UPDATED ROOFING PRACTICES MANUAL / SBS ROOF SYSTEM

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Roofing Practices Manual (RPM)

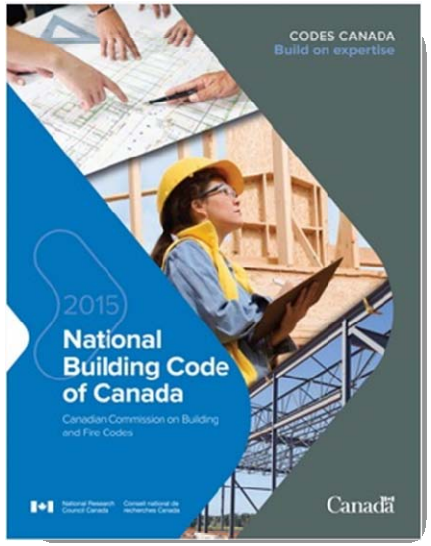
Purpose :

- RoofStar Guarantee Standards
- Design Guide
- Installation Requirements
- Learning Tool

Roofing Practices Manual (RPM)

Standards support or exceed:

- NBCC
- BCBC / City of Vancouver
- CSA Standards (roofing)

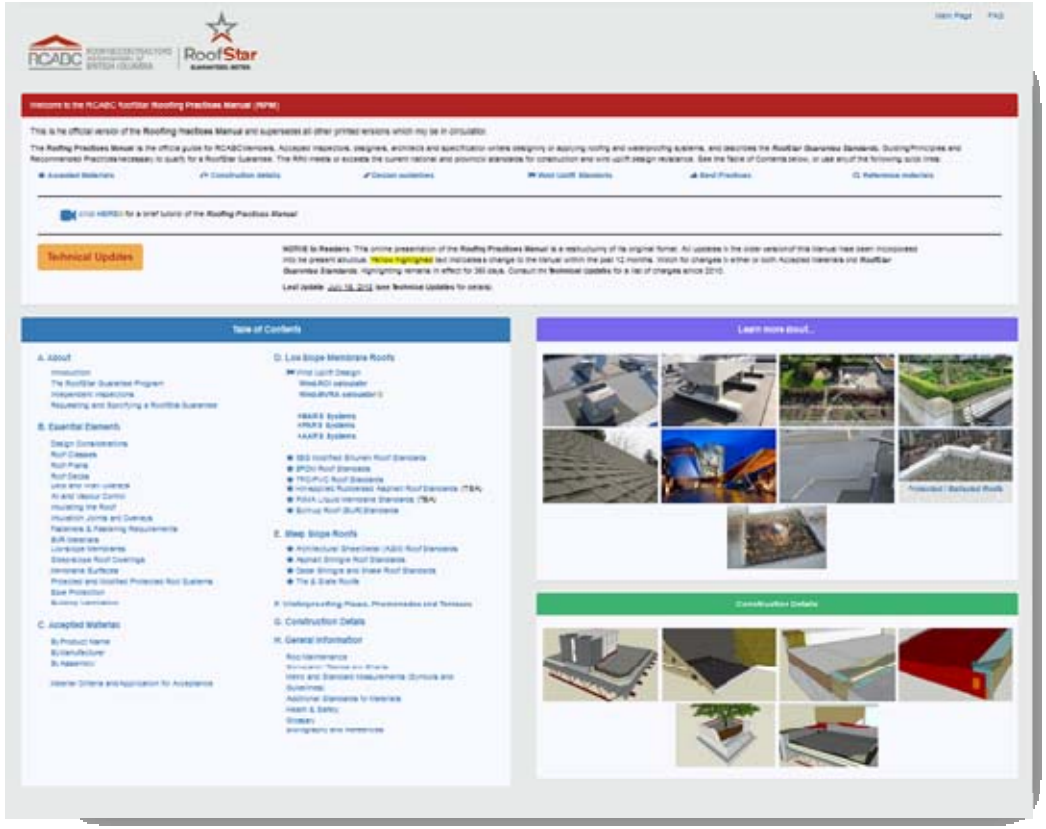


Roofing Practices Manual (RPM)

- Where is the RPM Found?

Roofing Practices Manual (RPM)

- rpm.rcabc.org (since 2012)



Roofing Practices Manual (RPM)

- Phase 1: Restructure the Manual

  - Launched 2016
  - Separate Accepted Materials Section
  - Standards are specific to each Roof System

Roofing Practices Manual (RPM)

- Phase 2: Rewrite the Content
  - SBS Roof Systems
  - Architectural Sheet Metal (ASM) Roofing

- Up Next:
  - Asphalt Shingles
  - Single Ply Membranes

Roofing Practices Manual (RPM)

- Phase 3: Update the Drawings
  - Colour Drawings
  - CAD (ASM)

RPM

- Why the rewrite?

1. Establish new structure
2. Manual had a BUR “flavour”
3. Missing Content
4. Inclusive of a broader Audience
5. Standards that can be expressed better
6. Respond to changing role for a roof

RPM – Roof System Structure

- Up to 14 Sections
- Sections parallel other similar roof systems
- Each Section has 3 parts
  - General (Design Considerations)
  - Material
  - Application

Contents

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SBS Roof System Structure

1. General
2. Supporting Structures: Decks and Wall
3. Securing the Roof
4. Materials
5. Deck & Wall Overlays
6. Air & Vapour Controls
7. Insulation

SBS Roof System Structure

8. Insulation Overlays
9. Field Membrane
10. Perimeter & Walls
11. Drains & Penetrations
12. Protected Membranes and Other Details
13. Metal Flashings
14. The Roof as a Platform: Coverings, Living Spaces and Structures

SBS Roof Systems

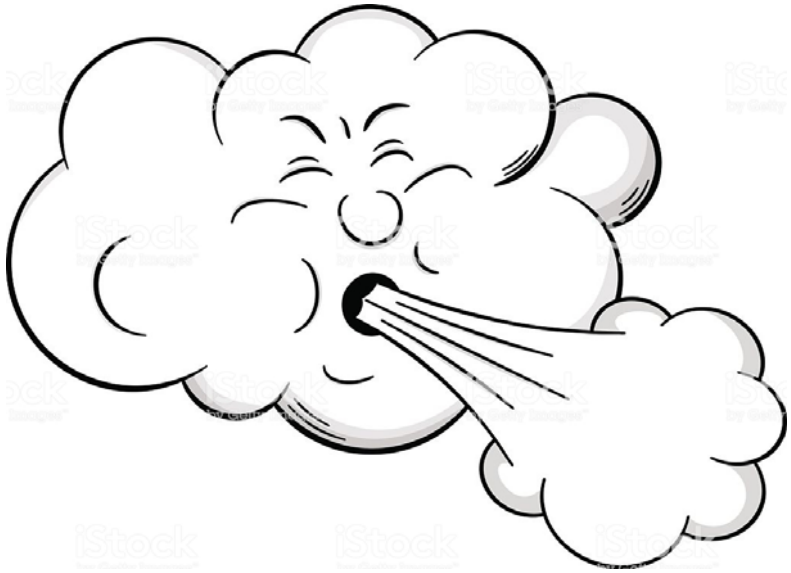
1. General

- Roof Assembly Types
- Quality Assurance
  - Electronic Leak Detection
- RoofStar Guarantee
  - Coverage & Limitations

SBS Roof Systems

3. Securing the Roof

- Covered in the next presentation



SBS Roof Systems

6. Air and Vapour Controls

- Material choice by Design Authority
- Material with puncture resistance
  - Poly & kraft paper are no longer permitted
- Minimum 2mm thick when used as a temporary roof

SBS Roof Systems

6. Air and Vapour Controls

- Details being developed to ensure compliance with
  - Energy Step Code Design
  - Passive House Design
  - ZEBx

SBS Roof Systems

7. Insulation

- Heat-Sensitive Insulations (plastics) must be covered with a heat-resistant insulation at least 2” thick

SBS Roof Systems

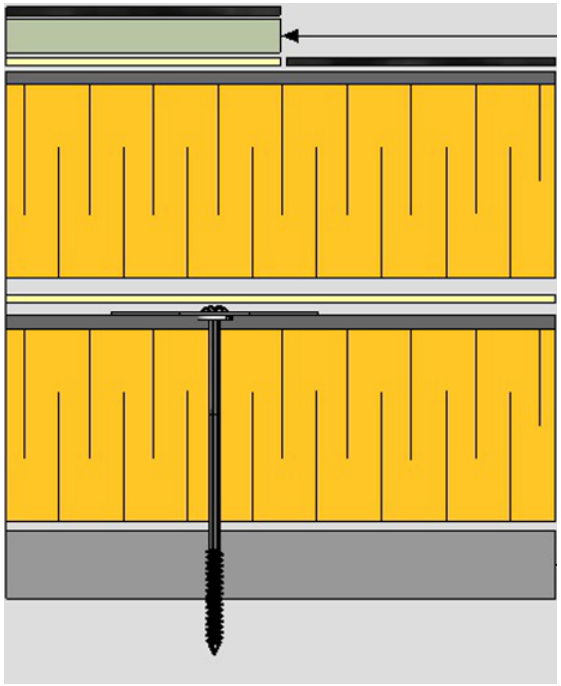
7. Insulation

- Multi-layers of Insulation >R15
- Joints offset by 12”

SBS Roof Systems

7. Insulation

- Thermally, adhering the top layer of Insulation will perform best



SBS Roof Systems

7. Insulation

Conventionally Insulated Roofs

- Research with NRC will help determine effective R-Values
  - Effect of Fasteners
  - Effect of insulation board joints

SBS Roof Systems

- thermal bridges at fasteners

SBS Roof Systems

7. Insulation

Protected Membrane Roofs

- Research with NRC will help determine effective R-Values
  - Deck or Roof Slope
  - Effect of Overburdens

SBS Roof Systems

9. Field Membrane

- Membrane Protection
  - Roof-Top Equipment Fluids
  - Pool or Garden Chemicals or Fertilizers
- No MARS Assemblies when the roof supports any type of load
  - Photo Voltaic
  - Vegetated Roofs

SBS Roof Systems

9. Field Membrane

- Thickness & Puncture Resistance

	2-Ply SBS Modified Roof Membranes: Field & Membrane Flashing				SBS Cap Sheet under Vegetated Assemblies		Single-Ply SBS Cap Sheet for Slopes >3/4:12		SBS Waterproofing Membranes	
Membrane Type, Reinforcement & Grade	Mechanically Fastened (mm)	Adhesive Applied (mm)	Self-Adhered (mm)	Torch-Applied (mm)	Thickness (mm)	Puncture Resistance (N)	Thickness (mm)	Puncture Resistance (N)	Thickness (mm)	Puncture Resistance (N)
Base Sheet (fibreglass) - Grade 3	2.3	2.2	2.3	2.3	n/a	n/a	n/a	n/a	3.0	n/a
Base Sheet (polyester) - Grade 3	2.5	2.2	2.5	2.5	3.5	400	n/a	n/a	3.0	n/a
Base Sheet (composite) - Grade 3	2.3	2.2	2.3	2.3	3.5	400	n/a	n/a	3.0	n/a
Film Cap Sheet (fibreglass) - Grade 2	n/a	3.3	3.3	4.0	n/a	n/a	n/a	n/a	n/a	n/a
Film Cap Sheet (polyester) - Grade 2	n/a	3.5	3.5	4.0	4.0	400	4.0	400	3.0	400
Film Cap Sheet (composite) - Grade 2	n/a	3.3	3.3	4.0	4.0	400	4.0	400	3.0	400
Granular Cap Sheet (fibreglass) - Grade 1	n/a	3.3	3.3	4.0	n/a	n/a	n/a	n/a	n/a	n/a
Granular Cap Sheet (polyester) - Grade 1	n/a	3.5	3.5	4.0	4.0	400	4.0	400	3.0	400
Granular Cap Sheet (composite) - Grade 1	n/a	3.3	3.3	4.0	4.0	400	4.0	400	3.0	400

SBS Roof Systems

9. Field Membrane

- Walkways

SBS Roof Systems

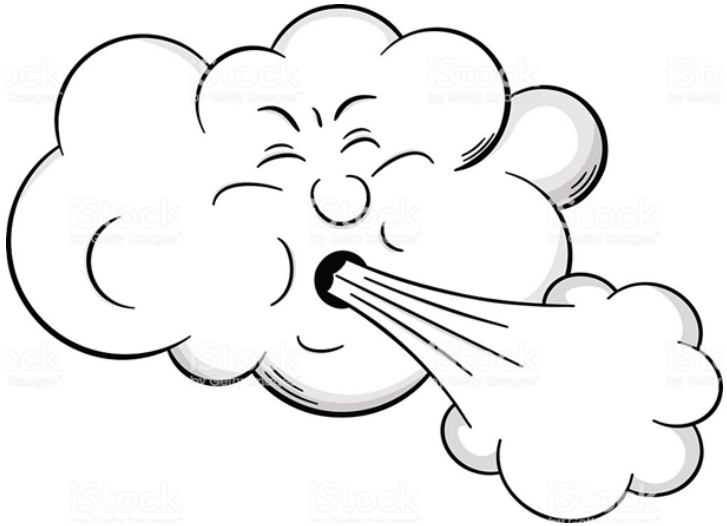
11. Drains and Penetrations

- Overflow Scuppers (OFS)
  - Primary Function is to keep the roof from collapsing

SBS Roof Systems

11. Drains and Penetrations

- Climate Change = Extreme Weather Events



SBS Roof Systems

11. Drains and Penetrations

- Causes of Roof Collapse – with OFS
  - Undersized OFS
  - OFS installed too high (recommend 4” above drain)
  - Roof slope reduced (cost savings) without increasing structural capacity

SBS Roof Systems

12. Protected & Other Details

- Protected & Modified Protected Systems

- Membrane Gutter
  - Minimum 12” in width
  - Depth not to exceed width

SBS Roof Systems

14. The Roof as a Platform: Coverings, Living Spaces and Structures

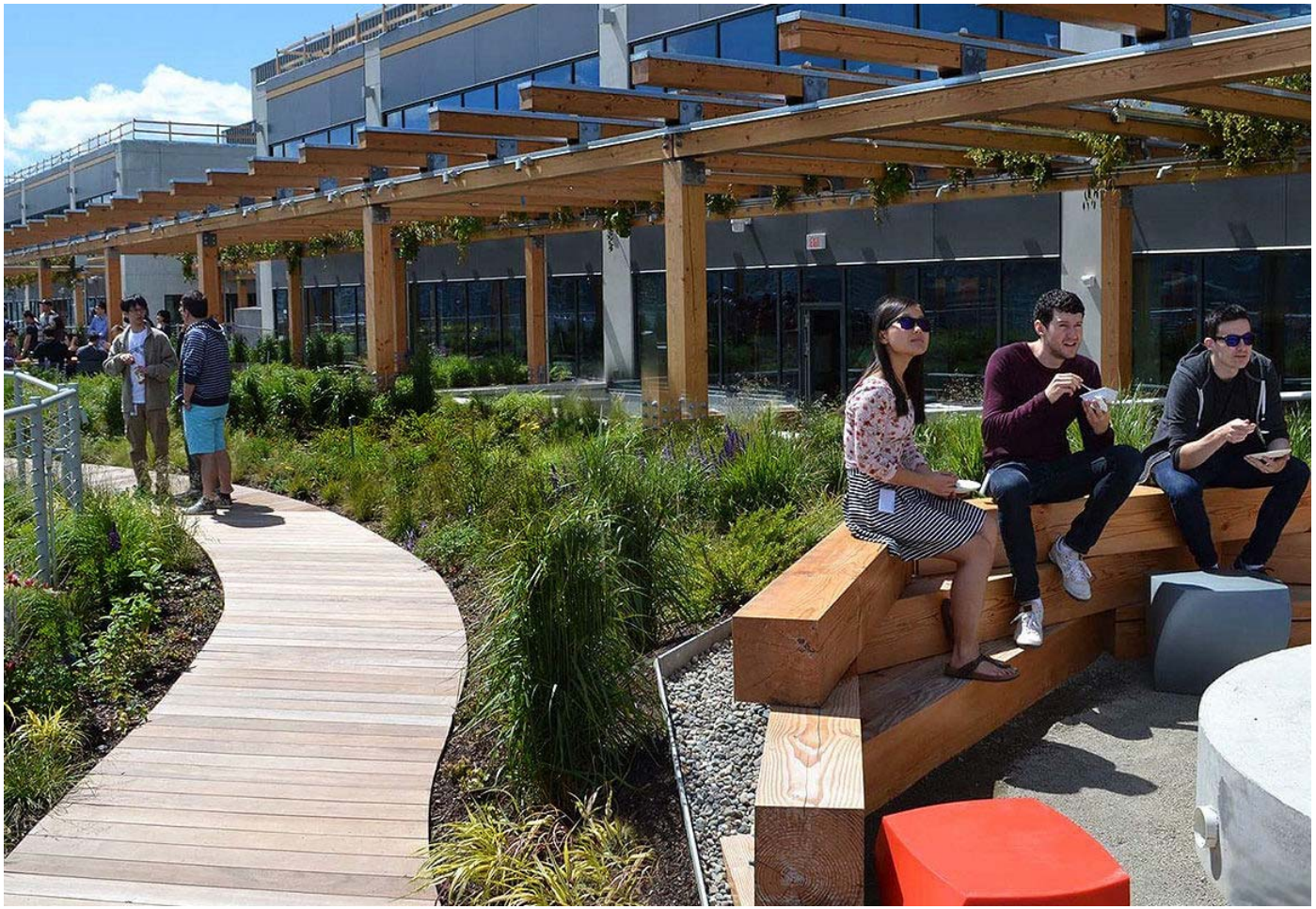
- New Section
  - provides guidance for any imagined use of a roof surface

Roof Coverings: Vegetated Roofs

Roof Coverings: Urban Farms

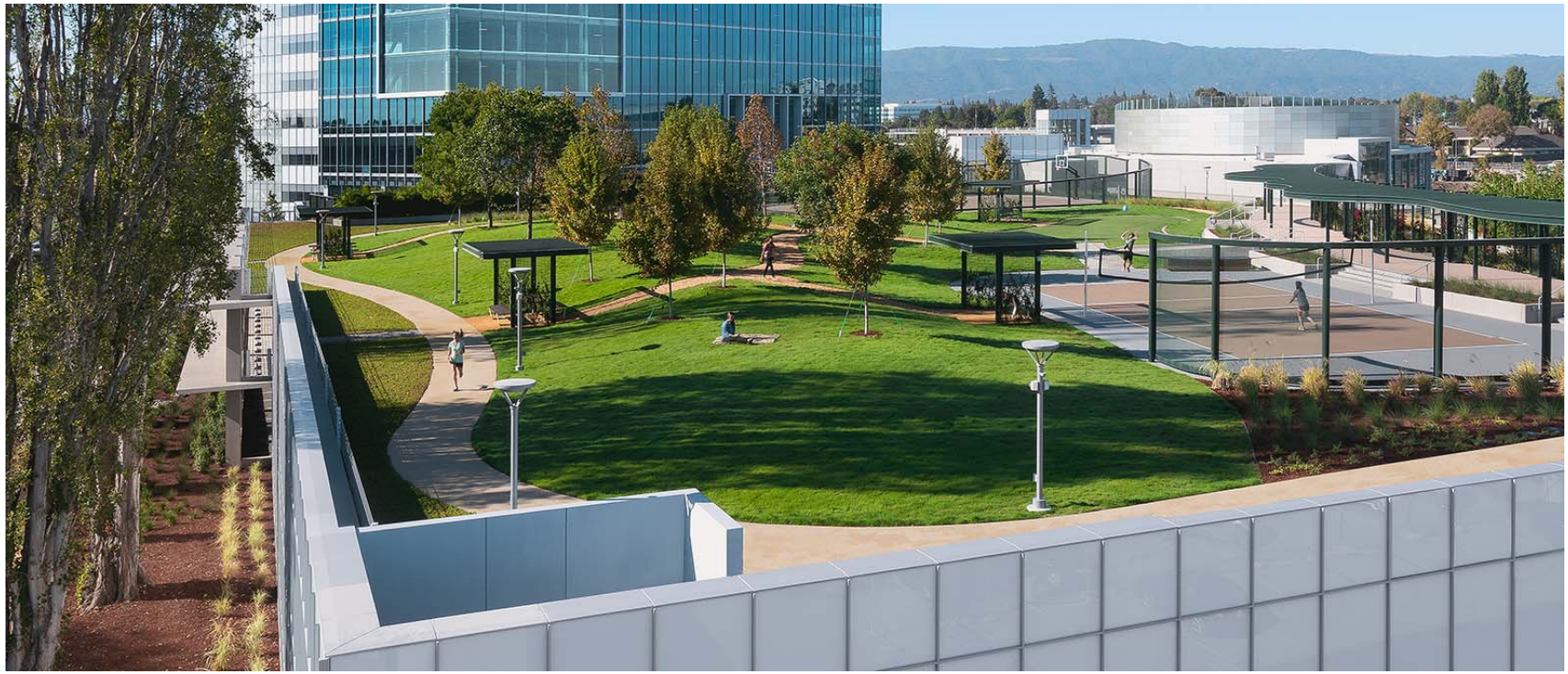
Roof: Living Spaces

Roofs: Living Spaces



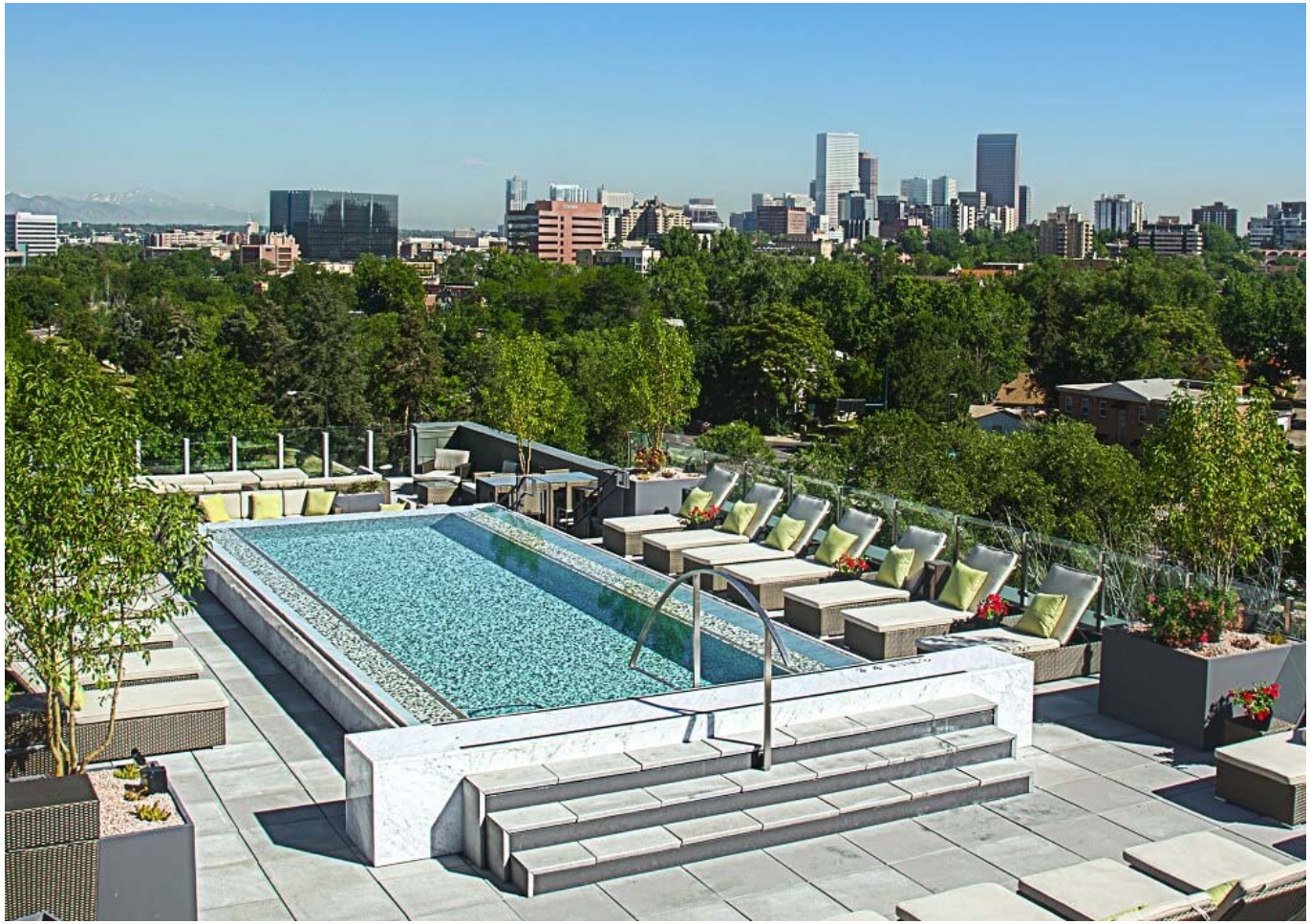
Roofs: Living Spaces

Roofs: Living Spaces & Playscapes



Roof Structures: PV Panels

Roof Structures: Pools



SBS Roof Systems

14. The Roof as a Platform: Coverings, Living Spaces and Structures

- Design Considerations
  - Load Bearing Capacity of Insulations (minimum 110 Kpa / 20 psi)
  - Membrane Thickness and Puncture Resistance
  - Membrane Protection Layer
  - Drainage Layer

SBS Roof Systems

14. The Roof as a Platform: Coverings, Living Spaces and Structures

- Design Considerations (continued)
  - Clearance and Accessibility
  - Integrity Scan
  - Electronic Leak Detection (optional)

SBS Roof Systems

- Protected Membrane Roof Assembly is the best option

SBS Roof Systems

- Pre-curbs roofed in for Exposed Concrete Structures

SBS Roof Systems

- Penetration Detailing
  - Electrical
  - Irrigation

Questions ?

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