

THE 7 DEADLY SINS OF WATERPROOFING

By Dean Moilanen

2021



SESSION DESCRIPTION

Over the years the tile and stone industry has seen numerous new products and installation methods for waterproofing released to the market. However, the claims of faster, easier, and less expensive methods and products for waterproofing have not stemmed the tide of failed installations. Take a hard look at some of the legacy waterproofing shortcomings which occur over and over again, in spite of "best practices" and "new and improved" products. This list of "sins" is the end result of extensive interaction with waterproofing consultants, forensic experts, and industry regulatory committee members.

SESSION DESCRIPTION

Whether you are an architect, contractor, or industry professional, this briskly-paced presentation will bring to the forefront, the key sticking points of waterproofing which can result in expensive failures. Forewarned is forearmed, and you will leave armed with information which can ensure your project is a waterproofing success.

SESSION LEARNING OBJECTIVES

At the end of this session, participants will be able to:

- Identify the wet areas that can occur in stone and tile installations
- Define the installation shortcomings that can occur repeatedly and cause wet areas
- Describe the failures that result from wet areas as a result of the installation shortcomings
- Discuss the waterproofing methods that are used in proper installations to avoid failures

AIA CES Disclaimer



- Noble Company is a registered provider with The American Institute of Architects Continuing Education System.
- Credit Earned on the completion of this program will be reported to CES Records for AIA Members. Certificates of completion for non-AIA members are available upon request.
- This program is registered with the AIA/CES for continuing professional education.
- As such it does not include content that may be deemed or construed to be an approval or endorsement by the AIA of any material of construction or any method or manner of handling, using, distributing or dealing in any material or product.
- Questions related to specific materials, methods and services will be addressed at the conclusion of this presentation.

IDCEC Approved Session



- This CEU is registered with the International Design Continuing Education Council (IDCEC) for continuing education credits. This credit will be accepted by the American Society of Interior Designers (ASID), International Interior Designers Association (IIDA) and Interior Designers of Canada (IDC).
- The content included is not deemed or construed to be an approval or endorsement by IDCEC of any material or construction or any method or manner of handling, using, distributing or dealing in any material or product.
- Questions related to specific materials, methods and services should be directed to the instructor or provider of this CEU.
- This program is registered for 1 CEU value.
- This CEU will be reported on your behalf to IDCEC and you will receive an email notification. Please log in and complete the electronic survey for this CEU.
- Certificates of completion will be automatically issued once you have submitted the online survey for this CEU.
- Attendees who do not belong to ASID, IIDA or IDC and do not have a unique IDCEC number will be provided with a Certificate of Completion after this CEU.

Copyright Materials

This presentation is protected by US and International Copyright laws. Reproduction, distribution, display, and use of the presentation without written permission of the speaker is prohibited.

© 2021 Noble Company

Ignoring the Flood Test

7

**IGNORING
FLOOD
TEST**

- Believe it or not, there is good reason to demand a flood test be done.
- The only way you will know if your waterproofing installation will hold water is to demand that flood testing be done.

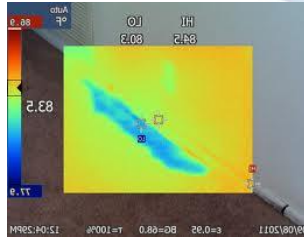
Ignoring the Flood Test

7

**IGNORING
FLOOD
TEST**



Ignoring the Flood Test



Flood test...before you install tile.

Ignoring the Flood Test



The entire pan gets flood tested.

Ignoring the Flood Test



24 hours...all wet areas.

Ignoring the Flood Test

7

IGNORING
FLOOD
TEST



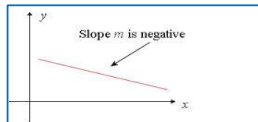
Testing would have prevented this.

Omitting Slope to Drain

6

OMITTING
SLOPE
TO DRAIN

- This should be old news, but it is surprising how many contractors think “slope to drain” is a recommendation, and not a requirement.



Omitting Slope to Drain

6

OMITTING
SLOPE
TO DRAIN



What is wrong with this picture?

Omitting Slope to Drain

6

OMITTING
SLOPE
TO DRAIN



.....Or this picture?

Omitting Slope to Drain

6

OMITTING
SLOPE
TO DRAIN

$\frac{1}{4}$ " per foot is the required slope.



Not Using Pre-fab Corners & Curbs

5

NOT USING
PRE-FAB
CORNERS
& CURBS

This is not the place to "cut corners."




Not Using Pre-fab Corners & Curbs

\$20.....vs.....\$2,000

5

NOT USING
PRE-FAB
CORNERS
& CURBS



Not Using Pre-fab Corners & Curbs

Molded curbs prevent failures.

5

NOT USING
PRE-FAB
CORNERS
& CURBS




Not Using Pre-fab Corners & Curbs

.....like this!

5

NOT USING
PRE-FAB
CORNERS
& CURBS



Mixing Waterproofing Products

4

MIXING
WATERPROOFING
MANUFACTURERS

Get it...in writing, or else....



Mixing Waterproofing Products

4

MIXING
WATERPROOFING
MANUFACTURERS

The motivation...saving cash.



Mixing Waterproofing Products

4

MIXING
WATERPROOFING
MANUFACTURERS

Cutting costs on waterproofing is.....



Failing to Prep Surface

3**FAILING
TO PREP
SURFACE**

Failing to Prep Surface

3**FAILING
TO PREP
SURFACE**

Not acceptable for
waterproofing installation.

Failing to Prep Surface

3**FAILING
TO PREP
SURFACE**

Any waterproofing requires a
smooth and stable substrate to
ensure the membrane does
not fail.

Disregarding Product Limitations

2

**DISREGARDING
PRODUCT
LIMITATIONS**



Disregarding Product Limitations

2

**DISREGARDING
PRODUCT
LIMITATIONS**



Waterproofing for exterior decks
is a glaring example of this
deadly sin.

Disregarding Product Limitations

2

**DISREGARDING
PRODUCT
LIMITATIONS**



Waterproofing for interiors....fail
outside.

Disregarding Product Limitations

2

**DISREGARDING
PRODUCT
LIMITATIONS**



Not all waterproofing membranes should be used in steam rooms.

Disregarding Product Limitations

2

**DISREGARDING
PRODUCT
LIMITATIONS**

- Perm rating of .5+ is needed
- Perm rating of .15 = 34 oz. per 1K SQ. FT.
- Perm rating of 2+ = 2.5 gallons per 1K SQ. FT.

Not all waterproofing membranes should be used in steam rooms.

Disregarding Product Limitations

2

**DISREGARDING
PRODUCT
LIMITATIONS**



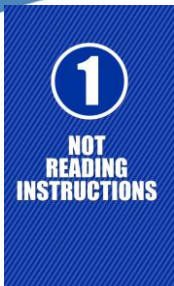
- Permeation...too much steam in the wrong places is the cause of many steam-room failures.
- Acceptable perm rating...
- Unacceptable perm rating...

Not Reading the Instructions



How do you make someone care... about the instructions?

Not Reading the Instructions



- Look on the side of your bucket, bag, or in the box.
- Look on your internet device.
- Call a tech support line.
- Play a DVD.

Do not assume the installer knows how to use the product.

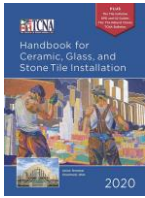
SUMMARY

The most infamous quote in contracting is.....
"I have been doing it this way for years, without a problem.....yet."



"Because tile is a permanent finish, the lowest bid should not be the driving factor, but rather who is the most qualified to perform the scope of the work specified."

- TCNA Handbook



The Tile Council of North America urges design professionals to include language in specifications to secure qualified contractors and installers. The following nonprofit programs are well-established and recognized by the Handbook Committee:

- Advanced Certifications for Tile Installers (ACT)
- Ceramic Tile Education Foundation (CTEF) Certified Tile Installer Program
- International Masonry Institute (IMI) Contractor College
- Journeyman Tile Layer Apprenticeship Programs
- Natural Stone Institute (NSI) Accreditation for Natural Stone Tile Installation
- National Tile Contractors Association (NTCA) Five Star Contractor Program
- Tile Contractors Association of America (TCAA) Trowel of Excellence Program



MasterSpec®

1.5 QUALITY ASSURANCE

A. Installer Qualifications:

1. Installer is [a **Five-Star member of the National Tile Contractors Association**] [or] [a **Trowel of Excellence member of the Tile Contractors' Association of America**].
2. Installer's supervisor for Project holds the International Masonry Institute's Foreman Certification.
3. Installer employs only [Ceramic Tile Education Foundation Certified Installers] [or] [installers recognized by the U.S. Department of Labor as Journeyman Tile Layers] for Project.
4. Installer employs at least one installer for Project that has completed the Advanced Certification for Tile Installers (ACT) certification for installation of [mud floors] [mud walls] [membranes] [shower receptors] [gauged porcelain tile/gauged porcelain tile panels and slabs] [and] [large format tile].



BSD SpecLink

<div> <div>0000</div> <div>0001</div> <div>0002</div> <div>0003</div> <div>0004</div> <div>0005</div> <div>0006</div> <div>0007</div> <div>0008</div> <div>0009</div> <div>0010</div> <div>0011</div> <div>0012</div> <div>0013</div> <div>0014</div> <div>0015</div> </div>	<p>QUALITY ASSURANCE</p> <p>Maintain one copy of and ANSI A108.01-10 and TCNA-108 on site.</p> <p>Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, with minimum five years of documented experience.</p> <p>Installer Qualifications:</p> <p>Company specializing in performing the installation, with minimum of five years of documented experience.</p> <p>Accredited Five-Star member of the National Tile Contractors Association (NTCA) or Trowel of Excellence member of the Tile Contractors' Association of America (TCAA)</p> <p>Installer Certification:</p> <p>Ceramic Tile Education Foundation (CTEF) Certified Tile Installer (CTI)</p> <p>Apprenticeship Program: Installer has achieved Journeyworker status through an apprenticeship from the International Union of Bricklayers and Allied Craftworkers (IBUAC) or a U.S. Department of Labor (DOL) recognized program.</p> <p>Advanced Certifications for Tile Installers (ACT): Certification in the installation of membranes, mortar bed (mud) floors, mortar (mud) walls, shower receptors, large format tile, gauged porcelain tile/panels/slabs and grouts.</p> <p>International Masonry Training and Education Foundation (IMTEF) Supervisor Certification Program (SCP)</p>
--	---





LARGE FORMAT TILE

MEMBRANES

MUD WORK

SHOWERS

GAUGED PORCELAIN TILE

GROUTS



Advanced Certifications for Tile Installers
tilecertifications.com



Ceramic Tile Education Foundation
ceramictilefoundation.org
info@ceramictilefoundation.org



National Tile Contractors Association / Five Star
Contractor Group
tile-assn.com
NTCAqualifiedlabor@tile-assn.com



Tile Contractors' Association of America
tcaainc.org
info@tcaainc.org



Tile Council of North America, Inc.
TCNAtile.com/find-qualified
info@tcnatile.com

ANY QUESTIONS?



This concludes our AIA CES Program....

THANK YOU!

Dean Moilanen

Director of Architectural Services – Noble Company
AIA Las Vegas Allied Member, CSI, CTEF, IIBEC, NTCA Ambassador

702-604-5366
dean@noblecompany.com

©2021