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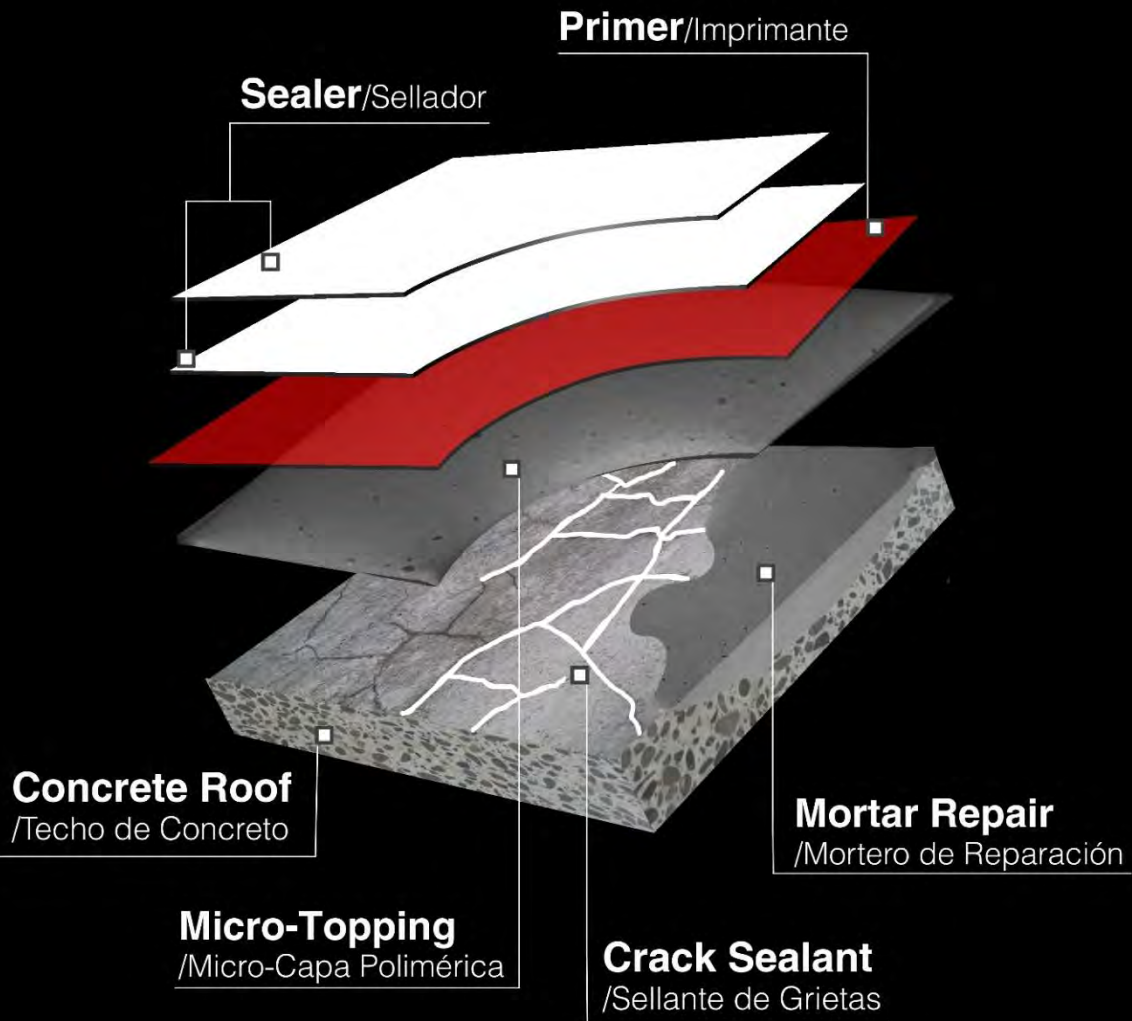


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REPAIR AND WATERPROOFING SOLUTIONS FOR CORROSION AND CRACK DAMAGED STRUCTURES

1

SURFACE PREP













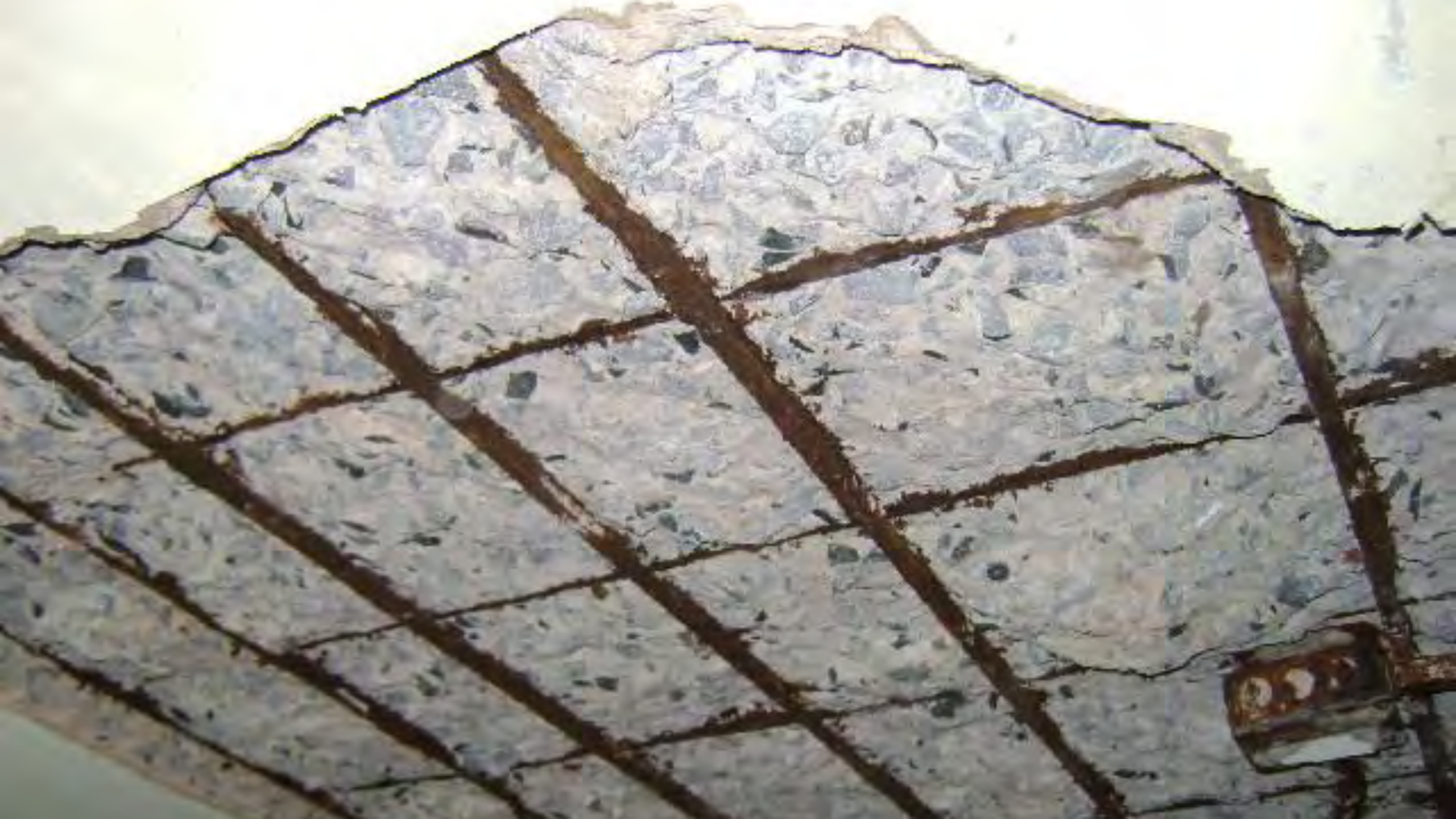








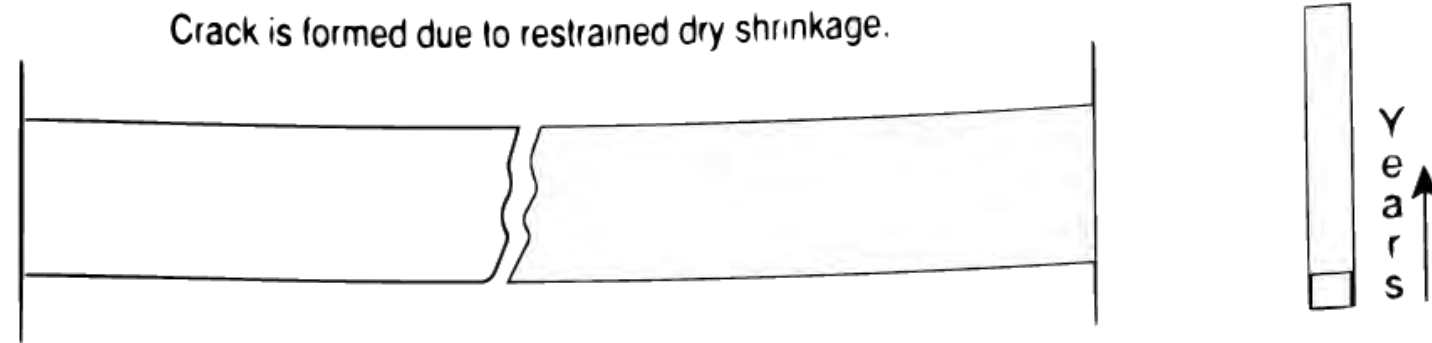




2

**SEALING CRACK
AND JOINTS**

BEHAVIOR OF CRACKS AND JOINTS



Cracks are formed due to stress caused by:

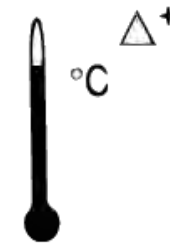
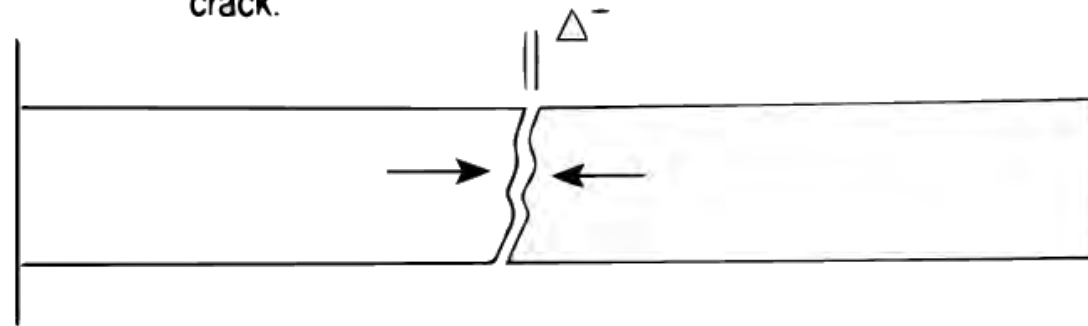
- Shrinkage
- Tension forces
- Structural failure
- Etc.

Cold joints are formed by joining Old Concrete to New Concrete or between dissimilar materials.

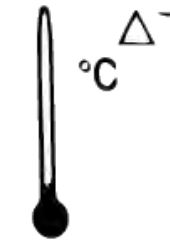
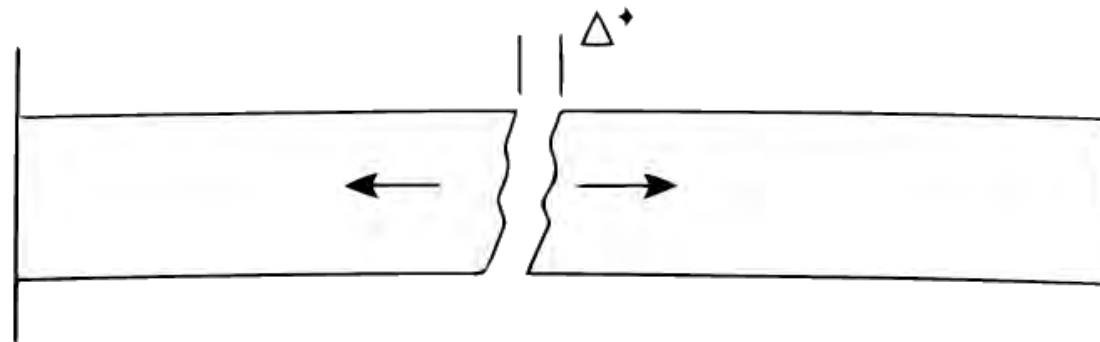
(Example: Extending a new roof slab to an existing building)

Cracks and Joint Movements

Thermal changes acting on the structure finds the crack; a rise in temperature closes the crack.



As temperatures fall, the crack opens as the concrete contracts.











POLYURETHANE SEALANT



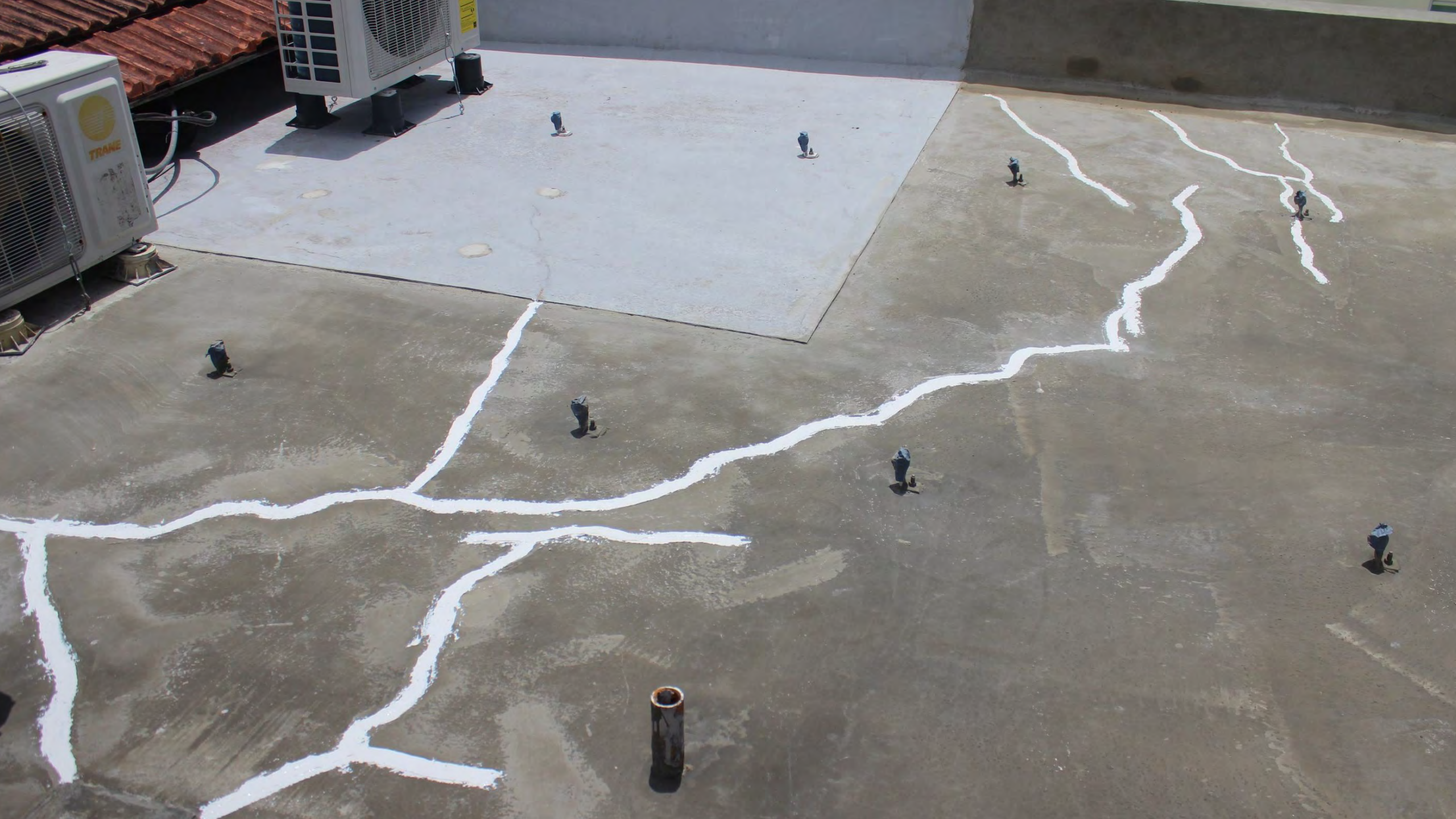
Fill Cracks $\frac{1}{4}$ " x $\frac{1}{4}$ "

Fill perimeter of Joints $\frac{1}{2}$ " x $\frac{1}{2}$ '









WATERPROOFING DETAILS

Transitions and critical areas

Apply Polyurethane sealant in cracks and joints around penetrations

Equipment bases on Roof slab

Bolts

Pipes

Skylights

Etc.









3

**DRAINAGE AND CONCRETE
DEFECTS CORRECTIONS**

Why is it important to correct drainage and ponding water ?

Most elastomeric sealers may decompose and lose functionality in ponding water conditions due to algae and bacteria formation.

Ponding water corrections

Correct all areas with ponding water.

- Eliminate these ponding areas with the following cementitious mortar mixes:
 - General Repair Mortar adding Latex or Acrylic Admixture **(1:3)**
 - Exterior Self Leveling cementitious topping

Látex or Acrylic Cement Fortifier and bonding agent admixtures



- Adequate adhesive used to repair concrete on roof and resistant to submerged water.
- Provide permanent adhesion properties over concrete slab
- Concentrated Admixture
(Can be diluted with water and provide more coverage)
- Several application for different cement mixes

Cementitious mortar mix with Latex to level end repair concrete









Renovate concrete profile

- Correct concrete surface profile (Exposed aggregate, excessive profile ect.) and concrete dusting
 - Renovate concrete roof with a cementitious Microtopping mix using latex admixture mixed (1:1)

Micro-Topping

Thin cementitious mortar mix with latex to renew Concrete Surface



Micro-Topping

Thin cementitious mortar mix with latex to renew Concrete Surface



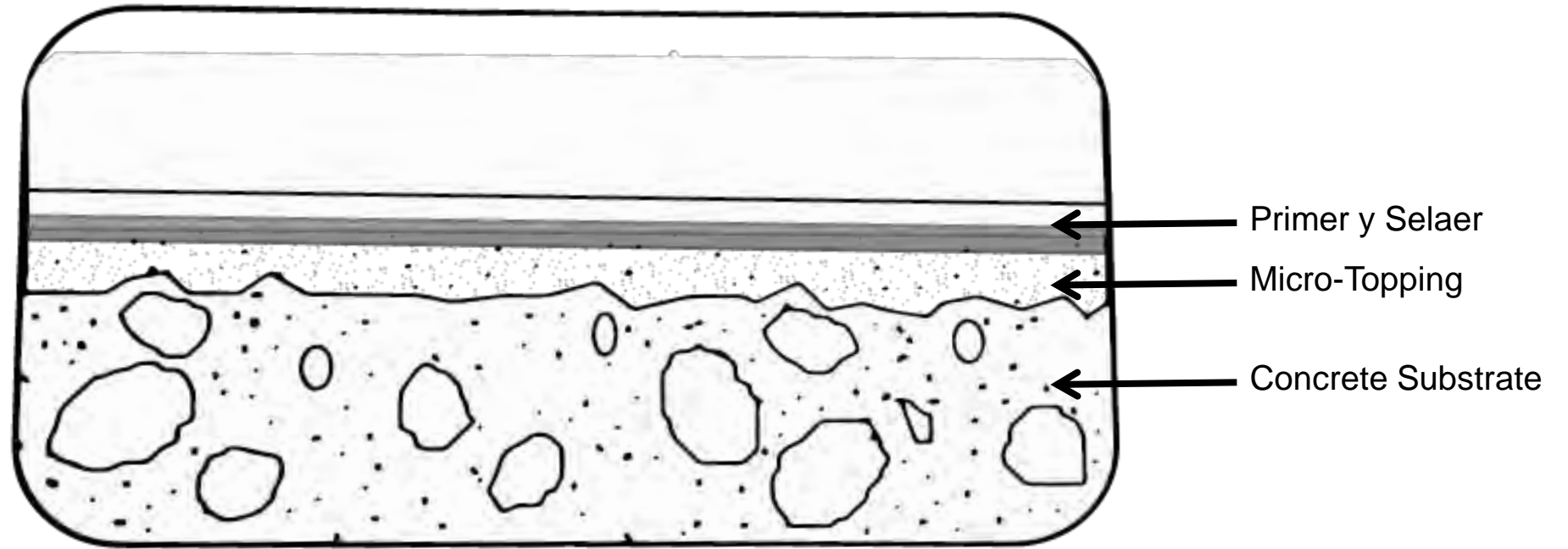
¿What is a Polimeric Microtopping ?
Its a polimeric cementitious mortar used to renovate concrete surface.

Benefits:

- Produces uniform profile needed for the correct thickness of elastomeric sealers
- Assures permanent and total adhesion to the substrate
- Improves surface water flow
- Provides an additional waterproofing coat

Micro-Topping

Thin cementitious mortar mix with latex to renew Concrete Surface



Micro-Topping

Thin cementitious mortar mix with latex to renew Concrete Surface



Roof Surfaces:

- Concrete
 - Rough profile
 - Weak
- Concrete with asphalt residue
- Asphalt and gravel
- Modified asphaltic granular membrane











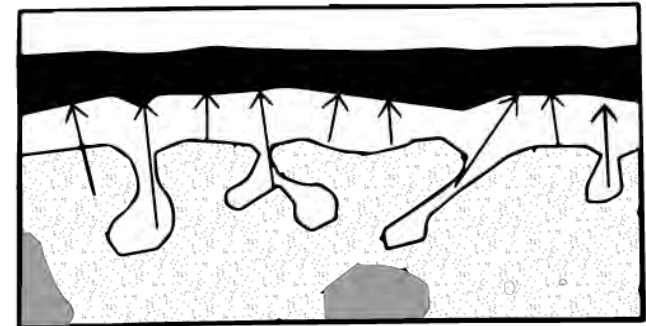
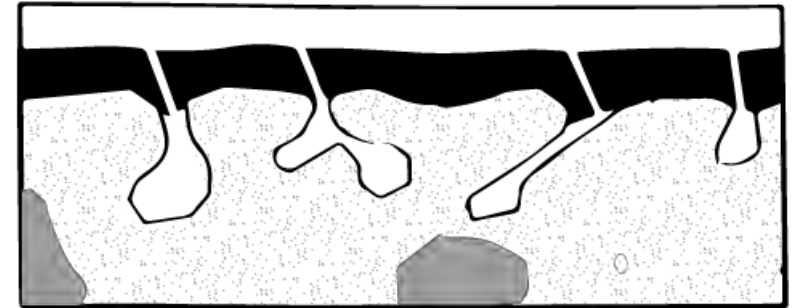
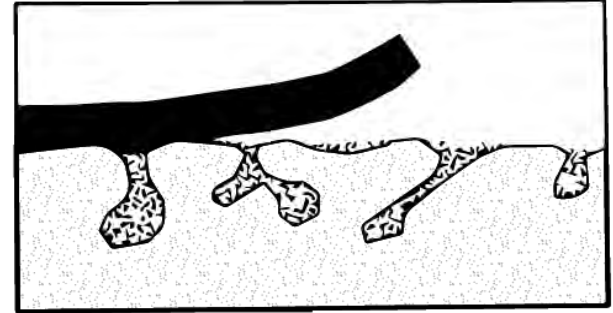
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APPLICATION OF PENETRATING PRIMERS

Importance of a Penetrating Primer on concrete roof

NOT USING PRIMERS PROVIDE:

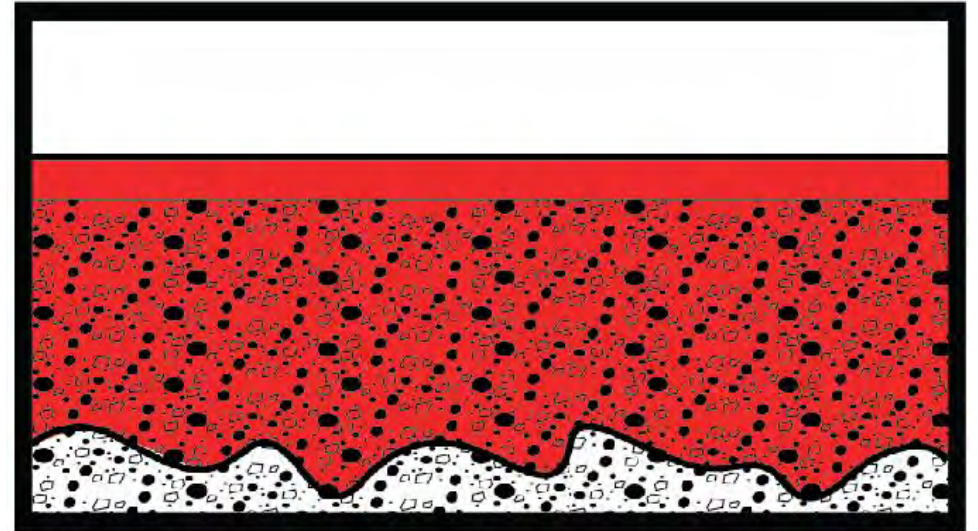
- Hi viscosity sealers produce superficial adhesion and won't anchor into concrete pores
- Pinholes on sealers will appear
- Outgassing ,transmission of humidity and algae growth will delaminate sealers



Importance of a Penetrating Primer on concrete roof

If concrete is exposed the use of penetrating primers are crucial

- Once the primer dries, it will saturate porosity and micro-cracks in the concrete.
- Reduce permeability and will create an effective barrier against water and humidity
- Will create a tacky finish for the final sealer



Elastomeric sealers without an effective penetrating primer may fail adhesion to the concrete.



Application of a primer



5

**APPLICATION OF
REINFORCED
ELASTOMERIC SEALER**

POLYESTER MESH

Reinforcing Polyester mesh (6" - 40")



Benefits of reinforcing Elastomeric sealers with Polyester mesh

Increase in:

- Tension Resistance
- Integrity of the membrane (+ durability)

Reduce crack transfer to
Elastomeric Sealers









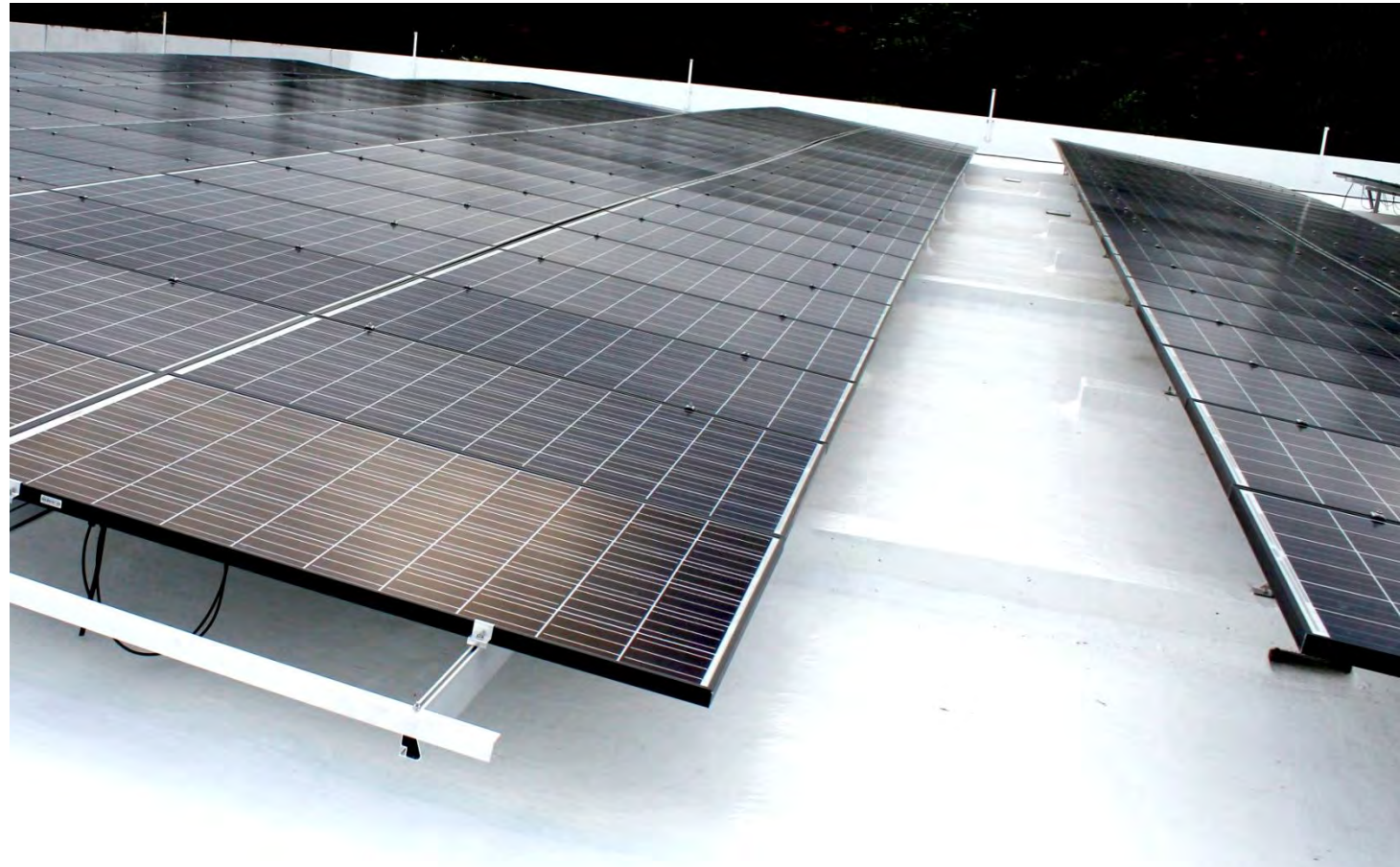






Benefits of sealing with an Elastomeric Sealer “Cool Roof”

- Sustainable
- Washable
- Maintained with a recoat every certain amount of years
- 100% Directly bonded
- Functions as a Final Coat and provide a protective Barrier



Durability Of Elastomeric Sealers in Tropical Climates

- Estimated service life based on independent sources and our experience:
 - Acrylics – 2 to 7 years
 - Polyurethanes – 6 to 10 years
 - Silicone – 15 to 25 years +
- All can be renovated without removal If roof rehab is performed before material service life ends

InterNACHI's Estimated Life Expectancy Chart for Florida Homes

Reference of:

International Association of Certified Home Inspectors

nachi.org/florida-life-expectancy.htm

ROOFING	YEARS
Aluminum Coating	2 to 6
Asbestos Shakes	30 to 50+
Asphalt Shingles (3-tab)	10 to 12
Asphalt (architectural)	15 to 20
BUR (built-up roofing)	5 to 15
Clay/Concrete	80+
Coal and Tar	18
Copper	50+
EPDM (ethylene propylene diene monomer) Rubber	10 to 15
Fiber Cement	18
Green (vegetation-covered)	5 to 20
Metal	17 to 20
Modified Bitumen	10
Simulated Slate	10 to 25
Slate	50+
TPO	10 to 12
Wood	25

Reference of: International Association of Certified Home Inspectors nachi.org/florida-life-expectancy.htm





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