



Roof Assessment and Proposed Solution



O-I - Lavington, BC



Thank you for considering CentiMark

Prepared On: 05/12/2011

Prepared For:

Customer Information

O-I
9622 Hill Drive
Lavington, BC V0E 2B0
Attn: Len Comeau
Manager, Engineering Services

Location Information

O-I
9622 Hill Drive
Lavington, BC V0E 2B0
Attn: Len Comeau
Manager, Engineering Services

Prepared By:

Project Manager

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Please visit us at www.centimark.com

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05/12/2011

Len Comeau
O-I
9622 Hill Drive
Lavington, BC V0E 2B0

Dear Len Comeau,

Thank you for your continued interest in our roofing services. We made a thorough roof inspection of your facility and submit the following quotation for your consideration.

Our proposal is prepared with information gathered during our on site visit on Thursday May 5, 2011.

Since our last inspection of the facility back in 2007 the roof condition has deteriorated to the point where the previously proposed retrofit system is no longer recommended. The roof insulation has become saturated and now requires complete removal.

The **CentiMark** solution to your roof problem is the most comprehensive and client-oriented service available in today's roofing industry. This unique approach incorporates the elements of system application, service and warranty under one corporate umbrella, serviced by employees specifically trained in commercial and industrial roofing operations. Our successful experience has developed the financial strength and high industry profile necessary to secure your roofing investment, while allowing you to enjoy that personal touch so valued in a local contractor.

We are confident that this submittal, once accepted will satisfy the long-term needs of O-I.

Thank you for your interest in our products and services. We look forward to serving you.

Sincerely,

Tony Alderson

National Accounts Manager

◀◀ Overview Pictures ▶▶▶

Section: A (BUR)

Area: Overview

Caption: Overall of roof section.



Section: A(SBS)

Area: Overview

Caption: Overall of roof section.



Section: A (Aluminized)

Area: Overview

Caption: Overall of roof section.



Section: B (BUR)

Area: Overview

Caption: Overall of roof section.



Section: C

Area: Overview

Caption: Overall of roof section.



Section: D

Area: Overview

Caption: Overall of roof section.



Section: E

Area: Overview

Caption: Overall of roof section.



Section: F

Area: Overview

Caption: Overall of roof section.



Section: M

Area: Overview

Caption: Overall of roof section.



Section: P

Area: Overview

Caption: Overall of roof section.



◀◀◀ Defect Pictures ▶▶▶

Section: B (BUR)

Area: Defects

Caption: (All) Ceiling Tiles - Deteriorated



Description

Deck-(All) Ceiling Tiles - Deteriorated

Cause

Severe roof leaks or internal condensation.

Impact

Not visually appealing. Safety issues may arise. Tiled areas are usually finished and valuable equipment or personnel may be at risk.

Solution

Determine where water infiltration is occurring and correct.

Section: B (BUR)

Area: Defects

Caption: (All) Wall Flashing Failure

Description

Accessories-(All) Wall Flashing Failure

Cause

Flashing is failing due to ultra violet exposure, building movement and expansion and contraction of building components.

Impact

Failing flashings allow moisture into the roof system. Moisture in the roof accelerates the failure of the roof system, insulation and decking.

Solution

Flashing needs to be restored to ensure a watertight condition.



Section: A (BUR)

Area: Defects

Caption: (All) Punctures / Tears - Abuse



Description

Field of the roof-(All) Punctures / Tears - Abuse

Cause

The most common reason for punctures and tears is abuse of the roof.

Impact

This condition can allow moisture entry into the building and roof system, causing damage to the building contents, and deterioration of the insulation, decking and the roof system.

Solution

Repair membrane as needed.

Section: D

Area: Defects

Caption: (All) Oxidation / Rust - Voids or Holes

Description

Deck-(All) Oxidation / Rust - Voids or Holes

Cause

Deck is rusted/oxidized through due to prolonged exposure to moisture or other corrosive conditions.

Impact

This is a serious safety concern. The structural integrity of the decking has been compromised. Any roof top traffic should be prohibitive in this area to prevent serious injury. Furthermore, caution should be given to activities below this area.

Solution

Remove and replace the existing wet roofing materials and deck.



Roof Condition Summary

Section Condition Overview

| Section | Sq. Footage | Leaks | Description |
|----------------|-------------|-------|-------------|
| D | 660 | | Very Poor |
| P | 625 | | Very Poor |
| A (BUR) | 70,644 | | Very Poor |
| B (BUR) | 138,545 | | Very Poor |
| C | 2,055 | | Very Poor |
| E | 25,276 | | Very Poor |
| F | 10,324 | | Very Poor |
| M | 816 | | Very Poor |
| A(SBS) | 39,120 | | Very Poor |
| B (SBS) | 14,800 | | Very Poor |
| A (Aluminized) | 25,200 | | Very Poor |

◀◀◀ Roof Condition Summary ▶▶▶

O-I
9622 Hill Drive
Lavington, BC V0E 2B0

| | | |
|-----------------------|---------------------------|---------------|
| Section: D | Sq. Footage: 660 | Leaks: |
| No Image Available | This is a duplicate core. | |
| Core Comments: | | |

Roof Condition Summary: We strive to provide our customers with comprehensive information as to their overall roof condition and life expectancy. The roof is in poor condition. A new roof installation is now recommended. This roofing work is suggested now to eliminate the risk of expensive tear off and potential deck replacement associated with continued repairs or re-roofing delays.

Membrane: The field of the roof has clearly reached the end of its life cycle. Previous repairs have been made and further attempts to repair this roof are not recommended.

Details: The conditions of the roof details are poor. The roof is in need of being replaced.

Drainage: The roof currently drains at acceptable levels. There are indications that drainage can become impaired if proper house keeping measures are not put in place. This would include gutter and downspout cleaning, straining basket cleaning, etc.

Insulation: The insulation has become saturated in identified areas. This moisture-laden material needs to be removed and replaced immediately to prevent further costly deterioration.

Deck: There were noted areas of roof deck deficiency. These areas will need to be treated in accordance with proper roofing practice. Repairs or replacement to the area will be subject to conditions found in the field. These remedies will be performed on a unit cost basis.

- (All) Oxidation / Rust - Voids or Holes - Rust/oxidation has create safety concerns with the structural integrity of the metal deck. (see photo)

◀◀◀ Roof Condition Summary ▶▶▶

O-I
9622 Hill Drive
Lavington, BC V0E 2B0

| | | |
|-----------------------|---------------------------|---------------|
| Section: P | Sq. Footage: 625 | Leaks: |
| No Image Available | This is a duplicate core. | |
| Core Comments: | | |

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Insulation: The insulation has become saturated in identified areas. This moisture-laden material needs to be removed and replaced immediately to prevent further costly deterioration.

Deck: The structural deck of the roof appears to be in good condition from underside. There were no visible deficiencies noted that caused concern.

◀◀◀ Roof Condition Summary ▶▶▶

O-I
9622 Hill Drive
Lavington, BC V0E 2B0

| Section: A (BUR) | Sq. Footage: 70,644 | Leaks: | | | | | | | | | | | | | | | | | | |
|---|---|---------------|---------------|--|--|-------|----------|-----------|-----------------|------|-----|------------|------------|-----|---------------|---------------|-----|------------|-----------|-----|
|  | <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th colspan="3">Core Analysis</th> </tr> <tr> <th style="width: 30%;">Layer</th> <th style="width: 40%;">Material</th> <th style="width: 30%;">Thickness</th> </tr> </thead> <tbody> <tr> <td>Metal Low Slope</td> <td>Deck</td> <td>1.0</td> </tr> <tr> <td>Fiberboard</td> <td>Insulation</td> <td>1.0</td> </tr> <tr> <td>4-Ply Asphalt</td> <td>BUR (Asphalt)</td> <td>0.5</td> </tr> <tr> <td>Pea Gravel</td> <td>Surfacing</td> <td>0.5</td> </tr> </tbody> </table> | | Core Analysis | | | Layer | Material | Thickness | Metal Low Slope | Deck | 1.0 | Fiberboard | Insulation | 1.0 | 4-Ply Asphalt | BUR (Asphalt) | 0.5 | Pea Gravel | Surfacing | 0.5 |
| Core Analysis | | | | | | | | | | | | | | | | | | | | |
| Layer | Material | Thickness | | | | | | | | | | | | | | | | | | |
| Metal Low Slope | Deck | 1.0 | | | | | | | | | | | | | | | | | | |
| Fiberboard | Insulation | 1.0 | | | | | | | | | | | | | | | | | | |
| 4-Ply Asphalt | BUR (Asphalt) | 0.5 | | | | | | | | | | | | | | | | | | |
| Pea Gravel | Surfacing | 0.5 | | | | | | | | | | | | | | | | | | |
| Core Comments: Core cut from roof. | | | | | | | | | | | | | | | | | | | | |

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Membrane: The field of the roof has clearly reached the end of its life cycle. Previous repairs have been made and further attempts to repair this roof are not recommended.

- (All) Punctures / Tears - Abuse - Allow moisture to enter the roof system leading to premature roof failure. (see photo)

Details: The conditions of the roof details are poor. The roof is in need of being replaced.

Drainage: The roof currently drains at acceptable levels. There are indications that drainage can become impaired if proper house keeping measures are not put in place. This would include gutter and downspout cleaning, straining basket cleaning, etc.

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◀◀◀ Roof Condition Summary ▶▶▶

O-I
9622 Hill Drive
Lavington, BC V0E 2B0

| | | |
|-------------------------|-----------------------------|---------------|
| Section: B (BUR) | Sq. Footage: 138,545 | Leaks: |
| No Image Available | This is a duplicate core. | |
| Core Comments: | | |

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Membrane: The field of the roof has clearly reached the end of its life cycle. Previous repairs have been made and further attempts to repair this roof are not recommended.

Details: The conditions of the roof details are poor. The roof is in need of being replaced.

- (All) Wall Flashing Failure - Allows moisture that results in premature membrane, insulation and decking deterioration. (see photo)

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Insulation: The insulation has become saturated in identified areas. This moisture-laden material needs to be removed and replaced immediately to prevent further costly deterioration.

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- (All) Ceiling Tiles - Deteriorated - Not visually appealing and safety issues may arise. (see photo)

◀◀◀ Roof Condition Summary ▶▶▶

O-I
9622 Hill Drive
Lavington, BC V0E 2B0

| | | |
|---------------------------|----------------------------------|---------------|
| Section: C | Sq. Footage: 2,055 | Leaks: |
| No Image Available | This is a duplicate core. | |
| Core Comments: | | |

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O-I
9622 Hill Drive
Lavington, BC V0E 2B0

| | | |
|---------------------------|----------------------------------|---------------|
| Section: E | Sq. Footage: 25,276 | Leaks: |
| No Image Available | This is a duplicate core. | |
| Core Comments: | | |

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◀◀◀ Roof Condition Summary ▶▶▶

O-I
9622 Hill Drive
Lavington, BC V0E 2B0

| | | |
|---------------------------|----------------------------------|---------------|
| Section: F | Sq. Footage: 10,324 | Leaks: |
| No Image Available | This is a duplicate core. | |
| Core Comments: | | |

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Roof Condition Summary

O-I
9622 Hill Drive
Lavington, BC V0E 2B0

| Section: M | Sq. Footage: 816 | Leaks: |
|-----------------------------|----------------------------------|--------|
| <h2>No Image Available</h2> | This is a duplicate core. | |
| Core Comments: | | |

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◀◀◀ Roof Condition Summary ▶▶▶

O-I
9622 Hill Drive
Lavington, BC V0E 2B0

| | | |
|---------------------------|----------------------------------|---------------|
| Section: A(SBS) | Sq. Footage: 39,120 | Leaks: |
| No Image Available | This is a duplicate core. | |
| Core Comments: | | |

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O-I
9622 Hill Drive
Lavington, BC V0E 2B0

| | | |
|-------------------------|----------------------------|---------------|
| Section: B (SBS) | Sq. Footage: 14,800 | Leaks: |
| No Image Available | This is a duplicate core. | |
| Core Comments: | | |

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◀◀◀ Roof Condition Summary ▶▶▶

O-I
9622 Hill Drive
Lavington, BC V0E 2B0

| | | |
|--------------------------------|----------------------------------|---------------|
| Section: A (Aluminized) | Sq. Footage: 25,200 | Leaks: |
| No Image Available | This is a duplicate core. | |
| Core Comments: | | |

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Construction Specification

O-I
9622 Hill Drive
Lavington, BC V0E 2B0

Specifications For CentiMark TPO Mechanically Fastened System

Sections included: A (Aluminized), A (BUR), A(SBS), B (BUR), B (SBS), C, D, E, F, M, P

Project Preparation:

Perform a pre-job meeting to determine jobsite logistics and safety requirements.

Furnish proposed construction schedule, if needed.

Furnish and install temporary rooftop chute assembly for debris removal.

Safety Related

Furnish and install proper safety equipment in accordance with Centimark's written safety program.

Furnish and install warning lines to identified areas associated with ground related roofing activities.

Store roofing materials in accordance with good roofing practices. Material placement will be to distribute weight loads throughout the entire roof area.

Surface Preparation:

Remove and dispose of existing loose gravel/rock ballast by means of industrial roof vacuum or mechanical sweeper. (D, A (BUR), B (BUR), C, E, F, A(SBS), B (SBS) Only.)

Remove and dispose of existing roof down to structural deck.

Removal of existing roof will be limited to an amount that can be replaced the same day.

Inspect existing structural deck for deterioration.

Identify and remove structural deck not capable of providing an acceptable substrate for the installation of the new roof. Furnish and install new deck at a unit cost of \$15.00 per square foot. Areas of removal will be approved by an Owner's representative.

Remove roof top equipment as designated by Owner. Furnish and install deck material and rigid insulation to replace void left by equipment removed.

Remove and dispose of existing pitch pan(s) as needed. (D Only.)

Remove existing counter-flashings and dispose of debris. (D, P, C, F Only.)

Remove existing perimeter drip edging and dispose of debris. (A (BUR), B (BUR), C, A(SBS), B (SBS) Only.)

Remove existing sheet metal copings and dispose of debris. (D, P, A (BUR), B (BUR), C, E, F, M Only.)

Remove existing pre-engineered metal wall panels and dispose of debris. (D, F Only.)

Insulation Attachment:

Furnish and install a layer of 1.5" polyisocyanurate insulation, (R-Value = 9). This layer of insulation will be mechanically attached to the prepared substrate utilizing FM Global (FM) approved 3" plates and fasteners.

Furnish and install tapered insulation at the roof drains creating a sump. (D, B (BUR), E, F Only.)

System Application:

Furnish and install **CentiMark** .45 mil reinforced, TPO roof membrane.

Position the TPO membrane over the prepared substrate and allow the membrane sufficient time to "relax" prior to installation.

Install the new TPO membrane over the prepared surface by utilizing mechanical fasteners on 10 foot centers.

Mechanical attachment of the membrane shall be done utilizing a 1" wide polymer batten bar or 2 3/8" round seam plates and FM Global (FM) approved fasteners. Maximum spacing 6" on center.

The thermoplastic membrane seams will be overlapped a minimum of 5", then hot air welded together. Weld width shall be a minimum of 1.5" in width for automatic machine welding. Weld width shall be 2" in width for hand welding. Upon completion of welding, each seam shall be probed to ensure proper securement.

HVAC, Curbed Penetrations and Other Air Handling Unit Details

Furnish and install at the base of the unit 2 3/8" round seam plates to the field membrane. Adhere a second piece of thermoplastic membrane to the curb with bonding adhesive and install prefabricated universal corners for reinforcement.

Furnish and install a 30" wide TPO protective mat at rooftop access points.

Pipes Less Than 6" In Diameter

Furnish and install new prefabricated thermoplastic pipe boot secured at the top with a stainless steel screw type clamp fully adhered to the field sheet.

Stacks Greater Than 6" In Diameter

Furnish and install a 60 mil, non-reinforced thermoplastic flashing, where applicable.

Miscellaneous Projections

Furnish and install thermoplastic flashings to the roof projections. Upon completion of welding, each seam shall be probed to ensure proper securement.

Furnish and install new white 24 gauge TPO coated metal pitch pan(s) and/or ChemCurb(s). (D Only.)

New pitch pan(s) and/or ChemCurb(s) shall be installed utilizing mechanical fasteners and/or adhesives and topped with sealant. (D Only.)

Furnish and install TPO uncured flashing to meet the dimensions of the pitch pan(s). (D Only.)

Sheet Metal Accessories:

Furnish and install new retrofit drain inserts into existing drains. (D, B (BUR), E, F Only.)

Furnish and install new 26 gauge pre-painted metal coping cap. The coping shall have a baked-on factory finish. Choice of color to be selected by owner from a standard color chart. All metal flashings will be secured using approved fasteners.

Furnish and install new 26 gauge pre-painted metal counter flashings to the mechanical units. The metal shall have a baked-on factory finish. Choice of color to be selected by owner from a standard color chart. All metal flashings will be secured using approved fasteners.

Furnish and install new 24 gauge white thermoplastic coated metal gravel stop/drip edge with continuous cleat.

Standard Operating Procedures:

Employee Professionalism

All work shall be performed in a safe, professional manner in compliance with Centimark policy.

Permits

CentiMark will supply the necessary permits for the project.

If the permit is purchased separately from the roof contract, **CentiMark** can submit all required documentation to secure the permit on the owner's behalf.

Nightly Tie-In's

Depending on new roof system being installed, temporary water cut-offs are to be constructed at the end of each working day to protect the newly installed roof system and building interior.

Clean Up

All work premises will be cleaned daily during the construction process and at the completion of the project.

Job Acceptance and Punch List

Conduct a post job walk through for final sign-off of our job completion form.

Warranty

Upon purchase of the roofing system, you become entitled to receive the benefits of single source responsibility through **CentiMark's** comprehensive written warranty. This warranty protects your roof against defects in materials or workmanship. If your roof leaks at any time during the warranty period, we will provide complete warranty service.

| Quote Name | Section Name | Length |
|-------------------|---------------------|---------------|
| All Quotes. | All Sections. | Ten |

CentiMark Corporation disclaims any and all responsibility for pre-existing conditions including, but not limited to: structural damage or deficiencies, clogged drains, mold growth, excessive standing water, removal of hazardous material or other hidden deficiencies such as; damaged or leaking skylights, HVAC units/conduits, electrical or gas lines. This proposal does not cover, and in no case shall CentiMark be liable for, the removal of, or damage to, HVAC units/conduits, gas lines, water lines, electric lines, or conduits, whether located above, below, or in the roof system, lightning protection systems, landscaping, communication cable, communication devices, or other devices, including recalibration of satellites. It is the building owner's financial obligation to provide corrective measures.

◀◀◀ Safety Pictures ▶▶▶

Section: A(SBS)

Area: Safety



Existing Safety Condition

Safety Solution

Description

Flags & MSS - MSS in use

Hazard

Exposed Edges - Fall Hazard

Impact

Centimark employee could fall off the edge resulting in serious injury or death.

Solution

Run a 3/8 inch cable, 7ft back from edge, to prevent employee, wearing a 6ft lanyard, from reaching the fall hazard but still allowing work to be done on the edge.



◀◀◀ Executive Proposal Summary ▶▶▶

O-I
9622 Hill Drive
Lavington, BC V0E 2B0

| Quote | Section | Sq Ft. | System | Warranty* | Price** |
|---|----------------|---------|------------------------------|-----------|-------------|
| O-I Section A (all) TPO(5/12/11 15:26:11) | | | | | \$1,924,192 |
| | A (Aluminized) | 25,200 | TPO Fastened | Ten years | |
| | A (BUR) | 70,644 | TPO Fastened | Ten years | |
| | A(SBS) | 39,120 | TPO Fastened | Ten years | |
| | B (BUR) | 138,545 | TPO Fastened | Ten years | |
| | B (SBS) | 14,800 | TPO Fastened | Ten years | |
| | C | 2,055 | TPO Fastened | Ten years | |
| | D | 660 | TPO Fastened | Ten years | |
| | E | 25,276 | TPO Fastened | Ten years | |
| | F | 10,324 | TPO Fastened | Ten years | |
| | M | 816 | TPO Fastened | Ten years | |
| | P | 625 | TPO Fastened | Ten years | |
| * Roof system warranties protect your roof against defects in materials or workmanship for the specified period as outlined in the CentiMark Non-Prorated Limited Roof Warranty or the manufacturer's warranty. | | | | | |
| ** Price does not include taxes for the following states and countries: AZ, CT, HI, KS, NM, TX, WA and Canada. | | | | | |

CentiMark Project Manager Signature Date

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Standard terms: One-third (1/3) of the contract price due at the job start and the balance due net thirty (30) upon job completion, unless otherwise agreed to in the contract document. (Special terms are available upon request)









The quotes appearing in this Proposal have been calculated based on current prices for the component building materials. However, the market for building materials is considered to be volatile, and sudden price increases could occur through no fault of CentiMark. Since the quotes are material terms of this Proposal, CentiMark exclusively reserves the right to revoke, without written notice, the quotes at any time prior to a valid purchase order or fully executed contract.

This quote does not include any supplemental deck attachment as may be required by Factory Mutual Global (FM). Please note that should FM and/or you require such deck attachment, additional costs will be estimated and added as a separate item to the overall cost of this project.

Valid from 05/12/2011 to 07/20/2011

CentiMark Confidential

◀◀◀ References ▶▶▶

| Contact | Before | After |
|--|--|---|
| Type of reference: Industry | | |
| <p style="text-align: center;">Porto Fino Vancouver, BC V6H 1B7 604-439-8848</p> <p style="text-align: center;">Contact: Claire Conrad Property Manager</p> |  |  |
| <p style="text-align: center;">Reliable Parts Coquitlam, BC V3K 6N1 604-941-1355</p> <p style="text-align: center;">Contact: Bob McKamey Traffic Manager</p> |  |  |
| <p style="text-align: center;">Fortress Canada Holdings Ltd. Richmond, BC V6V 1N2 604-930-4036</p> <p style="text-align: center;">Contact: Milton Po Owner</p> |  |  |
| <p style="text-align: center;">Pac West Auto Burnaby, BC V5A 3R1 604-420-6988</p> <p style="text-align: center;">Contact: Jerry Caedo General Mgr.</p> |  |  |

KMS Tools And Equipment Limited
Coquitlam, BC V3K 5V4
604-522-5599
Contact: Stan Pridham
Owner



Salish Plaza
Chilliwack, BC V2D 7V2
604-253-0277
Contact: Karen Clarke
Facilities Manager



Il Mercato
Vancouver, BC V5L 3Y3
604-990-1500
Contact: Ryan Russell
Property manager



◀◀◀ Frequently Asked Customer Questions ▶▶▶

What should I look for when selecting a roofing contractor?

Any roofing system is only as good as the contractor who installs the roof. The very best components of a roofing system can be specified. Yet if installed by an average contractor, then the results of the project will be average. Roofing projects are dependent upon the contractor. The roof itself is fabricated on your building and those areas such as the roof projections, edge details, penetrations, walls and other areas of the roof requiring workmanship will determine the success of the project. With this in mind it is always important to look for a contractor who has a proven track record with multiple years of experience. It is also important to look to a contractor that has the ability to install multiple roof systems so they can work with you to select the best roof system for your specific needs. Criteria such as a written safety program, a drug tested work force, uniformed employees, and the use of their own employees versus subcontracting, are all important. Financial strength, years in business, and like type references are also worth serious consideration. A final suggestion in selecting a roofing contractor is to ask for references that have had problems. All roofing contractors have had jobs that have leaked. The difference between the good contractors and the bad contractors is how they service the client after the sale. Calling a few clients that have required attention after the initial installation is a good way to measure the contractors commitment to his clientele.

What is the best roofing system on the market?

There is not a single best roofing system available. If there were, everyone would be installing only that particular system. Conversely there are eight major families of roofing including steep slope (inclusive of shingle, tile, shakes, etc), built up roofs (inclusive of asphalt and coal tar), modified bitumen roofs (APP and SBS varieties), metal roofs (standing seam, architectural and pre-engineered), coatings (acrylic, silicone, ceramic, etc), sprayed in place foam roofs, thermoplastic single ply membranes (PVC, TPO, EP, CSPE, etc) and thermalset single ply membranes such as EPDM. Each of these roof systems has its place in the market and its own distinct advantages. A critical factor to a successful roofing project is using a contractor who is both familiar and capable of installing each type of roof system. Such a capability will allow the contractor to evaluate your facility and the particular roofing characteristics of the building and suggest the roofing system(s) that meet the objectives of the owner.

What type of warranty should I buy and how do they differ?

There are multiple warranty types and lengths available. Warranty terms such as No Dollar Limit (a.k.a. NDL) Non Pro-Rated warranty, total system warranty, material warranty, workmanship and material warranty, and single source warranty are all very different and each come with varying degrees of exclusions. Prior to evaluating warranties, a buyer needs to consider who has authored the warranty and keep in mind that the warranty can be written to benefit the warrantor. A buyer should further consider the exclusions that are written into each warranty and determine if these exclusions are acceptable. If the warranty and exclusions do not meet the customer needs then changes or riders to warranty should be requested. The term No Dollar Limit refers to the fact that the warranty coverage is not restricted to the original purchase price and allows for price increases due to inflation and other costs. This warranty is seldom exercised due to the need for catastrophic failure to occur in conjunction with increased roofing prices. The Non Pro-Rated warranty is a warranty that holds its value throughout the life of the warranty term. This type of warranty is not discounted as the roof ages. The warranty holds the same value in the first year of the warranted term as it does the last year. Total system warranties are warranties that cover every aspect of the roof system. This varies from material warranty that may only cover replacement materials and not the labor to install the new material. As a final note, the buyer should determine what it is he or she would like to accomplish with a warranty. This should take into consideration the reasons why the previous roof has failed, how long the building will be owned, what the current use and potential future use of the building may be, and who they want covering potential future needs. Remember, all roofs leak. The question is will it be inside or outside the warranty period. With this in mind, the buyer needs to determine how important it is to have the original installer who is most familiar with the roof to do the repair work.

How much and what type of roofing insulation should I have installed?

The insulation component of a roofing system serves multiple functions. Specifically to include insulating properties or R-value (R-value is the measurement of a materials ability to resist heat transfer), provide an acceptable substrate for waterproofing membrane(s), provide compressive strength and resistance to roof traffic, and provide slope for proper drainage. The type and the amount of insulation used varies with roofing objectives. There are many types of insulation including fiberboard (non-coated, one side coated, six side coated, and high density), perlite, densdeck, expanded polysterene, extruded polysterene, polyisocyanurate, fiberglass, glass foam, and others. Again each insulation type has its advantage.

What are the maintenance obligations once I have the roof installed?

The owners maintenance obligations on the new roof can vary from nothing more than keeping drains and gutters free from debris to extensive preventive maintenance programs. Each roof system and manufacturer has set requirements that are the responsibility of the building owner.