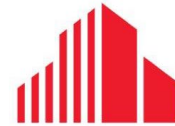




WESTERNTM
SPECIALTY CONTRACTORS
CONFIDENCE THROUGH PERFORMANCE

partnering with



**CUSHMAN &
WAKEFIELD**

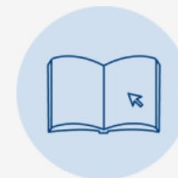
Western Education: The Learning Platform

Visit the link below (or in the chat)
to register while we wait to get started!

www.westernplatform.com/sign-up/



Six foundational courses



10 ebooks and guides



Access to all future content

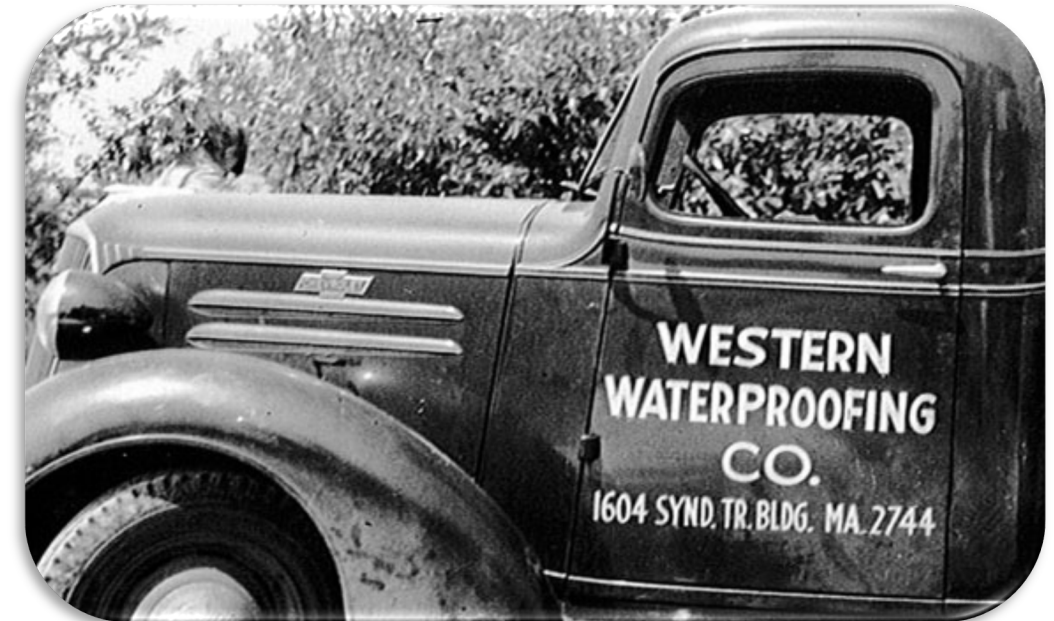
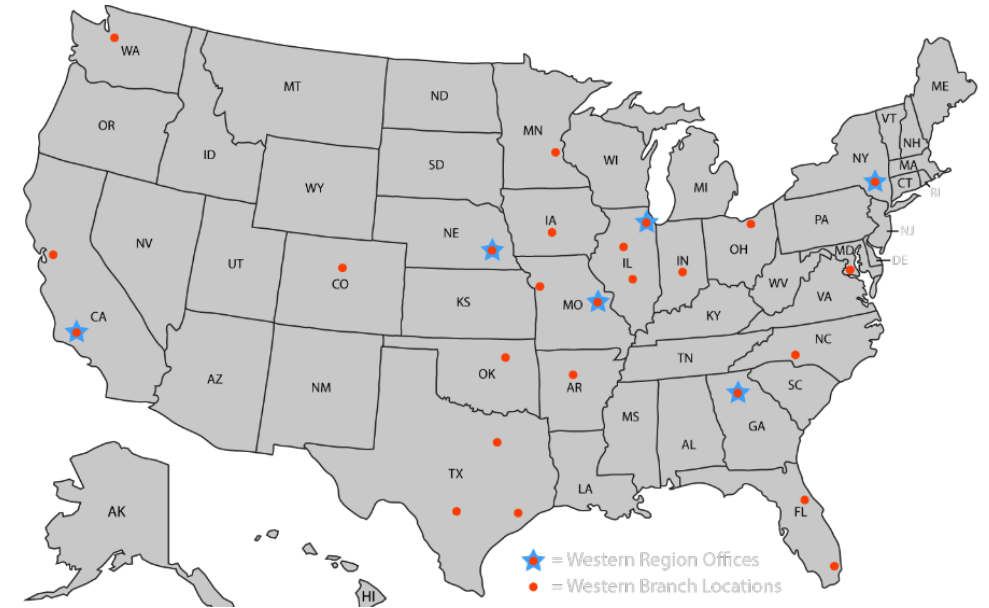
Presentation Overview

- Western history
- National partnership
- Learning platform
- Types of roof systems
- Timeline of repairs
- Annual building assessments
- Metal repairs and ACM panel

Western Specialty Contractors

America's Largest Contractor in Building Envelope Restoration

- Founded in 1915
- Specialize in:
 - Masonry
 - Concrete
 - Waterproofing
 - Facades
- Industry Leader in Safety
 - OSHA Recordable – 0.93!!!





NATIONAL FOOTPRINT
WITH A SINGLE POINT OF
CONTACT



CONSISTENCY = QUALITY
CONTROL PROGRAM



TOP RATED SAFETY
PROGRAM



ASSISTANCE WITH ASSET
MANAGEMENT, BUDGET
PLANNING, PHASING OF
PROJECTS



PREFERRED SCHEDULING
AND PRICING



TRAINING AND
EDUCATION:
MAINTENANCE PROGRAM,
REPAIR PRIORITIZATION

Cushman Preferred Vendor

National Account Program

WESTERN SPECIALTY CONTRACTORS
CONFIDENCE THROUGH PERFORMANCE

Budgetary Report:
Below is a schedule of values for the building based on the above described items and should be considered supplementary only. These options of repair costs are given with a range and are based on types, specific details and recommendations that we encounter. Actual pricing may vary based on material quantity or do not perform the work. These allowances are given for items that either we cannot subcontractors were solicited for these prices.

No.	Description	Quantity	Unit	Price Range	Totals
1	Control Materials Sealant		LF	\$ - \$	
2	Control Panel Sealant		LF	\$ - \$	
3	Mortar Joint Repair at Entry		LF	\$ - \$	
4	Building Joint Repair		LF	\$ - \$	
5	Window Perimeter Sealant		LF	\$ - \$	
6	Window System Sealant		LF	\$ - \$	
7	Control Panel Sealant		LF	\$ - \$	
8	Control Panel Sealant		LF	\$ - \$	
9	Control Panel Sealant		LF	\$ - \$	
10	Control Panel Sealant		LF	\$ - \$	
11	Control Panel Sealant		LF	\$ - \$	
12	Control Panel Sealant		LF	\$ - \$	
13	Control Panel Sealant		LF	\$ - \$	

Optional Work Items:

No.	Description	Quantity	Unit	Price Range	Totals
14	Control Panel Sealant		LF	\$ - \$	
15	Control Panel Sealant		LF	\$ - \$	
16	Control Panel Sealant		LF	\$ - \$	
17	Control Panel Sealant		LF	\$ - \$	
18	Control Panel Sealant		LF	\$ - \$	
19	Control Panel Sealant		LF	\$ - \$	
20	Control Panel Sealant		LF	\$ - \$	

Training and Education:

No.	Description	Quantity	Unit	Price Range	Totals
21	Control Panel Sealant		LF	\$ - \$	
22	Control Panel Sealant		LF	\$ - \$	
23	Control Panel Sealant		LF	\$ - \$	
24	Control Panel Sealant		LF	\$ - \$	
25	Control Panel Sealant		LF	\$ - \$	
26	Control Panel Sealant		LF	\$ - \$	
27	Control Panel Sealant		LF	\$ - \$	
28	Control Panel Sealant		LF	\$ - \$	
29	Control Panel Sealant		LF	\$ - \$	
30	Control Panel Sealant		LF	\$ - \$	

The Learning Platform





Roof Asset Management

This course will give you the skills and confidence you need to implement a roof asset management plan that prevents expensive leaks, reduces emergency repairs, and pays major dividends in both financial and operational terms.

[VIEW LESSONS](#)



www.westernspecialtycontractors.com/cushman-learn/



Keegan Tune
Senior Branch Manager
Roofing

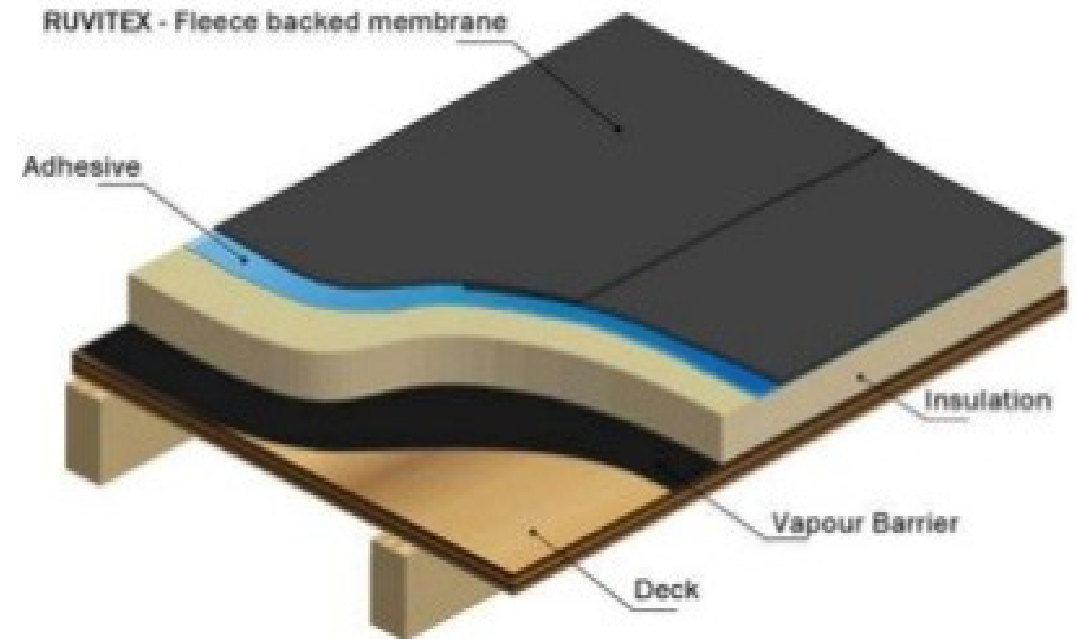
Types of Roofing Systems



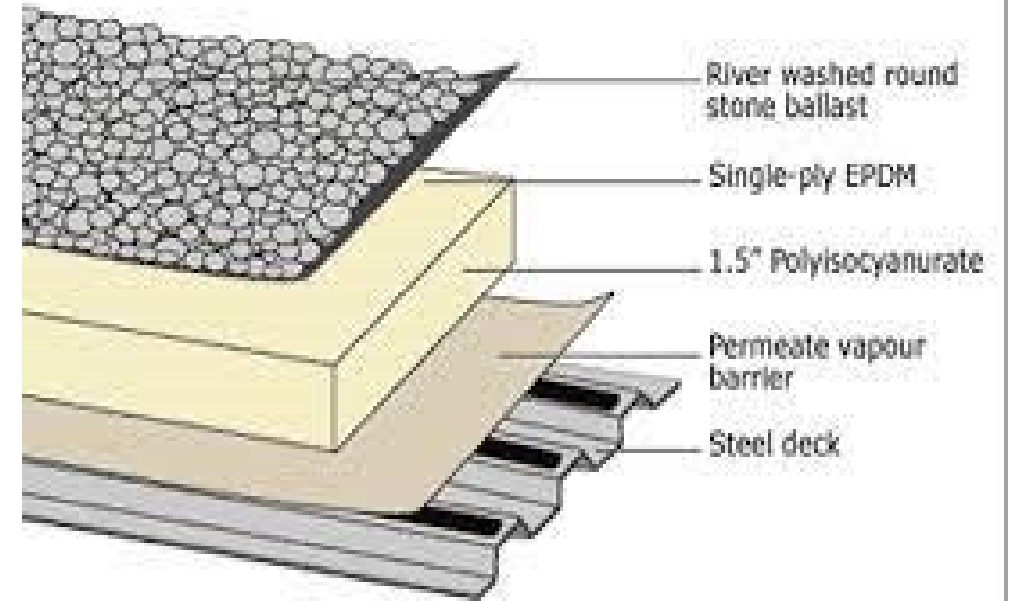
Standing Seam Metal



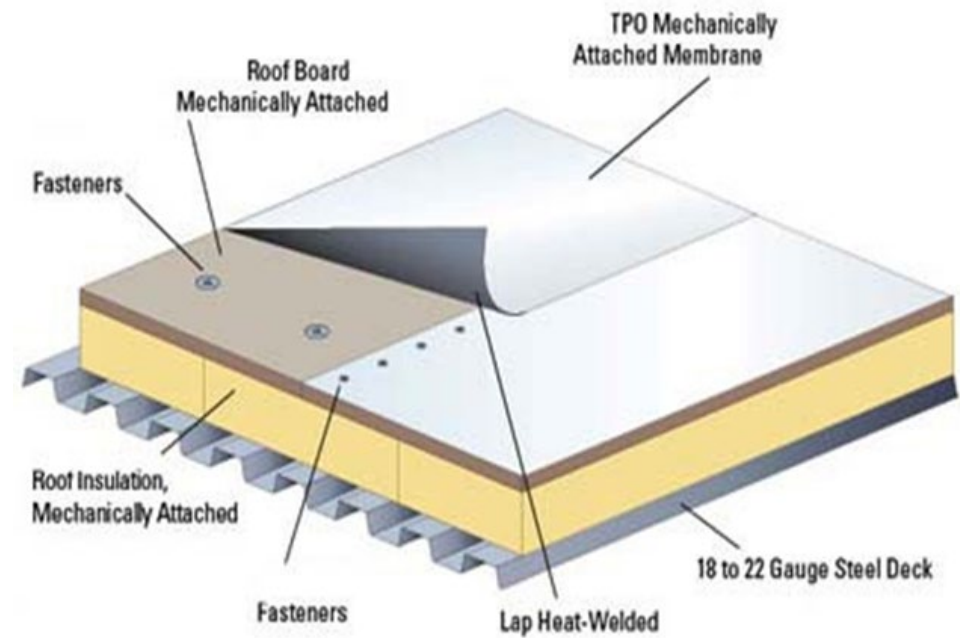
EPDM - Rubber



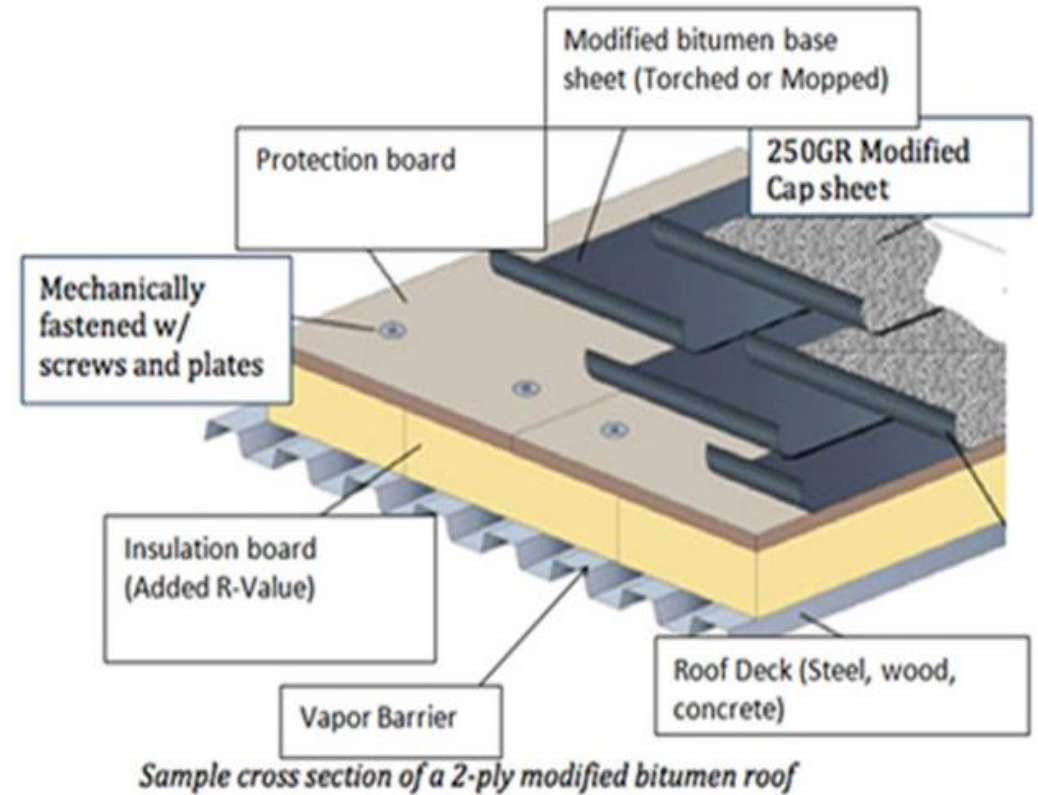
Ballasted EPDM



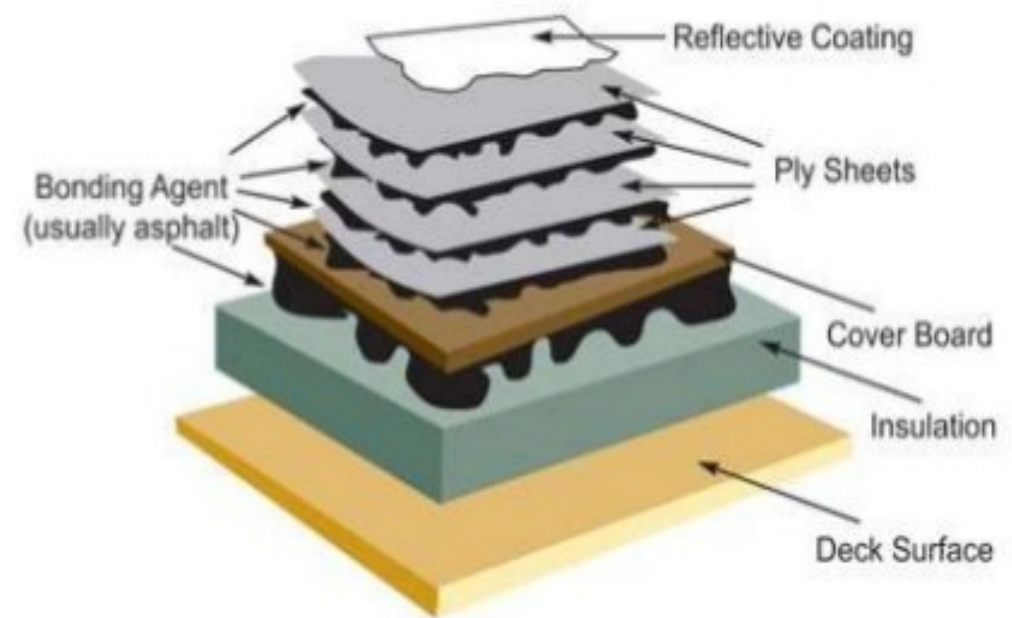
TPO/PVC



Modified Bitumen



Built Up Asphalt



Completing In House Inspections

- Tenting
- Holes
- Ponding water
- Alligatoring



- Split seams

- Wrinkling
- Roof flashing
- Failed coatings
- Blistering

Common Deficiencies



Tenting



Holes



Cracking/
delamination/
rust

Common Deficiencies



Blistering



Wrinkling



Split Seams

Common Deficiencies



Failed Flashing



Ponding Water



Failed Coatings

Common Deficiencies



Deteriorated
Pitch Pocket



Failed
Termination
Bar Caulk



Organic Debris

Repairs



#WeAreWestern



St. Louis Roofing is currently working on the tallest building in "The Lou"...
The Met Square Building.



#WeAreWestern



Tyler is with the St. Louis Roofing branch. He is a foreman on the Service Repair Team and always gets the job done with a smile on his face. When our customers send in service tickets, they often request Tyler because of his attentiveness and professionalism.



Life Span of a Roofing System

Approximately
20 Years

Factors Include...

Roof Design

Installation

Manufacturer

Wear and Tear

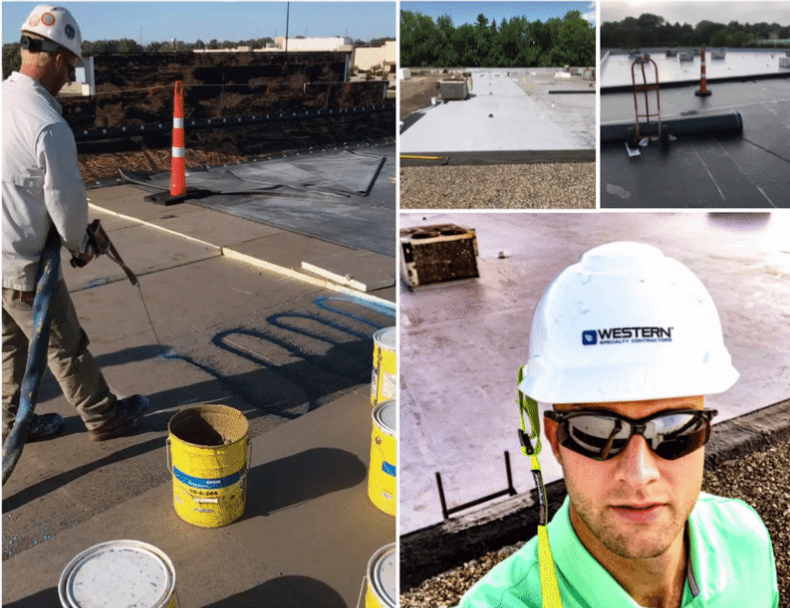
Maintenance

Plus many others...

General Roof Repair Timeline



#WeAreWestern



Western Specialty Contractors restores newly purchased U-Haul building in Peoria, IL. Over 50,000 SF of roofing and 1700 LF of edge metal replaced!

Annually

- Inspection by roofing professional
- Maintenance Items:
 - Remove organic debris
 - Inspect for damage
 - Patch holes

5-10 Years

- Replace sealant at terminations
- Reseal pitch pockets

10-15 Years

- Replace flashings as needed
- Recover high traffic areas

15-20 Years

- Recover or replace entire roof



Tear off

- Start from scratch
- Longer warranty term
- Expose entire deck
- Less chance of failure

Versus



Overlay

- Save insulation
- Reduce waste
- Less expensive
- Shorter project duration
- Less disruption

Liquid Applied Membrane (LAM)



- Restoration of existing roof
- Increases useful life
- Eco-Friendly
- Not considered an additional layer of roof
- Considered a repair
- Depreciate in one year



What Makes a Good LAM Candidate?

- Difficult to access roofs
 - Downtown Areas
 - Hospitals
- Numerous Penetrations
- Sensitive Tenants
 - Noise
 - Odor
- More than one roof in place
- Roof needs help but isn't dilapidated
- NOT BECAUSE IT'S CHEAP!

Hot Topics

Green Roofs and Patio Roofs


- Great use of space
- Major design requirements
- \$\$\$\$\$

White or Black Membrane

- Depends on location
- Similar cost

Current Events

- Supply Chain
- Price Increases



Presented By:
Cale Prokopf, RRO, REWO



RoofTech
CONSULTING, INC.



an independent third-party consulting group

OUR HISTORY

RoofTech Consulting was chartered in 2001 in response to a growing need in the roofing and construction industries.

Over the next 20 years, RoofTech's services grew to fill consumer needs and grew our product offerings to include infrared thermography, FM 1-52 Uplift Testing, ASTM Flood Testing, Electronic Leak Detection and recommendation for exterior walls and waterproofing installation.

In 2020, PaveTech Consulting was created and introduced as a third-party parking lot and parking structure consulting firm.



ROOF LIFE EXPECTANCY

Incorrect Roof Design

Incorrect Installation

Lack of Maintenance

Catastrophic Loss (Hail, Wind, Fire, etc.)

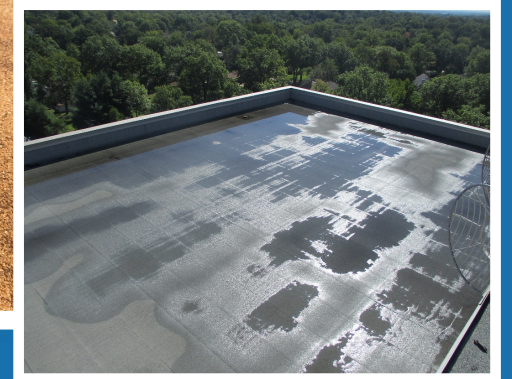


Drainage Issues

Debris Build-up in the gutter



Clogged Roof Drains



HERE'S THE MATH

➔ 1 cubic foot of water weighs **62.4** *pounds*

➔ 1 cubic foot of snow, on average, weighs anywhere from **3-20** *pounds*

➔ In the Midwest, the water content averages **12.48** *pounds*

This means: One inch of snow, on average, weighs

1 *pound per square foot*

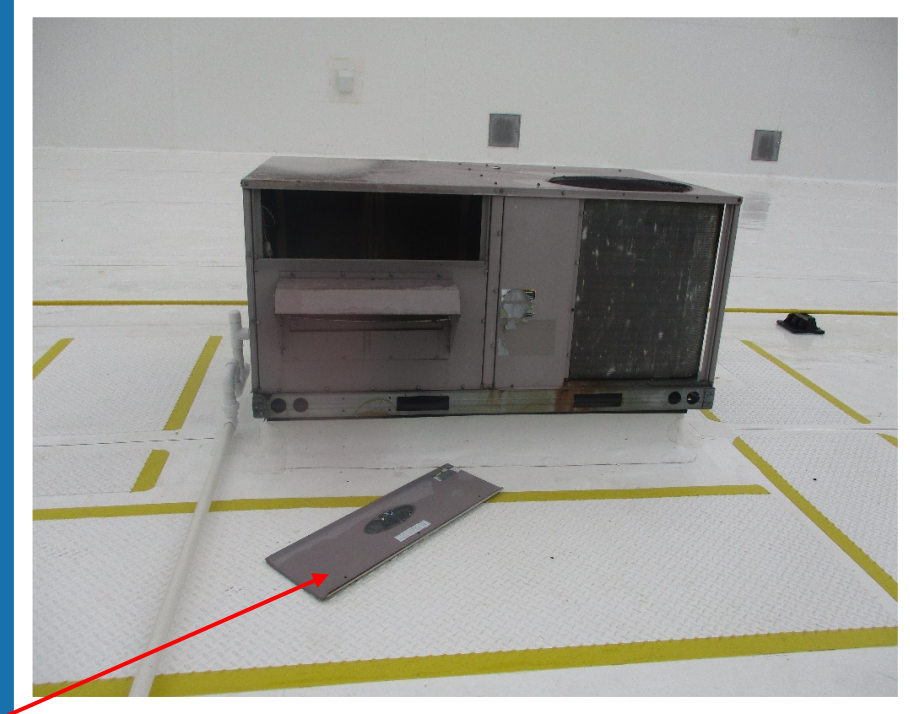
Are you sure your roof can handle all that extra weight?



Drainage Issues



Mechanical Related



Metal covers/panels

Tenant Related

Signage installed to parapet

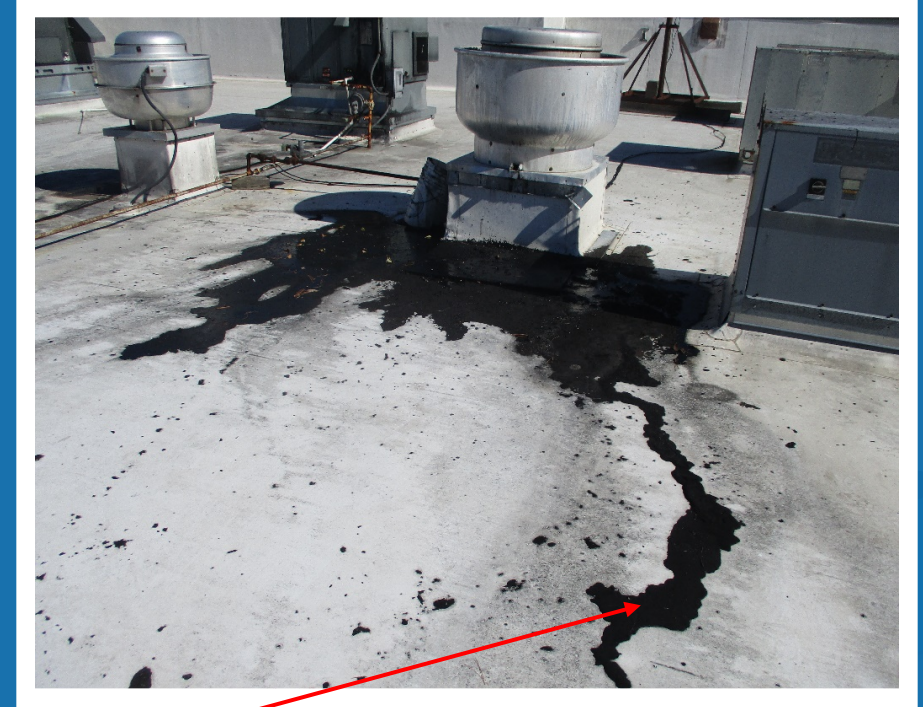


Paint from exhaust fan

Bullets



Grease Traps

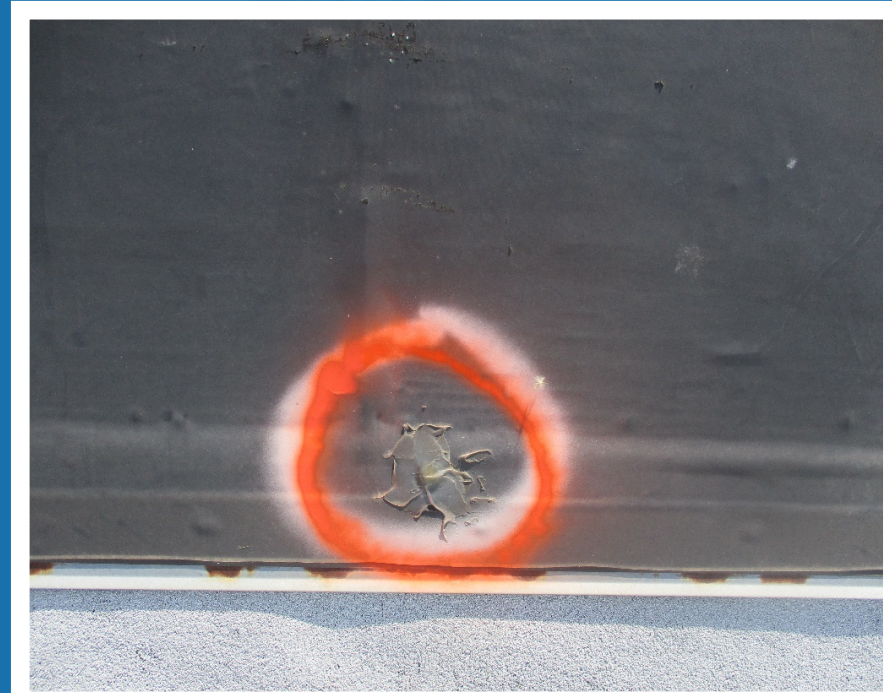


Draining into gutters & downspouts

Improper Repair Methods

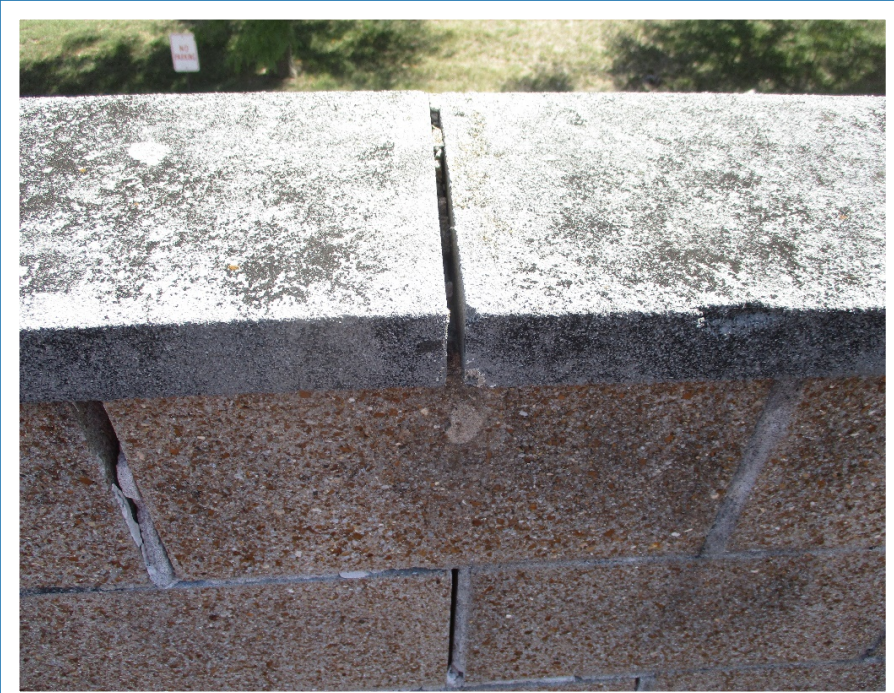


Improper Wire Flashing



Non-compliant repair attempt

Parapet Walls



Deteriorated/Missing Mortar



Exposed Inner Wall

Coping & Metal Work

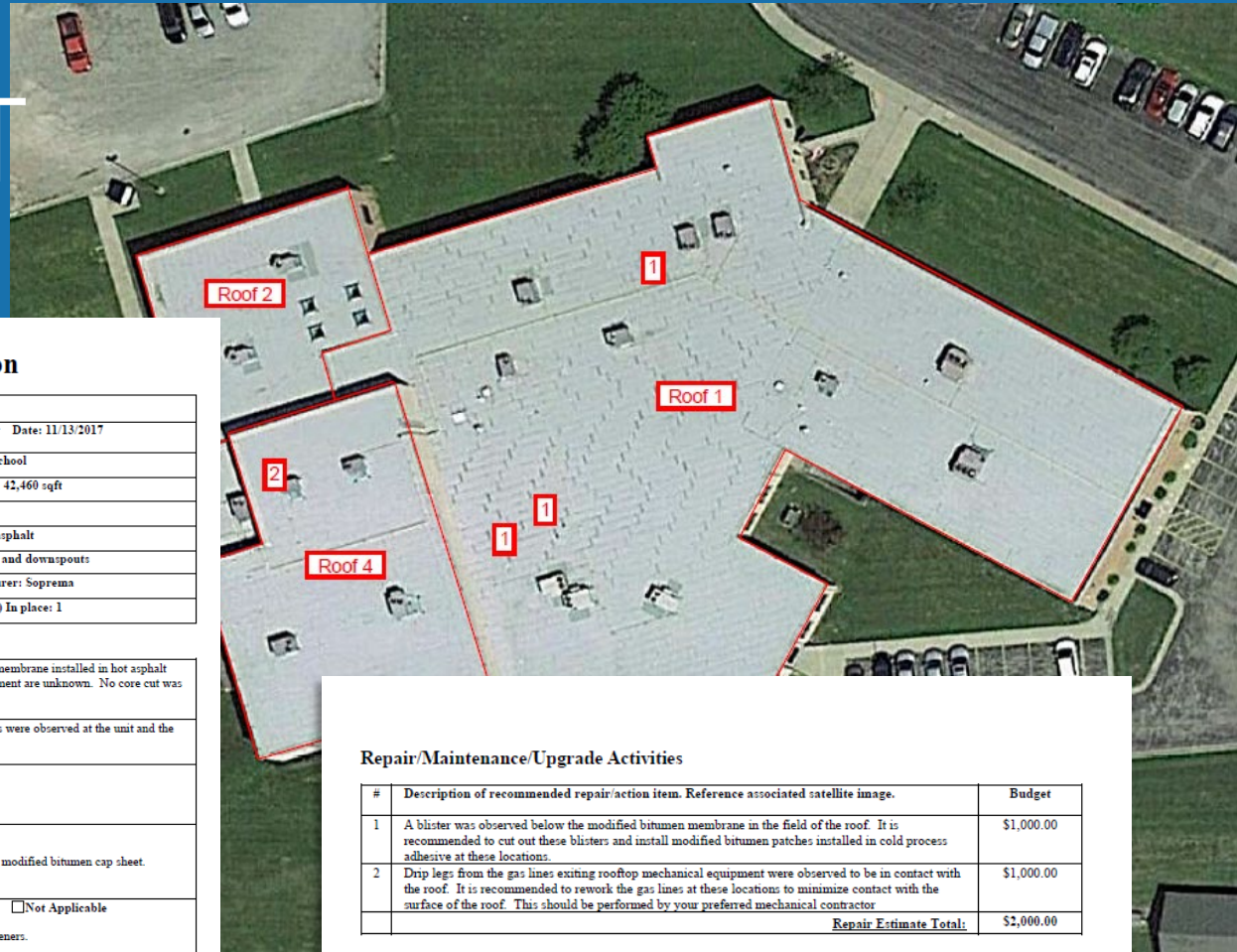


Rusted Metal Coping



Holes Because of Rusted Coping

INSPECTION REPORT



ROOF INSPECTION REPORT



Presented To:
Brent Cooper
Superintendent
P.O. Box 879
Concordia, MO 64020

Facility Inspected:
701 SW 4th Street
Concordia, MO 64020

Performed on:
11/13/17

Roof Construction Information

Building Name: Concordia R-2 Elementary	Roof Area: 1 of 4
Address: 701 SW 4th Street, Concordia, MO 64020	Day Inspected: Monday Date: 11/13/2017
Owner/Contact: Brent Cooper	Building Usage/Type: School
Personnel On Site: Scott Herman and Jerry Griswell	Approximate Roof Size: 42,460 sqft
Roof Access: Roof hatch	Roof Height: 12' +/-
Roof Type: Modified bitumen	Roof Attachment: Hot asphalt
Roof Taper: Slope in deck	Roof Drainage: Gutters and downspouts
Roof Installation Year: Reportedly 2012	Roof System Manufacturer: Soprema
Roof Warranty Information: Yes (unknown duration)	Number of Roofs (layer) In place: 1

Findings and Conditions

Roof Type & Roof Construction: The roof assembly consists of a two-ply modified bitumen membrane installed in hot asphalt over insulation and structurally sloped metal decking. The insulation type, thickness, and attachment are unknown. No core cut was performed due to the age and condition of the roof.

Leak History: One (1) leak was reported at a rooftop mechanical unit. Ongoing repair attempts were observed at the unit and the retro-fit curb adapter.

Flashings Condition: ☐ Very Good ☒ Good ☐ Fair ☐ Poor ☐ Urgent ☐ Critical

Type/Attachment: The flashings consist of granulated flashing plies installed in hot asphalt.

Membrane Condition: ☐ Very Good ☐ Good ☒ Fair ☐ Poor ☐ Urgent ☐ Critical

Type/Attachment: The roof membrane consists of a modified bitumen base ply and a granulated modified bitumen cap sheet. Blisters were observed below the modified bitumen membrane in the field of the roof.

Metalwork Condition: ☐ Very Good ☒ Good ☐ Fair ☐ Poor ☐ Urgent ☐ Critical ☐ Not Applicable

Type/attachment: Metal counterflashings, gutters and downspouts secured with mechanical fasteners.

Visible Roof Drainage: ☒ Good ☐ Fair ☐ Poor ☐ Not Applicable

Type/Attachment: Structurally sloped metal decking draining to gutters and downspouts.

Masonry Condition: ☐ Very Good ☐ Good ☐ Fair ☐ Poor ☐ Urgent ☐ Critical ☒ Not Applicable

Overall Roof Condition Index: ☐ Excellent ☐ Very Good ☒ Good ☐ Fair ☐ Poor ☐ Urgent ☐ Critical

The roof was observed to be performing properly. Minor repairs needed to a blister in the field of the roof to maintain the integrity of the roof system.

Repair/Maintenance/Upgrade Activities

#	Description of recommended repair/action item. Reference associated satellite image.	Budget
1	A blister was observed below the modified bitumen membrane in the field of the roof. It is recommended to cut out these blisters and install modified bitumen patches installed in cold process adhesive at these locations.	\$1,000.00
2	Drip legs from the gas lines exiting rooftop mechanical equipment were observed to be in contact with the roof. It is recommended to rework the gas lines at these locations to minimize contact with the surface of the roof. This should be performed by your preferred mechanical contractor	\$1,000.00
Repair Estimate Total:		\$2,000.00

Recommendations and Budgets

Recommendations: Provide repairs listed above to maintain the integrity of the roof system. Repairs items have been marked on the roof and on the attached satellite image to assist in the repair process. Ensure that all repairs are performed in accordance with the roof system manufacturer's guidelines to maintain the roof warranty.

Budgets:

Budget for immediate roof repairs: \$2,000.00
Budget for 2018 roof inspection: \$905.00



INSPECTION REPORT



Photo 1: Overview photo showing the front of the facility.

Roof 1



Photo 2: Overview photo showing Roof 1. The roof was observed to be performing properly with minor repairs and maintenance items recommended.

Concordia Elementary School

11-13-17

RoofTech Consulting, Inc.



Photo 3: Overview photo showing the perimeter gutter observed to be performing properly.



Photo 4: Overview photo showing the perimeter metal coping and flashings observed to be performing properly.

Concordia Elementary School

11-13-17

RoofTech Consulting, Inc.



Photo 5: Photo showing a blister in the field of Roof 1 that has been marked for repairs.



Photo 6: Additional photo showing a blister in the field of Roof 1 that has been marked for repairs.

Concordia Elementary School

11-13-17

RoofTech Consulting, Inc.

DESIGN & CONSTRUCTION OVERSIGHT

It is important to never base your design on warranty or materials.

RoofTech Consulting, Inc. will perform a physical inspection of the roof and exterior wall systems in order to assess the current conditions, concerns, maintenance items, building use, owner's intent and code requirements.

There are over 250,000 different materials, manufactures, and systems to consider when replacing a roof. We will assess the project to determine the best option(s) (typically 1 or 2) for your project.



BIDDING PROCESS

RoofTech Consulting, Inc will review and evaluate all estimates to ensure the project specifics have been addressed and included ensuring the project is completed correctly the first time.

QUALITY ASSURANCE

Routine visual inspections and documentation of the work site throughout the construction process will be performed to ensure our high standard are maintained during the entire process.



QUESTIONS?



Thank you for your time and consideration.

Please take a moment and connect with us:



Rooftech-consulting-inc
Pavetech-consulting-inc





Kourtney Graham
Business Development
Special Projects



Architectural Sheet Metal Overview

- What is it?
- Types
- Proactive vs Reactive Repairs
- Maintenance Programs
- Specialty Work

WHAT IS ARCHITECTURAL SHEET METAL?

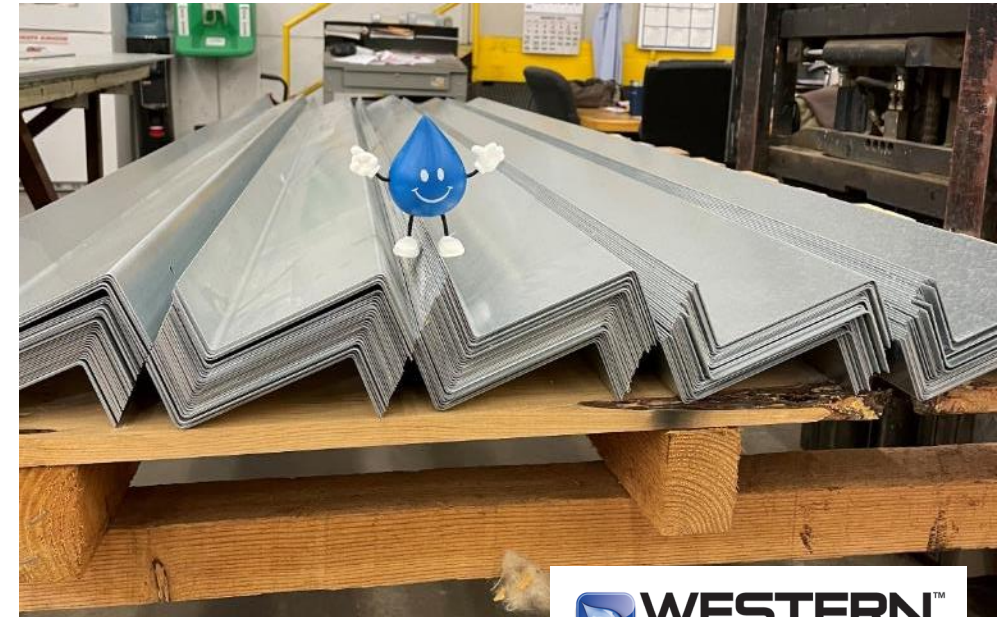




Metal that is formed into thin, flat pieces

...that can be cut and bent
into a variety of shapes & sizes

For example... coping, gutters, downspouts,
cornice work, and various flashings



PROS OF SHEET METAL

Elements and products can last for centuries

Fits all green building material measures

Products are light weight, high in strength, durable, and anti-corrosive.

Aesthetically pleasing



Entire building façade can be constructed using metal!

TYPES OF ARCHITECTURAL SHEET METAL





Metal Components

Gutters | Downspouts | Scuppers | Coping | Roof flashings





ARCHITECTURAL SYSTEMS

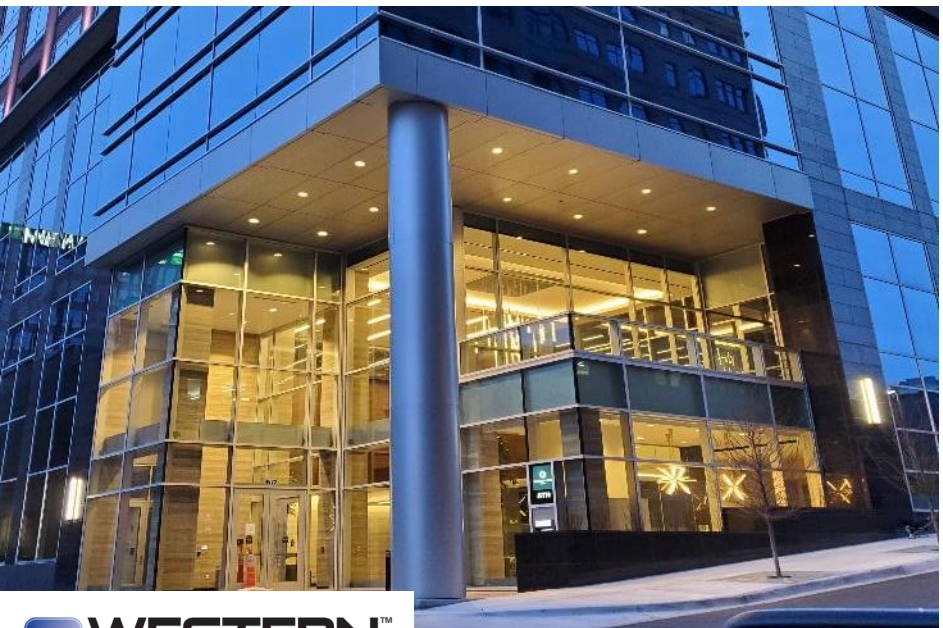
ACM Wall Panels

Metal Wall Panels

Plate Wall Panel Systems

Standing Seam Metal Roofs

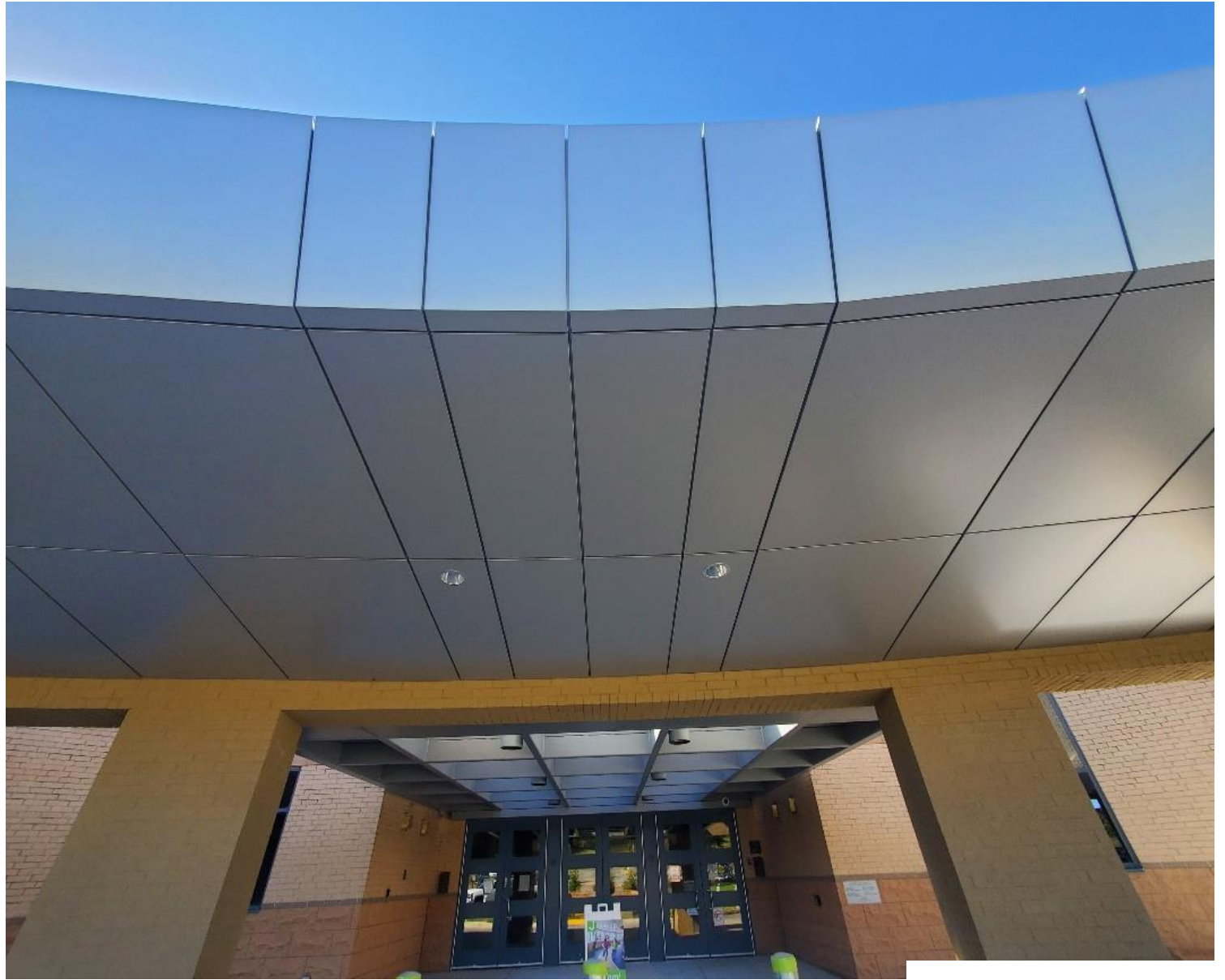




Composite Wall Panels (ACM/MCM)

Typically used as cladding to external walls







Single Skin Panels



Plate Wall



Insulated Metal Panels (IMP)





Metal Roofing





Soffits

METAL REPAIR WORK



Sheet Metal Deterioration CAUSES:

Age

Weather

Leaks

Improper Installation

User Error / Usage



Gutter & Downspout Repairs







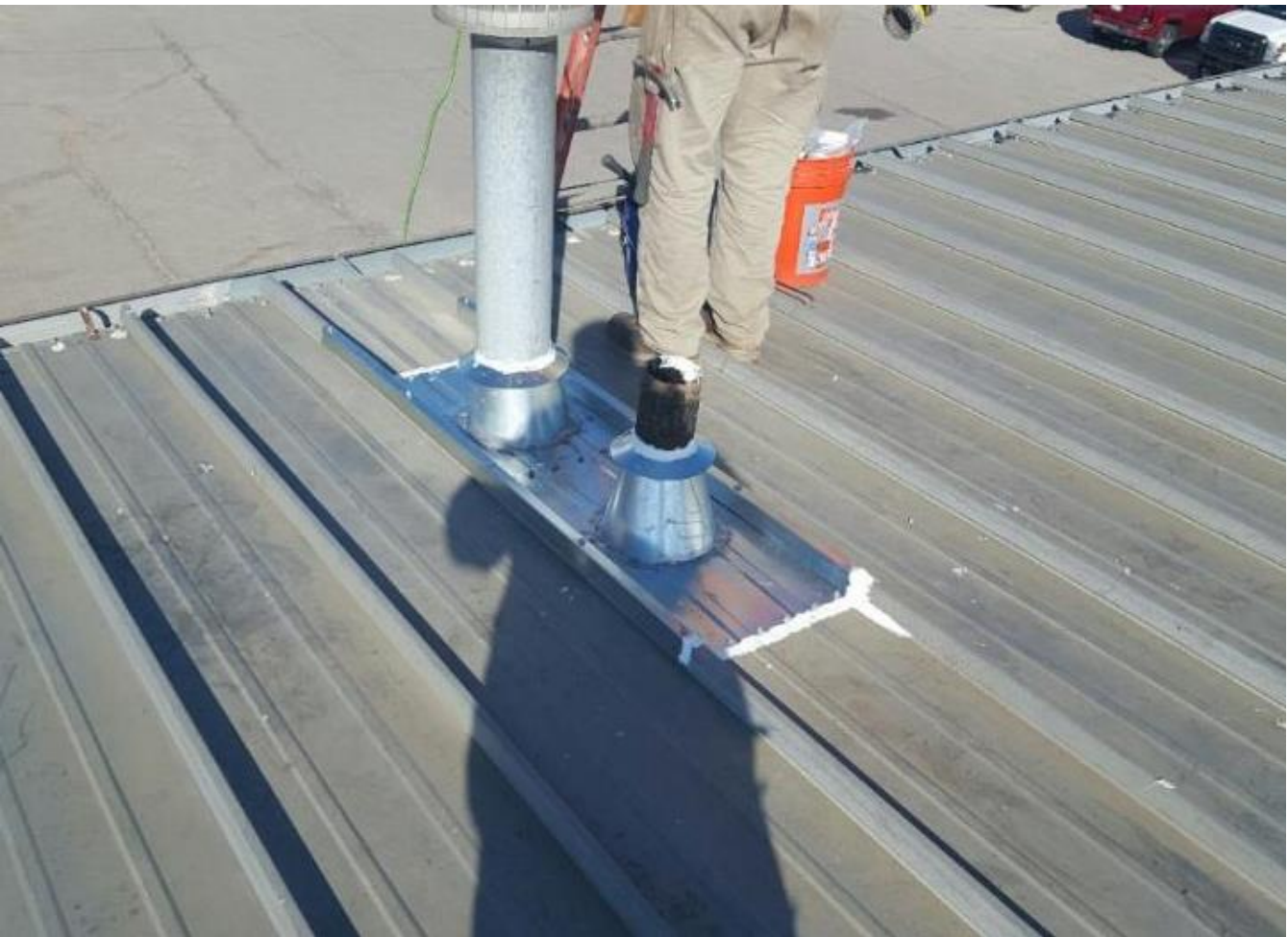
Gutter Cleaning

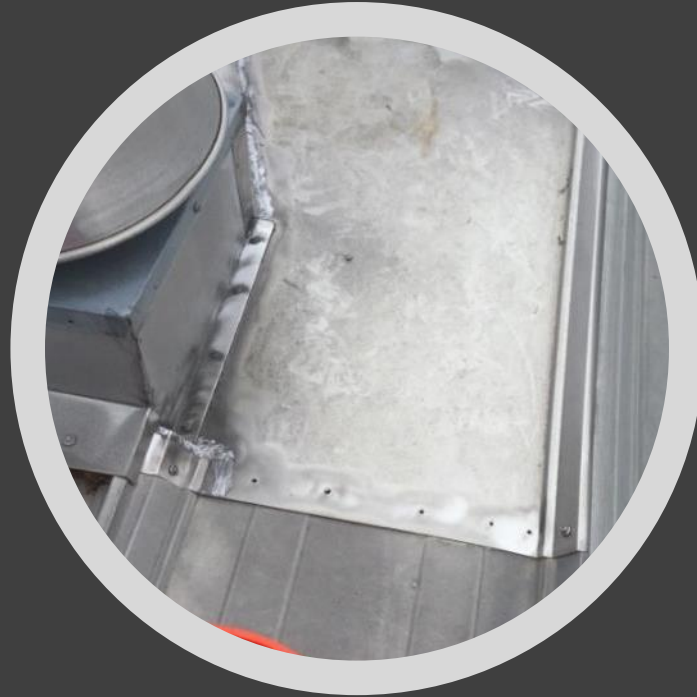




Wall Panel Repairs







Rusted Screw Replacement

NEVR-DULL
MARK WAXING POLISH
5

ZEP
ORANGE GEL DEGREASER
4

SNO-GEM
METAL PANEL CLEANER
2

DENATURED ALCOHOL
3

ETHYL ALCOHOL
1

SOAPY WATER
6

ACM Panel Cleaning Experiment

CUSTOM FABRICATION & SPECIALTY WORK







Reception Desk Reno





Elevator Rehab



Skylight Installation



Awnings



Wrapped Columns





Unit Screens

 **WESTERN™**
SPECIALTY CONTRACTORS

Typical Maintenance

REGULAR INSPECTIONS!!

Cleaning

Caulking

Expansion joints

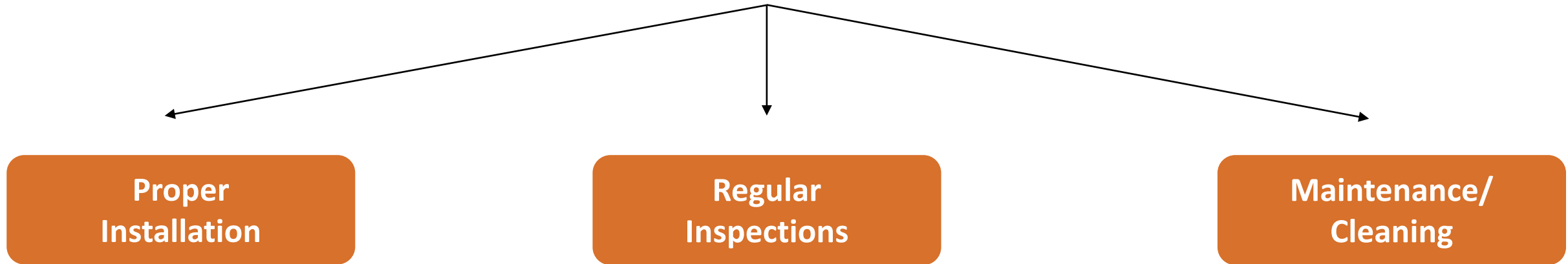
Metal roof seams

Gutter & downspout joints

Fasteners

LIFE EXPECTANCY?

Approximately 40 to 70 years





Tanya Shepherd
Director
Business Development

Specialty Projects



#WeAreWestern



Minneapolis crew installing CFRP on a concrete deck to help support the floor for a new roof top patio for a private client in Edina, MN.



#WeAreWestern



Not an easy project, but a fun one! Some of the fun you see here includes custom 95' field rolled panels being lifted to the roof at the Peoria Riverplex.



Specialty Projects



#WeAreWestern



Introducing Westy the Waterdrop and his fellow office workers. Westy and his crew work hard at providing sheet metal and roofing services to the Kansas City Metro and surrounding areas.



#WeAreWestern



Besides the usual sheet metal services, Great Plains specializes in ACM panel fabrication and installation. ACM provides a flat surface comparable to much thicker aluminum, at a more reasonable price. When you desire larger panel modules or panels with greater impact resistance, aluminum composite material is the way to go. Our skilled sheet metal technicians provide a quality service for our customers all across Kansas City and the surrounding areas.



How Western Can Help



Facade condition
assessment



Repair prioritization
and cost analysis



Budgeting and
estimating



Provide short- and
long-term repair plans



In-house training

Western Services

(plus more!)

- Masonry / Façade Restoration
- Exterior Coating Sealant Repairs
- Waterproofing
- Deck Coating
- Liquid Applied Roofing
- Plaza Restoration
- Concrete Restoration
- Building Cleaning
- Historic Preservation
- Architectural Sheet Metal
- Specialty Projects



Questions?

THANK YOU!!!



Presented
by :

Keegan Tune
Sr. Branch Manager,
Roofing

Kourtney Graham
Business
Development,
Special Projects

Cale Prokopf
RoofTech &
PaveTech
Consulting

Crystal Moyer
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Manager

Jess Gitto
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Manager

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Development