

AS 1884:2021 Moisture Testing Presentation March 2021

Presented by Rob McLorinan, Gary Eggers & Don Considine

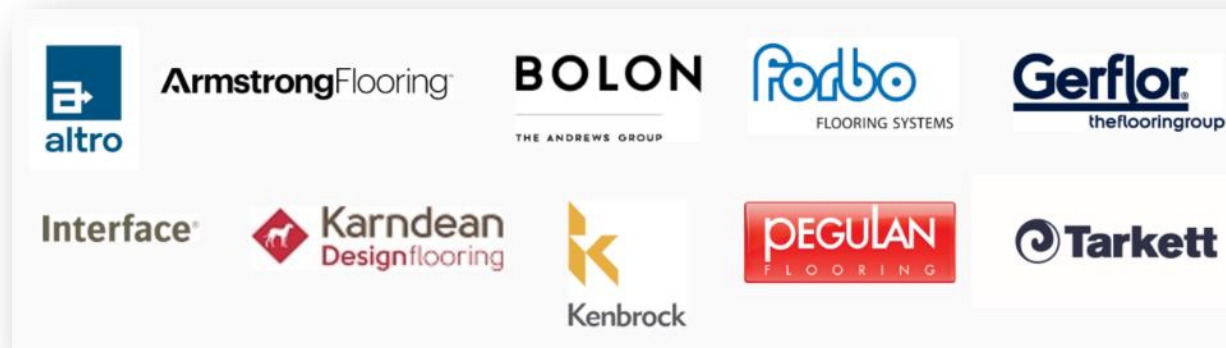
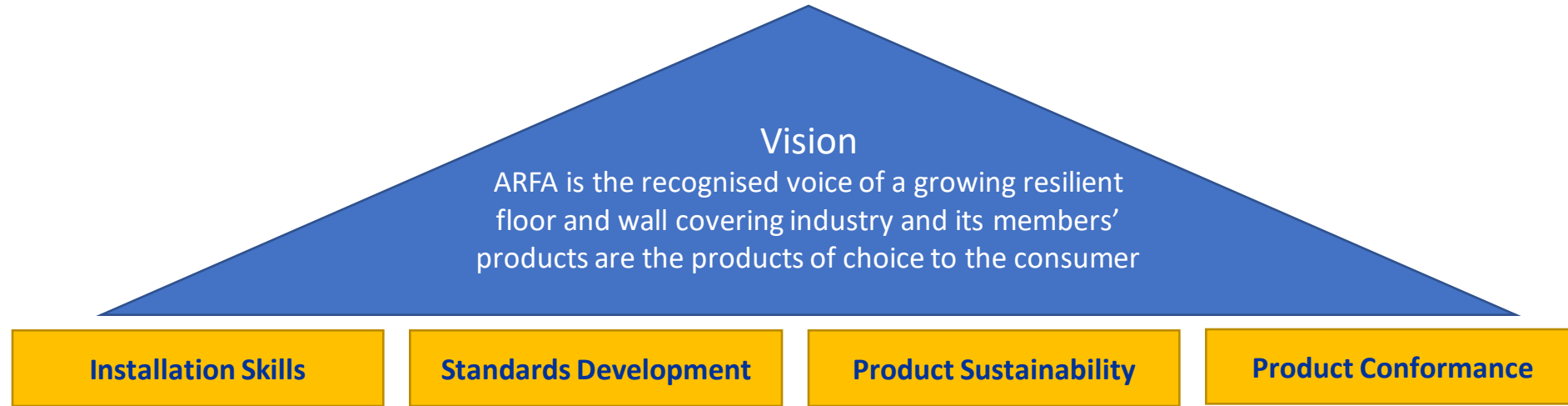


AUSTRALIAN RESILIENT
FLOORCOVERING ASSOCIATION

Introductions

- **Rob McLorinan** (ARFA Executive Committee / Armstrong Flooring)
- **Gary Eggers** (Chair of AS1884 Technical Committee PL-015, Independent Flooring Consultant – MPF Technical Services)
- **Don Considine** (Chair of Moisture Testing Sub Committee, Senior Flooring Consultant – ATTAR)

Australian Resilient Flooring Association (ARFA)



Established 1991

PL-015 Committee

Name	Nom Org
David Hood	Australian Industry Group
Robert <u>McLorinan</u>	
Kevin Doidge	Australian Resilient Floorcovering Association
Sean Bassett	AWTA Product Testing (Testing Interests Australia)
Josh Rees	Australian Institute of Building Surveyors
Gregg Barr-Jones	Building Designers Association of Australia
Robert Foletta	
Craig Hildebrand	Carpet Institute of Australia
Hosny Guirguis	Cement Concrete & Aggregates Australia
Don Considine	
Gary Eggers (Chair)	Floorcovering Institute of Australia
Richie Hinds	Australian Flooring Industry Alliance
William Tree	Co-opted
Mark Willis	Vinyl Council of Australia

PL-015 Committee

Committee Members

- Representation from
 - Manufacturers (Resilient & Textile)
 - Testing Authorities
 - Concrete & Aggregate Industry
 - Building Surveyors and Design
 - Flooring Contractors & Consultants

Kick-Off Meeting 22nd January 2019 – Original Development Scope & Drafting Activities

- Surface moisture testing - reference to ASTM F2420.
- Porosity of concrete slab
- Information on adhesives and their uses
- Rigid core products
- Revise the requirements for sand-cement screeds
- Water proofing needs to be compliant with NCC
- Installation of floor coverings used for static control

AS 1884:2021 – Main changes from AS 1884:2012

- ASTM F2170 (in situ probe test) is the only normative test and is the moisture test to be used on all occasions unless the slab cannot be drilled into
- In situ probe test now done over 24 hours and not 72 hours
- RH level raised to 80% from 75% RH
- ASTM F 1869 Anhydrous Calcium Chloride test is the secondary test to be used where holes cannot be drilled into the slab
- ASTM F2420 (hood test) has been withdrawn due to large variations between it and the in situ probe test after 72 hours

What equipment do you need for in situ probe test?

- Hammer drill
- Vacuum
- Moisture test kit including drill bit, wire brush, vacuum attachment, insertion tool, sensors, caps, reader/hygrometer
- Plan of the site to mark up where the holes are drilled
- If the RH test kit doesn't give you the ambient conditions, you will require a separate thermometer to give the ambient temperature and relative humidity
- Ruler to measure drill bit and the hole once it is drilled
- Some type of cloth tape or waterproof tape if you are testing where moisture may be present

Drilling the hole



Cleaning the hole with a wire brush



Vacuuming the hole



Inserting the probe or sleeve



Wagner sensor & sleeves inserted into slab



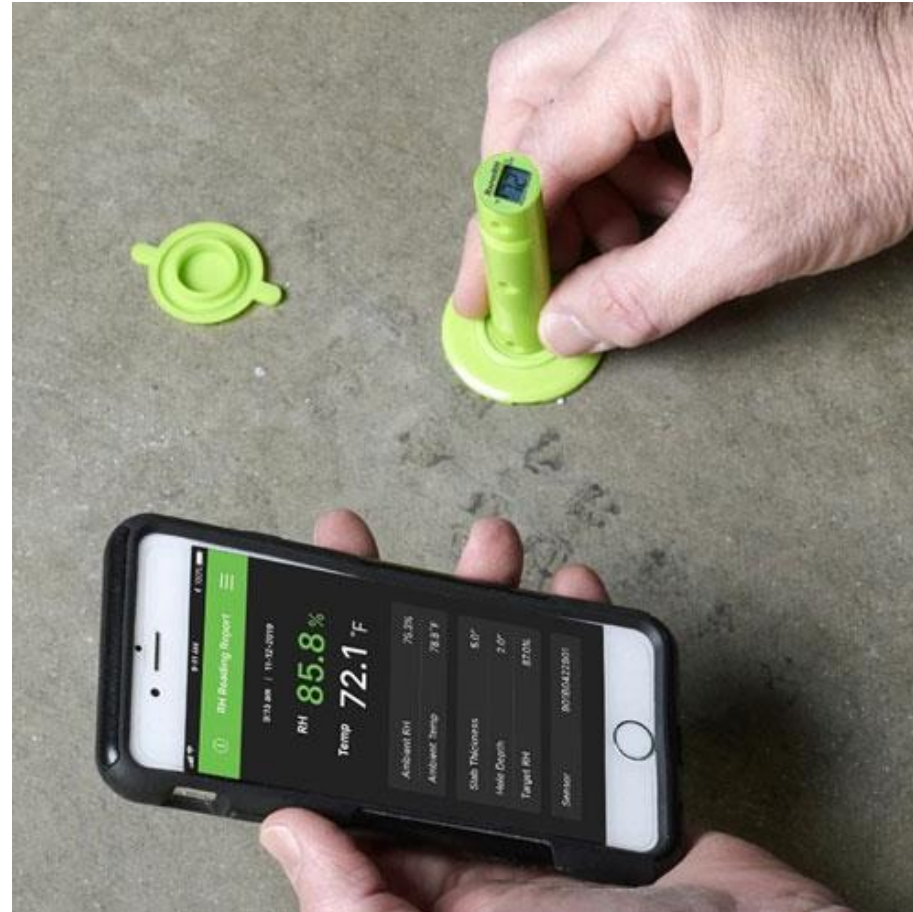
Cap placed over sleeves



Different types of sleeves which go to the bottom of the hole in 1 piece



Reading taken with a Wagner reader



Tramex meter where reusable sensor is installed into the slab



What equipment do you need for Calcium chloride test?



Hand grinder



Vacuum



Calibrated gram scales



Calcium chloride test kit which includes pH papers & distilled water



Thermometer for taking the ambient temperature



Hygrometer (or similar) to measure the RH within the area being tested



Plan of the site to mark up where the tests are situated

Calcium Chloride test



Anhydrous calcium chloride transparent cover

Calcium chloride dish with lid containing
Anhydrous calcium chloride pellets

Instructions on how to use the kit, including the
formula to get the result

pH papers

Distilled water

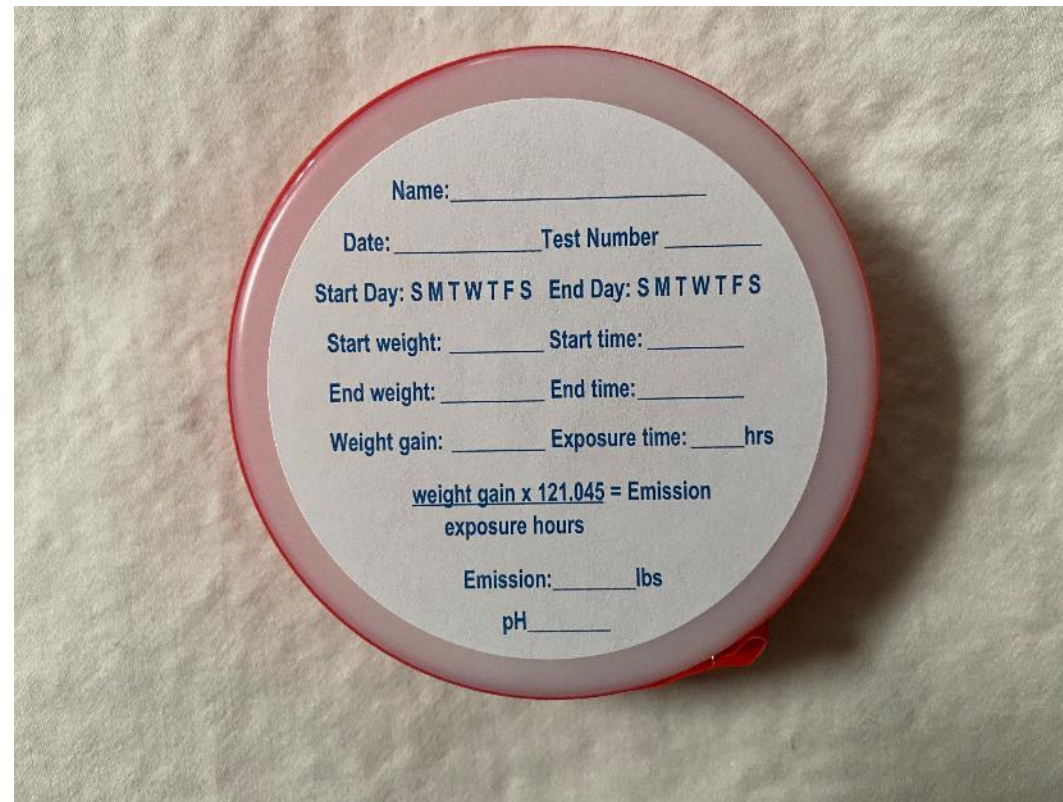
Doing the test – Part 1

- Lightly mechanically prepare an area 50 x 50cm to leave a surface profile of ICRI CSP 1 – CSP2 (see Appendix E of AS 1884:2021)
- Vacuum the area to be tested.
- The exposed 50 x 50cm area is to be left open to the ambient conditions for a minimum period of 24 hours prior to testing
- Weigh the dish with the calcium chloride pellets in it and note this on the lid of the dish.
- Place the dish in the middle of the test area and immediately place the transparent cover over the dish
- After 60-72 hours remove the transparent cover
- Record the new weight, the date and time the test was stopped on the lid of the dish making sure to include the sticky tape you previously took off.
- Get the result by using the formula that comes with the kit or use the manufacturer's online calculator

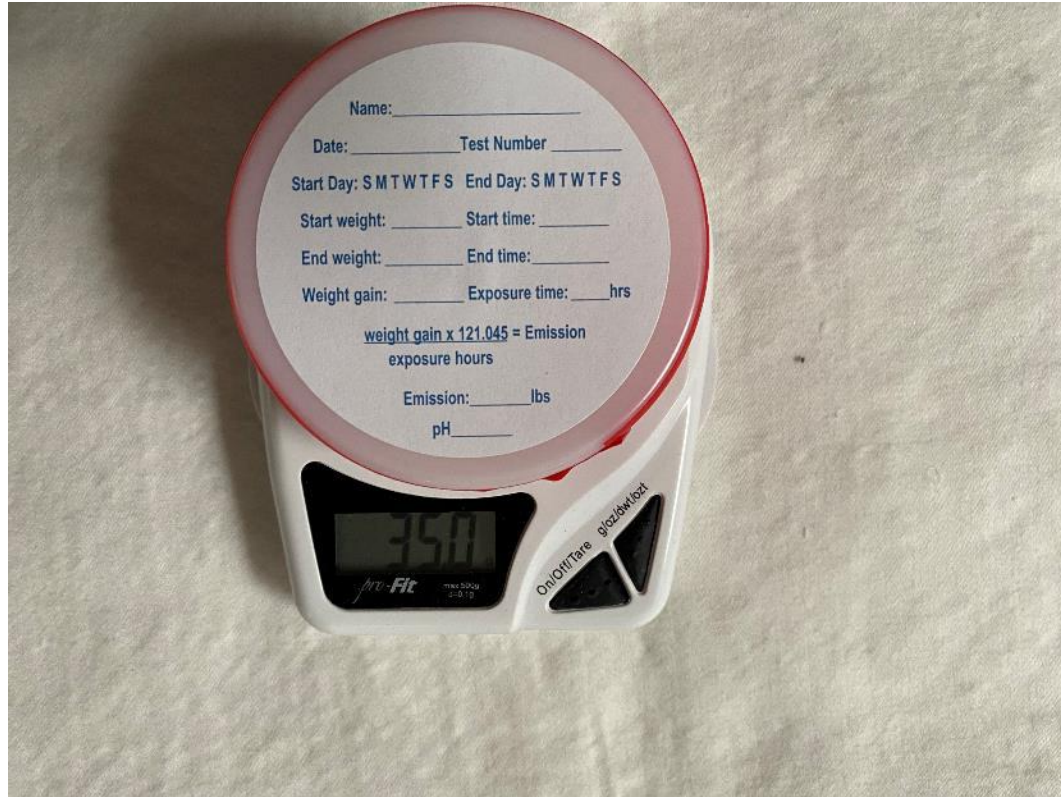
Showing a ground section 50 x 50



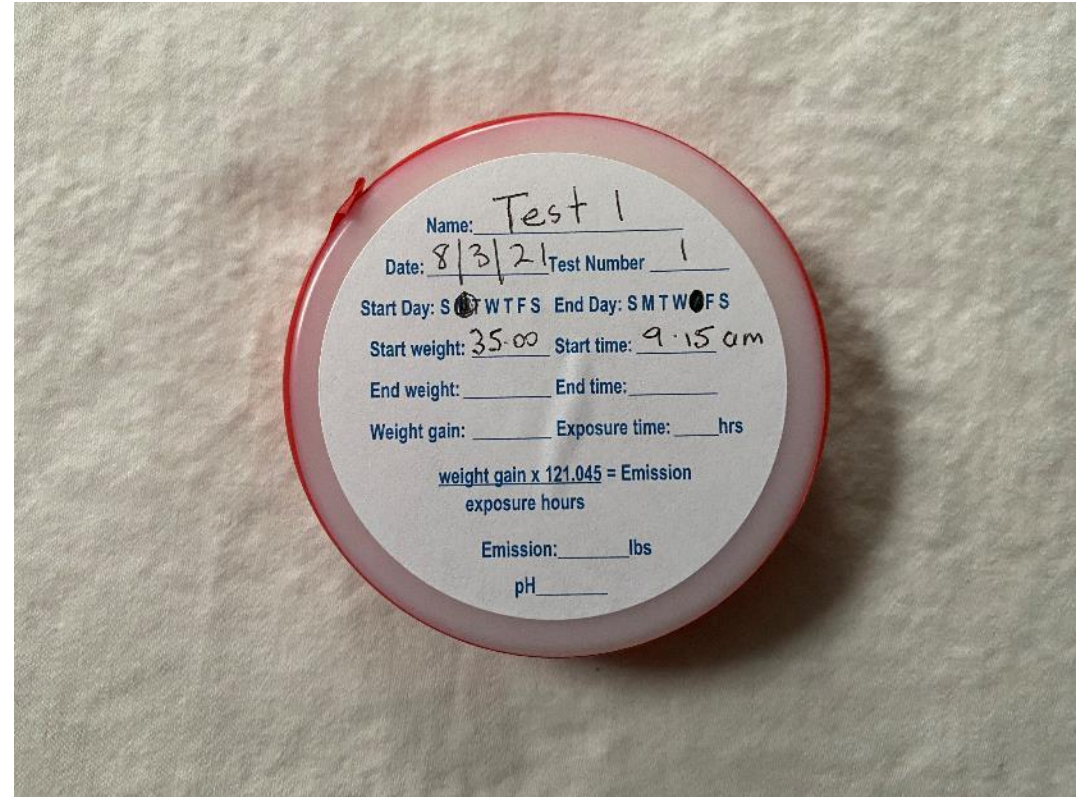
The calcium chloride dish prior to weighing



Dish being weighed



Dish with information added



Dish open showing pellets



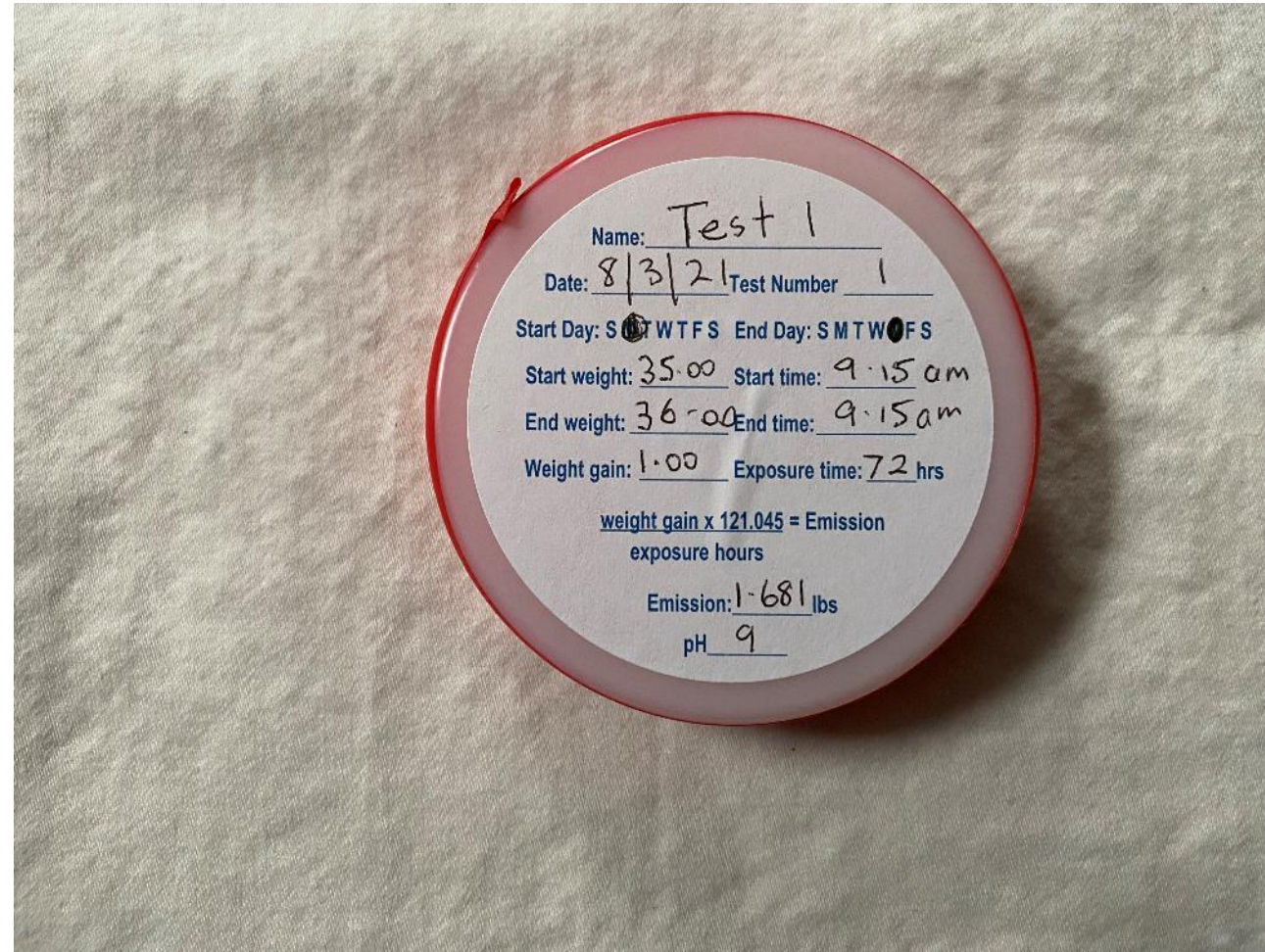
Dish when first placed under transparent cover



Kit protected by box and caution signage



Final measurement – Calculation for this kit is weight gain (i.e. 1 gram) times 121.045 divided by 72 hours (the time the test was done over) which equals 1.681lbs which would be considered a pass by most if not all resilient manufacturers



Testing the slab for alkalinity

Showing a ground section 50 x 50



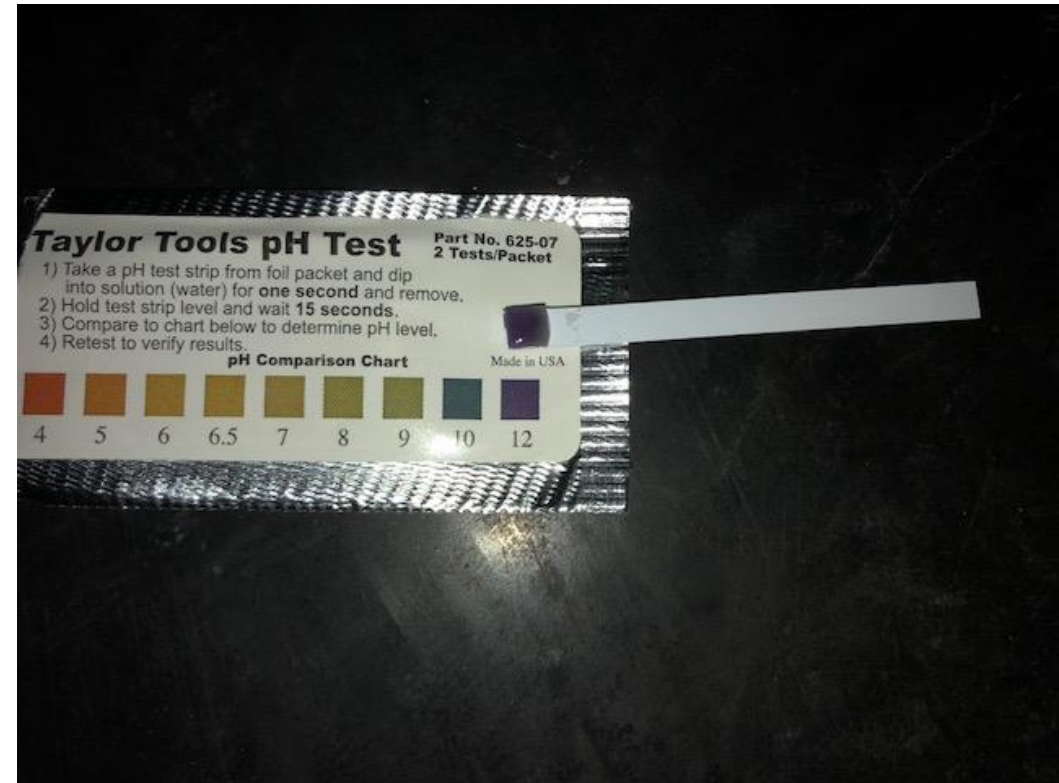
Distilled/deionised water on the slab surface –
Meter or paper to be placed in water for time
recommended by meter/pH paper manufacturer



pH meter used to measure alkalinity



Ph paper used to measure alkalinity



Thank you



ASTM Committees data

