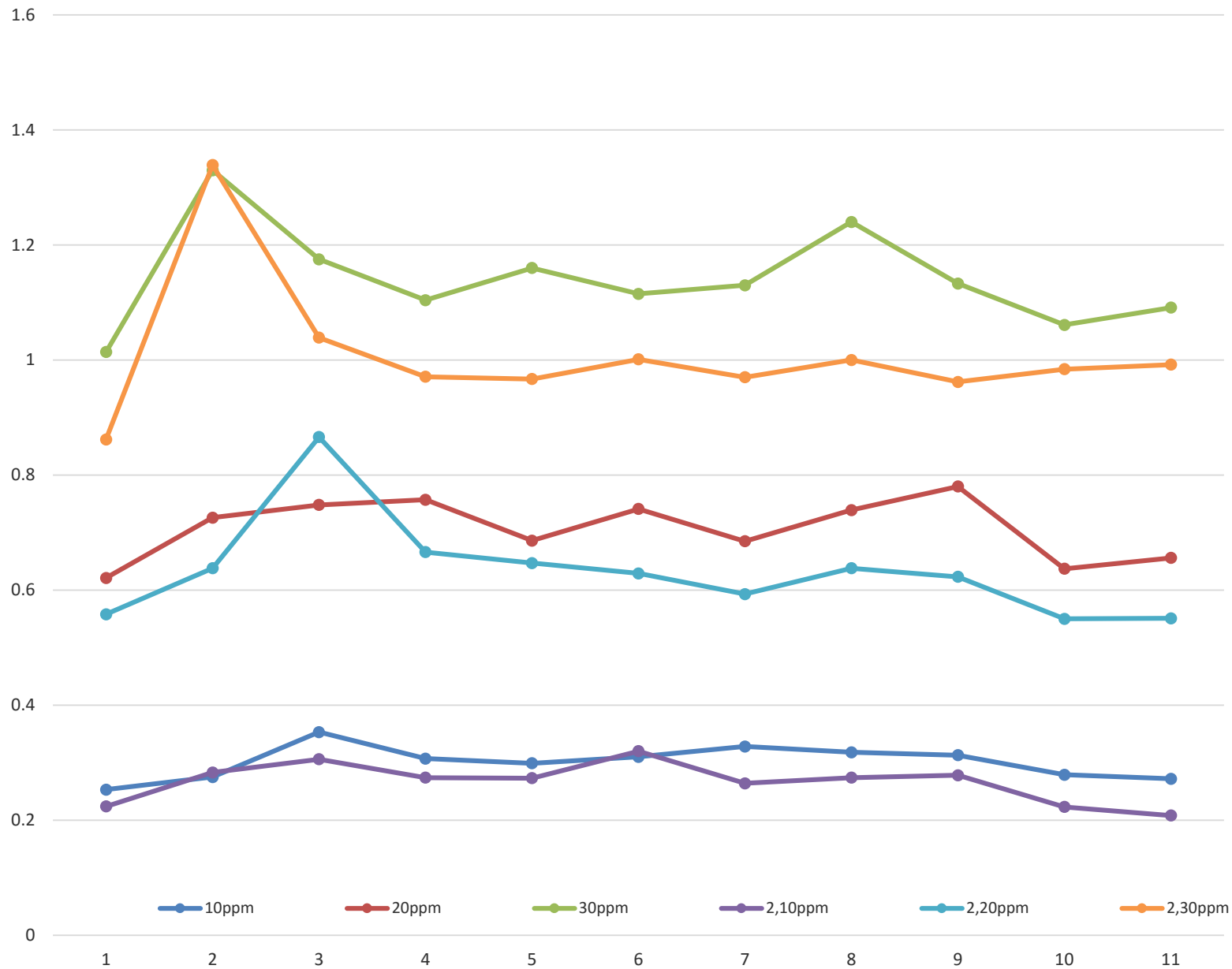
Standards (ppm)	Meter 316 eChlor Test V 1.00	Kitagawa Titration Tubes	
0	0	-	
5	4	5, 5	
10	11	10, 10	
15	17	15, 14	
20	22	19, 19	

Testing vs. Standards			
Standard	Meter 1	Meter 2	Meter 3
1	1		
5		4	
10			9
15	14		
20		21	
25			26

Correlation at All Concentrations



Chloride Stability Test Results





Thank you!

