**PROCUREMENT SERVICES SECTION**

**Surrey City Hall, 13450 – 104 Avenue, Surrey, B.C., V3T 1V8**
**Tel: 604-590-7274**
**E-mail: purchasing@surrey.ca**

# ADDENDUM #1

| | |
|---|---|
| **REQUEST FOR QUOTATIONS (RFQ) NO.:** | **1220-040-2019-026** |
| **TITLE:** | **COMPLETE RE-ROOFING OF WAREHOUSE BUILDING AT 14577 66 AVE., SURREY, BRITISH COLUMBIA** |
| **ADDENDUM ISSUE DATE:** | **October 4, 2019** |
| **CLOSING DATE:** | **prefer to receive Quotations on or before October 8, 2019** |

## INFORMATION FOR CONTRACTORS:

This Addendum is issued to provide additional information to the RFQ for the above-named project, to the extent referenced and shall become a part thereof. No consideration will be allowed for extras due to the Contractor not being familiar with this Addendum. This Addendum No. 1 contains thirty-six (36) pages in total.

**FOR INFORMATION ONLY:**

1. The following are approved as alternates (see attachments):
   **Vapour barrier**: IKO Aquabarreir AVB: **Requested Alternate:** Sopravap'R

   **Insulation**: IKOTherm III Insulation: **Requested Alternate:** SopraIso Plus

   **Coverboard**: IKOTherm Covershield: **Requested Alternate:** SopraIso Plus HD

   **Base sheet**: IKO Armourvent Base: **Requested Alternate**: Colvent Base 830

   **Base sheet**: IKO Torchflex 180 FF-base: **Requested Alternate:** Sopralene flam 180

**Base sheet stripping:** IKO Armourbond Flash: **Requested Alternate**: Sopralene Flam Stick (High performance) **OR** Sopraflash Flam Stick

**Cap Sheet**: IKO Torchflex TP-HD Cap: **Requested Alternate:** Colvent Traffic Cap 860

Siplast alternative materials as attached

2. Ignore SP-5 in Schedule C, since it is already included in base price per section 8 – 'Fees and Payments' of Schedule C -Quotation.

3. See attached Building Materials Investigation Report by 'Sure Hazmat and Testing'.

**QUESTIONS AND ANSWERS:**

Q1: Specification calls for removal of any redundant material on roof including ducting. Are we to include for removal of the 280' of ducting – is this redundant? (attached photo)

A1: Yes, removal of the ducting shown is to be included.

Q2: Will alternative material manufacturers be accepted (Soprema, Siplast)?

A2: Refer to the information above.

Q3: Clarification for **Roof Area A** – Will a self-Adhered vapour barrier be installed at this roof area whether new insulation option is chosen or not?

A3: Yes, self-adhered vapour barrier is to be installed over the office area on both options.

**END OF ADDENDUM #1**

**All Addenda will become part of the RFQ Documents.**

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www.soprema.ca

# SOPRAVAP'R

TECHNICAL DATA SHEET
150914SCAN1E
(supersedes 140211SCAN1E)

## DESCRIPTION

**SOPRAVAP'R** is a self-adhesive membrane composed of SBS modified bitumen and a tri-laminated woven polyethylene facer. The underface is covered with a silicone release film.

**SOPRAVAP'R** is used as a vapour barrier on insulated roof systems.

The width of the membrane has been specifically determined to allow the membrane to fit with most structural steel decks.

## RECOMMENDED SUBSTRATES

**SOPRAVAP'R** can be installed on most substrates, such as steel, concrete, plywood, gypsum or cement boards, and asphaltic panels.

## SURFACE PREPARATION

Except for the steel deck, all substrates must be primed with **ELASTOCOL STICK** or **ELASTOCOL STICK ZERO**. The substrate should be clean and sound, free of loose materials or contaminants, such as water and grease which may compromise the performance of the product.

## APPLICATION

**SELF-ADHESIVE**

**SOPRAVAP'R** is adhered to substrate by peeling off the silicone release film.

Side laps must be a minimum of 75 mm (3 in) and end laps must be a minimum of 150 mm (6 in).

All end laps on steel deck shall be supported by a metal plate 15 cm x 106 cm (6 in x 42 in).

Once installed, pressure must be applied over the whole surface using a roller to ensure a perfect adhesion.

Minimum application temperature: - 10 °C (14 °F)

**FOR COMPLETE INFORMATION ON PRODUCT INSTALLATION, PLEASE CONSULT YOUR SOPREMA REPRESENTATIVE.**

## PROPERTIES

| Properties | SOPRAVAP'R |
|---|---|
| Thickness | 0.8 mm (31 mil) |
| Dimensions | 40.8 x 1.14 m (134 x 3.7 ft) |
| Gross / Net coverage per roll | 46.5 / 43.5 $m^2$ (500 / 468 $ft^2$) |
| Weight | 0.77 $kg/m^2$ (0.16 $lb/ft^2$) |
| Selvedge width | 75 mm (3 in) |
| Top face | Tri-laminate woven polyethylene |
| Underface | Silicone release film |
| Rolls per skid | 25 |

(All values are nominal)

TDS_SOPRAVAP'R.indd

SYSTÈME QUALITÉ ISO 9001 QUALITY SYSTEM

SYSTÈME ENVIRONNEMENT ISO 14001 ENVIRONMENT SYSTEM

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# SOPRAVAP'R

TECHNICAL DATA SHEET
150914SCAN1E
(supersedes 140211SCAN1E)

## PRECAUTIONS

If **SOPRAVAP'R** is not immediately covered, particular attention should be paid to implementation of details to ensure a perfect temporary seal. All «T» joints and transitions (90 °) should be covered with **SOPRAMASTIC** sealant. If fishmouths or other openings are created to overlap, they must be sealed with **SOPRAMASTIC** sealant.

## PROPERTIES

| Properties | Standards | SOPRAVAP'R |
|---|---|---|
| Tensile strength, MD/XD | ASTM D5147 | 9.5 / 13 kN/m (54 / 74 lbf/in) |
| Ultimate elongation, MD/XD | ASTM D5147 | 33 / 25 % |
| Cold bending | ASTM D5147 | - 50 °C (- 58 °F) |
| Static puncture | ASTM D5602 | 400 N (90 lbf) |
| Tear resistance, MD/XD | ASTM D1970 | 423 / 458 N (95 / 103 lbf) |
| Lap adhesion | ASTM D1876 | 1000 N/m (68 lbf/ft) |
| Water absorption | ASTM D5147 | 0.1 % max. |
| Peel resistance on steel | ASTM D903 | 950 N/m (5.4 lbf/in) |
| Water vapour permeance | ASTM E96 (Procedure B) | 1.7 ng/Pa.s.m² (0.03 perm) |
| Air permeability | ASTM E2178 | < 0.001 L/s•m² |

**SOPRAVAP'R** membrane is evaluated in accordance with the requirements contained in CAN/ULC-S126, *Standard Method of Test for Fire Spread Under Roof Deck Assemblies.*

(All values are nominal)

## STORAGE & HANDLING

Rolls must be stored upright. If the product is stored outdoors, cover them with an opaque protective cover after removal of the delivery packaging.

SYSTÈME QUALITÉ ISO 9001 QUALITY SYSTEM

SYSTÈME ENVIRONNEMENT ISO 14001 ENVIRONMENT SYSTEM

TDS_SOPRAVAP'R.indd

# SOPRA-ISO PLUS

INSULATION

APPLICATIONS

WALLS

TECHNICAL DATA SHEET 150422SCAN2F (supersedes 141006SCAN2F)

## DESCRIPTION

SOPRA-ISO PLUS is a polyisocyanurate insulation board. It is composed of a closed cell polyisocyanurate foam core between polymers coated glass fibres facers.

It is mainly use as thermal insulation for SOPREMA roofing systems.

SOPRA-ISO PLUS is also available in tapered insulation.

## INSTALLATION

### MECHANICALLY FASTENED

Mechanically fastened with screws and stress plates for insulation.

### ADHERED WITH HOT BITUMEN

Adhered with hot bitumen (the temperature of the bitumen must be 10 °C (50 °F) below the Equiviscous Temperature (EVT[1]).

### ADHERED WITH ADHESIVE

Adhered with DUOTACK or COLTACK adhesives.

The required number of mechanical fasteners and amount of adhesive varies from zone to zone. For more details about these requirements, consult the Wind Uplift Resistance Testing reports according to Canadian standard CSA A123.21-14 or Factory Mutual (FM 4470).

Service temperature: -73 to 122 °C (-100 to 250 °F)

## RESTRICTIONS

Waterproofing membranes must not be adhered directly to SOPRA-ISO PLUS insulation board, except COLVENT BASE 810 and COLVENT BASE 830 (without primer) and COLVENT BASE 820 and COLVENT BASE 840 (with primer). Otherwise, a recovery board for roofing must be put in place before the installation of any other waterproofing membranes. 1200 x 2400 mm (4 ft x 8 ft) boards must not be adhered with hot bitumen or adhesive.

FOR COMPLETE INFORMATION ON PRODUCT INSTALLATION, PLEASE CONSULT YOUR SOPREMA REPRESENTATIVE.

## PACKAGING

| Specifications | SOPRA-ISO PLUS |
|---|---|
| Thickness | 13 mm to 100 mm (0.5 to 4 in)* |
| Dimensions | 1.2 x 1.2 m (4 x 4 ft)<br>1.2 x 2.4 m (4 x 8 ft) |
| Surface | Polymers coated glass fibres facers |
| Underface | Polymers coated glass fibres facers |

*Others thicknesses available upon request.
(All values are nominal)

1.Equiviscous Temperature (EVT): The temperature at which bitumen reaches an ideal viscosity threshold of 125 cP (0.125 Pa.s), which guarantees the quantity of mop-applied inter-ply asphalt used in laminated roofing systems (www.roofingcanada.com).

SYSTÈME QUALITÉ ISO 9001 QUALITY SYSTEM

SYSTÈME ENVIRONNEMENT ISO 14001 ENVIRONMENT SYSTEM

SOPREMA®

# SOPRA-ISO PLUS



TECHNICAL DATA SHEET 150422SCAN2F (supersedes 141006SCAN2F)

## PROPERTIES

SOPRA-ISO PLUS meets the physical property requirements of ASTM C 1289, Type II, Class 2, Grade 2 (20 psi) or Grade 3 (25 psi) and CAN/ULC S704 Type II (20 psi) and Type III (25 psi).

| Properties | Standards | SOPRA-ISO PLUS |
|---|---|---|
| Thermal Resistance (LTTR)<br>(RSI-Value [R Value] / 25.4 mm [1 in] @ 24 °C [75 °F])<br><br>25.40 mm (1.0 in)<br>38.10 mm (1.5 in)<br>50.80 mm (2.0 in) | CAN/ULC S704-11 | <br><br>1.00 RSI (R – 5.7)<br>1.50 RSI(R – 8.6)<br>2.01 RSI (R – 11.4) |
| Metal Desk Maximum Flute Spanability based on SOPRA-ISO thickness<br><br>≥ 25.40 mm (1.0 in) < 35.56 mm (1.4 in)<br>> 38.10 mm (1.5 in) ≤ 101.60 mm (4.0 in) | - | <br><br>66.70 mm (2 5/8 in)<br>111.10 mm (4 3/8 in) |
| Compressive Strength | ASTM D 1621 | 138 kPa (20 psi)<br>172 kPa (25 psi) |
| Density | ASTM D 1622 | 32 kg/m$^3$ (2.0 lb/ft$^3$) |
| Linear Dimensional Stability | ASTM D 2126 | < 2.0 % |
| Water Absorption | ASTM C 209<br>ASTM D 2842 | < 1.0 %<br>< 3.5 % |
| Flame Spread* | ASTM E 84 | 40 - 60 |
| Tensile Strength | ASTM D 1623 | 35 kPa (> 730 lb/ft$^2$) |

*The numerical ratings as determinated by ASTM Test Method E 84 are not intended to reflect hazards presented by this or any other material under actual fire conditions.
(All values are nominal)

## STORAGE AND HANDLING

The SOPRA-ISO PLUS panels are covered with a waterproof packaging for handling the panels in the manufacturing plant and during transit only.

When short-term outdoor storage is necessary, SOPRA-ISO PLUS panels must be stacked on skids at least 75 mm (3 in) above the ground, store flat and cover with a waterproof cover such as a canvas tarpaulin. In addition, the temporary SOPREMA applied packaging must be removed to prevent accumulation of condensation.

Refer to PIMA Technical Bulletin No. 109: Storage & Handling Recommendations for Polyiso Roof Insulation at www.polyiso.org.

# SOPRA-ISO PLUS HD

INSULATION

APPLICATIONS

ROOFS

TECHNICAL DATA SHEET 180924SCANE (supersedes 180828SCANE)

## DESCRIPTION

SOPRA-ISO PLUS HD is both a support panel and a high-density polyisocyanurate thermal insulation. It is composed of a closed-cell core structure placed between two polymers coated glass fibers facers.

SOPRA-ISO PLUS HD is designed to be used as a membrane support on low slope roofs. It can be installed on plywood or on rigid insulation.

SOPRA-ISO PLUS HD can be used as a support for modified bitumen waterproofing membranes that are installed with adhesive, and for self-adhesive membranes.

Modified bitumen waterproofing membranes cannot be welded directly to the panel or adhere with hot bitumen.

## INSTALLATION

### MECHANICALLY FASTENED

Mechanically attach the panel with screws and plates designed for insulation.

### ADHERED WITH ADHESIVE

Adhere the panel with one of the DUOTACK adhesives (for 1.2 x 1.2 m (4 x 4 ft) panels only).

The quantity of mechanical fasteners or the amount of adhesive varies from one area to another. For more information on the required quantities, refer to the reports on dynamic wind uplift tests completed in accordance with CSA A123.21 or Factory Mutual FM 4470 (RoofNav database) including recommendations for corners and perimeters indicated in the PLPDS 1-29 of Factory Mutual.

Service temperatures: -73 to 122 °C (-100 to 250 °F)

## RESTRICTION

SOPRA-ISO PLUS HD panels must not be adhered with hot bitumen.

Modified bitumen waterproofing membranes cannot be welded directly to the panel or adhere with hot bitumen.

FOR COMPLETE INFORMATION ON PRODUCT INSTALLATION, PLEASE CONSULT YOUR SOPREMA REPRESENTATIVE.

## PACKAGING

| Specifications | SOPRA-ISO PLUS HD |
|---|---|
| Thickness | 12.7 mm (1/2 in) |
| Dimensions | 1.2 x 1.2 m (4 x 4 ft)<br>1.2 x 2.4 m (4 x 8 ft) |
| Surface | Polymers coated glass fibres |
| Underface | Polymers coated glass fibres |

(All values are nominal)

# SOPRA-ISO PLUS HD

INSULATION

APPLICATIONS

ROOFS

TECHNICAL DATA SHEET 180924SCANE (supersedes 180828SCANE)

## PROPERTIES

SOPRA-ISO PLUS HD meets the requirements of ASTM C 1289, Type II, Class 4, Grade 1 and CAN/ULC S704.1 Type 4, Class 3.

| Properties | Standards | SOPRA-ISO PLUS HD |
|---|---|---|
| Thermal resistance (RSI (R-value) / 12,7 mm [1/2 in] @ 24 °C [75 °F]) | ASTM C 518 | 0.44 RSI (R – 2.5) |
| Compressive strength | ASTM D 1621 | 550 to 759 kPa (80 to 110 psi) |
| Density | ASTM D 1622 | 68 kg/m³ (4.2 lb/pi³) |
| Linear dimensional stability | ASTM D 2126 | < 0.5 % linear change |
| Water absorption | ASTM C 209 | < 3 % |
| Flame spread* | ASTM E 84 | 40 - 60 |
| Tensile strength | ASTM D 1623 | > 35 kPa (> 730 lb/ft²) |
| Mold growth resistance | ASTM D 3273 | Pass |

* The results determined in accordance with the ASTM E 84 Standard are not intended to indicate the hazards generated by this material, nor any other, in real fire conditions.
(All values are nominal)

## STORAGE AND HANDLING

SOPRA-ISO PLUS HD panels are entirely covered with a waterproof coating for protection during handling at the factory and during shipping only.

SOPRA-ISO PLUS HD panels must be stored on a flat support and protected from inclement weather. SOPREMA's temporary packaging must be removed to prevent accumulation of condensation.

However, if short-term outdoor storage is required, SOPRA-ISO PLUS HD panels should be stacked flat on pallets at least 75 mm (3 in) above the ground and covered with a waterproof tarpaulin.

See PIMA Technical Bulletin No. 109: Storage & Handling Recommendations for Polyiso Roof Insulation at www.polyiso.org.

For more information, refer to the instructions on the container label and relevant safety data sheet (SDS).

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TECHNICAL DATA SHEET
150312SCAN5E
(supersedes 140602SCAN3E)

# COLVENT BASE 830

## DESCRIPTION

**COLVENT BASE 830** is a partially bonded high performance base sheet membrane. The base sheet membrane is composed of SBS modified bitumen and a glass mat reinforcement. The surface is covered with a thermofusible plastic film. The underface, made of discontinuous self-adhesive strips, is covered with a release protection film.

**COLVENT BASE 830** is provided with **DUO SELVEDGE** technology (60 % self-adhesive/40 % thermofusible).

## SURFACE PREPARATION

Using one of the **ELASTOCOL STICK** primer is required before the installation of **COLVENT BASE 830** membrane, except when using **SOPRA-ISO PLUS insulation panels**, **which does not required primer.** Surfaces must be clean, dry and free of loose particles.

## INSTALLATION

**SELF-ADHESIVE**

**COLVENT BASE 830** must be adhered to support by peelling off the release protection film. Once installed, a pressure must be applied over the whole surface using a membrane roller to ensure full adhesion.

**DUO SELVEDGE**

The first 60% of **DUO SELVEDGE** is self-adhesive. The remaining 40% surface of the selvedge is sealed with a torch and a round nosed trowel.

Minimum temperature application: ≥ -10 °C (14 °F).

**FOR COMPLETE INFORMATION ON PRODUCT INSTALLATION, PLEASE CONSULT YOUR SOPREMA REPRESENTATIVE.**

## PACKAGING

| Specifications | COLVENT BASE 830 |
|---|---|
| Thickness | 2.5 mm (98.4 mil) |
| Reinforcement | Glass mat |
| Dimensions | 1 m x 12 m (3.3 ft x 39 ft) |
| Weight | 2.9 kg/m² (0.6 lb/ft²) |
| Selvedge width | 75 mm (3 in) |
| Surface | Thermofusible plastic film |
| Underface | Self-adhesive, covered with a release protection film |
| Rolls per skid | 25 |

# COLVENT BASE 830

TECHNICAL DATA SHEET
150312SCAN5E
(supersedes 140602SCAN3E)

## PROPERTIES

**COLVENT BASE 830 as per CAN/CGSB-37.56-M, 9th draft).**

| Properties | COLVENT BASE 830 |
|---|---|
| Strain energy @ 23 °C (73.4 °F), MD/XD | 1.0 / 0.9 kN/m |
| Breaking strength @ 23 °C (73,4 °F), MD/XD | 5.8 / 5.4 kN/m |
| Elongation at max load @ 23 °C (73.4 °F), MD/XD | 3 / 3 % |
| Tear resistance @ 23 °C (73.4 °F) | 30 N |
| Static puncture resistance | 120 N |
| Dimensional stability, MD/XD | < 0.5 / < 0.5 % |
| Plastic flow, ASTM D5147 | 105 °C (221 °F) |
| Cold bending, ASTM D5147 | -25 °C (-13 °F) |

(All values are nominal)

## STORAGE & HANDLING

Rolls must be stored upright, with the selvedge side on top. If the products are stored outdoors, cover them with an opaque protection cover after removal of the delivery packaging.

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# SOPRALENE FLAM STICK

TECHNICAL DATA SHEET
140220SCAN1E
(supersedes 101220SCAN6E)

## DESCRIPTION

**SOPRALENE FLAM STICK** is a base sheet membrane composed of SBS modified bitumen reinforced with a composite (glass grid and polyester) reinforcement. The surface is covered with a thermofusible plastic film. The underface is covered with a release protection film.

## SURFACE PREPARATION

Using one of the **ELASTOCOL STICK** primer is required before the installation of **SOPRALENE FLAM STICK** membrane. Surfaces must be clean, dry and free of loose particles.

## INSTALLATION

**SELF-ADHESIVE**

**SOPRALENE FLAM STICK** must be adhered to support after removing the release protection film. Once installed, a pressure must be applied over the whole surface using a membrane roller to ensure good contact.

Application temperatures: **SOPRALENE FLAM STICK** - Summer grade (applied ≥ 10 °C [50 °F])
**SOPRALENE FLAM STICK** - Winter grade (applied between -10 to 10 °C [14 à 50 °F])

**FOR COMPLETE INFORMATION ON PRODUCT INSTALLATION, PLEASE CONSULT YOUR SOPREMA REPRESENTATIVE.**

## PACKAGING

| Specifications | SOPRALENE FLAM STICK |
|---|---|
| Thickness | 3.0 mm (118 mil) |
| Reinforcement | Composite |
| Dimensions | 10 m x 1 m (33 x 3.3 ft) |
| Weight | 3.5 kg/m² (0.7 lb/pi²) |
| Selvedge width | 75 mm (3 in) |
| Surface | Thermofusible plastic film |
| Underface | Self-adhesive, covered with a release protection film |
| Rolls per skid | 30 |

## PROPERTIES

**SOPRALENE FLAM STICK as per CAN/CGSB-37.56-M, 9th draft.**

| Properties | SOPRALENE FLAM STICK |
|---|---|
| Strain energy | 7.8 / 7.2 kN/m |
| Breaking strength | 15 / 13.5 kN/m |
| Ultimate elongation | 60 / 65 % |
| Tear resistance | 125 N |
| Static puncture resistance | 560 N |
| Cold bending - Initial<br>-90 days at 70 °C (158 °F) | -30 °C (-22 °F)<br>-30 °C (-22 °F) |

(All values are nominal)

## STORAGE & HANDLING

Rolls must be stored upright, with the selvedge side on top. If the product is stored outdoors, cover them with an opaque protective cover after the removal of the delivery packaging.

SYSTÈME QUALITÉ ISO 9001 QUALITY SYSTEM

SYSTÈME ENVIRONNEMENT ISO 14001 ENVIRONMENT SYSTEM





TDS_SPOPRALENE_FLAM_STICK.indd

# SOPRALENE

## SOPRALENE 180 SANDED
## SOPRALENE 180 GR
## SOPRALENE 180 SP 3.5
## SOPRALENE FLAM 180
## SOPRALENE FLAM 180 GR

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TECHNICAL DATA SHEET
121031SCAN1E
(supersedes 110309SCAN1E)

## DESCRIPTION

**SOPRALENE 180** membranes are composed of a non-woven polyester reinforcement and SBS modified bitumen. **SOPRALENE** cap sheets are also available with fire retardant additives (FR) for better fire resistance.

**SOPRALENE FLAM 180** can be used as a waterproofing membrane on foundation walls and others horizontal or vertical below grade concrete surfaces.

**FOR COMPLETE INFORMATION ON APPLICATION AND SYSTEMS, PLEASE CONSULT OUR SPECIFICATION MANUAL.**

## PROPERTIES

(As per CAN/CGSB-37.56-M, 9th draft).

| Properties | SOPRALENE | | | | |
|---|---|---|---|---|---|
| | 180 SANDED | 180 GR | 180 SP | FLAM 180 GR | FLAM 180 |
| Thickness | 3.0 mm | 4.0 mm | 3.5 mm | 4.0 mm | 3.0 mm |
| Dimension | 10 x 1 m | | 10.2 x 1 m | 8 x 1 m | 10 x 1 m |
| Weight | 35 kg | 50 kg | 43 kg | 39 kg | 36 kg |
| Top face | Sand | Granules | Sand | Granules | Film |
| Underface | Sanded | | Thermofusible plastic film | | |
| Reinforcement | Non-woven polyester | | | | |
| Storage | Upright on pallet | | | | |
| Application method | Bonded with hot asphalt | | Torch applied | | |
| Strain energy, (MD/XD) | 9.0 / 7.0 kN/m | | | | |
| Breaking strength, MD/XD | 17 / 12.5 kN/m | | | | |
| Ultimate elongation, MD/XD | 60 / 65 % | | | | |
| Tear resistance | 60 N | | | | |
| Static puncture | 400 N | | | | |
| Dimensional stability, MD/XD | -0.3 / 0.3 % | | | | |
| Water Vapour Transmission (ASTM E96 method B) | 0.21 ng / Pa.s.m² | | | | |
| Plastic flow | 105 °C | | | | |
| Cold bending* | -30 °C | | | | |
| Lap adhesion<br>- initial<br>- 5 days at 50 °C<br>- 14 days at 70 °C | <br>23,5 kN/m<br>24,0 kN/m<br>24,0 kN/m | | | | |

* Initial and after 90 days ageing at 70 °C.
(All values are nominal)

E-PROD30A.indd

SYSTÈME QUALITÉ ISO 9001 QUALITY SYSTEM

SYSTÈME ENVIRONNEMENT ISO 14001 ENVIRONMENT SYSTEM

colvent

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# COLVENT TRAFFIC CAP 860
# COLVENT TRAFFIC CAP FR 861

TECHNICAL DATA SHEET
130430SCAN3F
(supersedes n/a)

## DESCRIPTION

**COLVENT TRAFFIC CAP 860** is a high performance cap sheet membrane composed of SBS modified bitumen and a composite reinforcement. The surface is protected by coloured granules. The underface is covered with a thermofusible plastic film.

Fire rated cap sheet (**COLVENT TRAFFIC CAP FR 861**) is also available for increase fire resistance.

## INSTALLATION

**HEAT-WELDED**

**COLVENT TRAFFIC CAP 860** & **COLVENT TRAFFIC CAP FR 861** are heat-welded with a propane torch.

**FOR COMPLETE INFORMATION ON PRODUCT INSTALLATION, PLEASE CONSULT YOUR SOPREMA REPRESENTATIVE.**

## PACKAGING

| Specifications | COLVENT TRAFFIC CAP 860 & COLVENT TRAFFIC CAP FR 861 |
|---|---|
| Thickness | 4.0 mm (157.5 mils) |
| Reinforcement | Composite |
| Dimensions | 1 m x 8 m (3.3 ft x 26 ft) |
| Weight | 5.2 kg/m$^2$ (1.1 lb/ft$^2$) |
| Selvedge width | 75 mm (3 in) |
| Surface | Granules |
| Underface | Thermofusible plastic film |
| Rolls per skid | 30 |

## PROPERTIES

**COLVENT TRAFFIC CAP 860** & **COLVENT TRAFFIC CAP FR 861 as per CAN/CGSB-37.56-M, 9th draft.**

| Properties | MD | XD |
|---|---|---|
| Strain energy | 7.8 kN/m | 7.2 kN/m |
| Breaking strength | 15 kN/m | 13.5 kN/m |
| Ultimate elongation | 60 % | 65 % |
| Tear resistance | 125 N | |
| Static puncture resistance | 560 N | |
| Dimensional stability | 0.2 % | 0 % |
| Plastic flow | ≥ 110 °C (230 °F) | |
| Cold bending at -30 °C (-22 °F) | No cracking | |
| Lap joint strength | Pass > 4 kN/m | |

(All values are nominal)

## STORAGE & HANDLING

Rolls must be stored upright, with the selvedge side on top. If the products are stored outside, cover them with an opaque protection cover after the packaging provided for delivery has been removed.

HAUTE PERFORMANCE APPROUVÉ PRIVILÈGE

SYSTÈME QUALITÉ ISO 9001 QUALITY SYSTEM

SYSTÈME ENVIRONNEMENT ISO 14001 ENVIRONMENT SYSTEM

TDS_COLVENT_TRAFFIC_CAP_860&FR_861.indd

**City of Surrey Warehouse Building 14577 66 Avenue,**
**Surrey, BC**

| Line Item | Specified IKO | Siplast Alternative |
|---|---|---|
| self adhered light duty | IKO Aquabarrier AVB | V-Force Vapour Barrier by Firestone |
| **Insulation** | | |
| | Roxul DD Plus | Roxul DD Plus |
| | Tapered EPS | Tapered EPS |
| | IKOTherm III | Paratherm Poly Iso by Siplast |
| **Overlay Board** | | |
| | DenseDeck Prime Roof Board | DenseDeck Prime Roof Board |
| | Securock Gypsum Board | Securock Gypsum Board |
| | Protecto Board by IKO | Protecto Board by IKO or HAL Board |
| **Modified Bitumen Membrane** | | |
| **Base Membrane** | | |
| Torch-on Base Membrane | Torchflex HD FF Base or TP 180 Base | Paradiene 20 TG |
| Self Adhered Base Membrane | Armour Bond Flash HD | Paradiene 20 SA (Self Adhered) |
| Venting Self Adhered Base Membrane | Armourvent HD Base | Paradiene 20 TS SA (Venting, Self Adhered) |
| **Cap & Cap Stripping** | | |
| Composite Polyester/Glass Cap Membrane | Torchflex TP HD Cap | Parafor 30 TG |
| | | |
| **Roofing Accessories/Primers/Adhesives** | | |
| Heavy Duty SBS Walk Way Pad | | Paratread by Siplast |
| Insulation/Cover Board Adhesive | IKO Millenium Adhesive | Parafast Adhesive by Siplast |
| Asphalt primer | IKO Mod Bit Primer | PA 917 LS by Siplast |
| Adhesive primer for SA Membrane | IKO SAM Adhesive | TA 325 by Siplast |
| Safety Zone Red Cap Membrane | | Tradesman 190 Cap (safety red) |
| Cold adhesive field | Cold Gold Field Adhesive | PA 311 R |
| Flashing cement vertical | Cold Gold Flashing Adhesive | PA 828 |
| Plastic cement Mastic | Aquabarrier Mastic | PA 1021 by Siplast |

# PARADIENE 20 TG

Commercial Product Data Sheet

### *Product Description*

Paradiene 20 TG is a high performance torch grade modified bitumen base ply designed for use in homogeneous multi-layer modified bitumen roof membrane systems. Paradiene 20 TG consists of a lightweight random fibrous glass mat impregnated and coated with high quality styrene-butadiene-styrene (SBS) modified bitumen. The top surface is covered with a silica parting agent, and the back surface is coated with a high performance modified asphalt adhesive layer specifically formulated for torch applications. The adhesive layer is manufactured using a special process that embosses the surface with a grooved pattern to provide optimum burnoff of the plastic film and maximize application rates.

Paradiene 20 TG is available with Siplast RoofTag RFID roof asset technology on a Special-Made-To-Order basis. See RoofTag Commercial Product Data Sheet for more information.

### *Product Uses*

Paradiene 20 TG is the first ply of all Siplast Paradiene 20 TG/30 TG Systems, and is lapped 3 inches (7.6 cm) side and end. Paradiene 20 TG is torch applied to approved substrates. Contact Siplast for specific approval on product uses.

### *Product Approvals*

Paradiene 20 TG is approved by FM Approvals (FM Standard 4470) for use in Siplast Paradiene 20 TG/30 TG and Paradiene 20 TG/30 FR TG Class 1 insulated steel roof deck constructions and insulated and non-insulated concrete roof deck constructions, subject to FM conditions and limitations.

Contact Siplast for specific information regarding FM Class 1 windstorm resistance classifications.

Paradiene 20 TG is classified by Underwriters Laboratories for use in $_{c}UL_{us}$ Classified Siplast Paradiene 20 TG/30 TG and Paradiene 20 TG/30 FR TG Roof Systems. Siplast Paradiene 20 TG/30 FR TG Roof Systems have been classified by Underwriters Laboratories as Class A roofing systems over non-combustible, insulated non-combustible, and insulated combustible decks, and as Class B roofing systems over combustible decks. Siplast Paradiene 20 TG/30 TG Roof Systems have been classified as Class C roofing systems over combustible, non-combustible, and insulated combustible decks.

Paradiene 20 TG meets or exceeds the requirements of ASTM D 6163 Type I, Grade S, and CSA A123.23-15 Type A, Grade 1 for SBS-modified bituminous sheet materials using glass fiber reinforcements.

Siplast Roof Systems have also received the approval of many regional and local code authorities. Contact Siplast for more information.

### COMMERCIAL PRODUCT INFORMATION

| | | | |
|---|---|---|---|
| Unit: | Roll | | |
| Coverage: | 1.0 Square | | (9.3 m²) |
| Coverage Weight Per Square: | Min: | 76 lb | (3.7 kg/m²) |
| Roll Length: | Min: | 33.5 ft | (10.21 m) |
| Roll Width: | Avg: | 3.28 ft | (1.00 m) |
| Thickness: | Avg: | 114 mils | (2.9 mm) |
| | Min: | 110 mils | (2.8 mm) |
| Selvage Width: | N/A | | |
| Selvage Surfacing: | N/A | | |
| Top Surfacing: | Silica Parting Agent | | |
| Back Surfacing: | Polyolefin Film | | |

Lines: Two laying lines are placed 3 in (7.6 cm) and 4 in (10.2 cm) from each edge of the material. The line color for this material is white.

Packaging: Rolls are wound onto a compressed paper tube. The rolls are placed upright on pallets cushioned with corrugated cardboard and are adhered with adhesive at the labels. The top of the palleted rolls is covered with Kraft paper. The palleted material is protected by a heat shrink polyethylene shroud.

Pallet: 41 in X 48 in (104 cm X 122 cm) wooden pallet
Number Rolls Per Pallet: 25
Number Pallets Per Truckload: 18
Minimum Roll Weight: 76 lb (34.5 kg)

Storage and Handling: All Siplast roll roofing products should be stored on end on a clean flat surface. Care should be taken that rolls are not dropped on ends or edges and are not stored in a leaning position. Deformation resulting from these actions will make proper installation difficult. All roofing should be stored in a dry place, out of direct exposure to the elements, and should not be double stacked. Material should be handled in such a manner as to ensure that it remains dry prior to and during installation.

*Current copies of all Siplast Commercial Product Data Sheets are posted on the Siplast Web site at www.Siplast.com.*

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# PARADIENE 20 TG

Physical and Mechanical Properties

| UNITED STATES TEST STANDARDS | | | CANADA TEST STANDARDS | |
|---|---|---|---|---|
| **Property (as Manufactured)** | **Values/Units** | **Test Method** | **Property (as manufactured)** | **Test Method CSA A123.23-15 Values/Units** |
| Thickness (minimum) | 110 mils (2.8 mm) | ASTM D 5147 section 6 | Thickness (minimum) | 2.8 mm (110 mils) |
| Thickness (average) | 114 mils (2.9 mm) | ASTM D 5147 section 6 | Thickness (average) | 2.9 mm (114 mils) |
| [1]Peak Load @ 73°F (23°C) (average) | 30 lbf/inch (5.3 kN/m) | ASTM D 5147 section 7 | [1]Peak Load 23°C (73°F) (average) | 5.3 kN/m (30 lbf/inch) |
| [1]Peak Load @ 0°F (-17°C) (average) | 75 lbf/inch (13.2 kN/m) | ASTM D 5147 section 7 | [1]Peak Load @ -17°C (0°F) (average) | 75 lbf/inch (13.2 kN/m) |
| [1]Elongation @ Peak Load, 73°F (23°C) (average) | 3% | ASTM D 5147 section 7 | [1]Elongation @ Peak Load, 23°C (73°F) (average) | 3% |
| [1]Elongation @ Peak Load, 0°F (-17°C) (average) | 3% | ASTM D 5147 section 7 | [1]Elongation @ Peak Load, -17°C (0°F) (average) | 3% |
| [1]Ultimate Elongation @ 73°F (23°C) (average) | 50% | ASTM D 5147 section 7 | [1]Ultimate Elongation @ 23°C (73°F) (average) | 50% |
| [1]Tear Strength (average) | 40 lbf (0.18 kN) | ASTM D 5147 section 8 | N/A | N/A |
| Water Absorption (maximum) | 1% | ASTM D 5147 section 10 | N/A | N/A |
| Dimensional Stability (maximum) | 0.1% | ASTM D 5147 section 11 | Dimensional Stability (maximum) | 0.1% |
| Low Temperature Flexibility (maximum) | -15°F (-26°C) | ASTM D 5147 section 12 | Low Temperature Flexibility (maximum) | -26°C (-15°F) |
| Compound Stability (minimum) | 250°F (121°C) | ASTM D 5147 section 16 | Compound Stability (minimum) | 121°C (250°F) |
| Coating Thickness - Back Surface | ≥ 40 mils (1 mm) | ASTM D 5147 section 17 | Coating Thickness - Back Surface | 1 mm (≥ 40 mils) |
| Cyclic Fatigue | Paradiene 20 TG, bonded to an acceptable Paradiene 30, Paradiene 40 FR, or Parafor 50 LT cap sheet with an approved method of attachment, passes ASTM D 5849 both as-manufactured and after heat conditioning according to ASTM D 5147. | | Mass Per Unit Area (minimum) | 3.7 kg/m (76 lb/sq) |

1. The value reported is the lower of either MD or XD.

# PARADIENE 20 SA

Commercial Product Data Sheet

### *Product Description*

Paradiene 20 SA is a high performance, self-adhesive, modified bitumen base ply designed for use in homogeneous multi-layer modified bitumen roof membrane systems. Paradiene 20 SA consists of a lightweight random fibrous glass mat impregnated and coated with high quality styrene-butadiene-styrene (SBS) modified bitumen. The back surface is coated with a self-adhesive bitumen layer specifically formulated for optimum adhesion in low-slope membrane applications, and it is lined with a high strength polyolefin release film.

Paradiene 20 SA is available with Siplast RoofTag RFID roof asset technology on a Special-Made-To-Order basis. See RoofTag Commercial Product Data Sheet for more information.

### *Product Uses*

Paradiene 20 SA is designed to be used as a base ply for direct application to approved roof board products, and other approved substrates. Paradiene 20 SA is also used as a stripping ply for reinforcing details at metal flanges, walls, and curbed penetrations. Extending Paradiene 20 SA stripping ply onto the top surface of any Paradiene 20 layer requires either removal of the top film surfacing from a film-surfaced Paradiene 20, or priming a sand-surfaced Paradiene 20 using an approved primer.

Paradiene 20 SA is the first ply of all fully adhered Siplast Paradiene 20 SA/Paradiene 30 TG Systems. It is lapped 3 inches (7.6 cm) on sides and ends. End laps require heat welding. An alternative to the standard end lap method is seaming end joints using a 12-inch (30.4 cm) wide strip of Paradiene 20 TG. Paradiene 20 SA is designed for direct application to approved insulations and roof boards, primed structural concrete decks, and other approved substrates. Paradiene 20 SA is used as a base ply in multi-layer roof systems with a torch applied finish layer of Paradiene TG, Veral, or Parafor. Prior approval from the Siplast Technical Department is required for SA membrane systems installed without a torch applied finish layer. All laps of the Paradiene 20 SA must be heat welded when the Paradiene TG or Parafor TG over-layer is not installed during the same day's application.

### *Product Approvals*

Paradiene 20 SA is approved by FM Approvals (FM Standard 4470) for use in Siplast Paradiene 20/30, Paradiene 20/30 FR, and Paradiene 20/20 PR Class 1 insulated steel roof deck constructions and insulated and non-insulated concrete roof deck constructions, subject to FM conditions and limitations.

Paradiene 20 SA is classified by Underwriters Laboratories as an acceptable substitute for Paradiene 20 TG in all $_{c}UL_{us}$ classification listings and assemblies.

Paradiene 20 SA meets or exceeds the requirements of ASTM D 6163 Type I, Grade S, and CSA A123.23-15 Type A, Grade 1 for SBS-modified bituminous sheet materials using glass fiber reinforcements.

### COMMERCIAL PRODUCT INFORMATION

| | | | |
|---|---|---|---|
| Unit: | Roll | | |
| Coverage: | 1.0 Square | | (9.3 m²) |
| Coverage Weight Per Square: | Min: | 72 lb | (3.5 kg/m²) |
| Roll Length: | Min: | 33.5 ft | (10.21 m) |
| Roll Width: | Avg: | 3.28 ft | (1.00 m) |
| Thickness: | Avg: | 102 mils | (2.6 mm) |
| | Min: | 98 mils | (2.5 mm) |
| Selvage Width: | Avg: | 3.0 in | (76 mm) |
| Selvage Surfacing: Polyolefin Release Tape | | | |
| Top Surfacing: Sand | | | |
| Back Surfacing: Polyolefin Release Film | | | |

Packaging: Rolls are wound onto a compressed paper tube. The rolls are placed upright on pallets cushioned with corrugated cardboard and are adhered with adhesive at the labels. The top of the palleted rolls is covered with Kraft paper. The palleted material is protected by a heat shrink polyethylene shroud.

Pallet: 41 in X 48 in (104 cm X 122 cm) wooden pallet
Number Rolls Per Pallet: 25
Number Pallets Per Truckload: 18
Minimum Roll Weight: 72 lb (32.7 kg)

Storage and Handling: All Siplast roll roofing products should be stored on end on a clean flat surface. Care should be taken that rolls are not dropped on ends or edges and are not stored in a leaning position. Deformation resulting from these actions will make proper installation difficult. All roofing should be stored in a dry place, out of direct exposure to the elements, and should not be double stacked. Material should be handled in such a manner as to ensure that it remains dry prior to and during installation.

*Current copies of all Siplast Commercial Product Data Sheets are posted on the Siplast Web site at www.Siplast.com.*

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# PARADIENE 20 SA

Physical and Mechanical Properties

| UNITED STATES TEST STANDARDS | | | CANADA TEST STANDARDS | |
|---|---|---|---|---|
| **Property (as Manufactured)** | **Values/Units** | **Test Method** | **Property (as manufactured)** | **Test Method CSA A123.23-15 Values/Units** |
| Thickness (minimum) | 98 mils (2.5 mm) | ASTM D 5147 section 6 | Thickness (minimum) | 2.5 mm (98 mils) |
| Thickness (average) | 102 mils (2.6 mm) | ASTM D 5147 section 6 | Thickness (average) | 2.6 mm (102 mils) |
| [1]Peak Load @ 73°F (23°C) (average) | 30 lbf/inch (5.3 kN/m) | ASTM D 5147 section 7 | [1]Peak Load 23°C (73°F) (average) | 5.3 kN/m (30 lbf/inch) |
| [1]Peak Load @ 0°F (-17°C) (average) | 75 lbf/inch (13.2 kN/m) | ASTM D 5147 section 7 | [1]Peak Load @ -17°C (0°F) (average) | 13.2 kN/m (75 lbf/inch) |
| [1]Elongation @ Peak Load, 73°F (23°C) (average) | 3% | ASTM D 5147 section 7 | [1]Elongation @ Peak Load, 23°C (73°F) (average) | 3% |
| [1]Elongation @ Peak Load, 0°F (-17°C) (average) | 3% | ASTM D 5147 section 7 | [1]Elongation @ Peak Load, -17°C (0°F) (average) | 3% |
| [1]Ultimate Elongation @ 73°F (23°C) (average) | 50% | ASTM D 5147 section 7 | [1]Ultimate Elongation @ 23°C (73°F) (average) | 50% |
| [1]Tear Strength (average) | 40 lbf (0.18 kN) | ASTM D 5147 section 8 | N/A | N/A |
| Water Absorption (maximum) | 1% | ASTM D 5147 section 10 | N/A | N/A |
| Dimensional Stability (maximum) | 0.1% | ASTM D 5147 section 11 | Dimensional Stability (maximum) | 0.1% |
| Low Temperature Flexibility (maximum) | -15°F (-26°C) | ASTM D 5147 section 12 | Low Temperature Flexibility (maximum) | -26°C (-15°F) |
| Compound Stability (minimum) | 250°F (121°C) | ASTM D 5147 section 16 | Compound Stability (minimum) | 121°C (250°F) |
| Cyclic Fatigue | Paradiene 20 SA, bonded to an acceptable Paradiene 30, Paradiene 40 FR, or Parafor 50 LT cap sheet with an approved method of attachment, passes ASTM D 5849 both as-manufactured and after heat conditioning according to ASTM D 5147. | | Mass Per Unit Area (minimum) | 3.5 kg/m² (72 lb/sq) |

1. The value reported is the lower of either MD or XD.
2. The High Temperature Stability of the self-adhesive bitumen coating is 212°F (100°C).

# PARADIENE 20 TS SA

Commercial Product Data Sheet

### *Product Description*

Paradiene 20 TS SA is a uniquely designed, high performance, self-adhesive, modified bitumen base ply designed for use in homogeneous multi-layer modified bitumen roof membrane systems. Paradiene 20 TS SA consists of a lightweight random fibrous glass mat impregnated and coated with an elastomeric styrene-butadiene-styrene (SBS) modified bitumen. The unique back surface design consists of factory applied, self-adhesive stripes combined with a proprietary acrylic coating between the stripes, which provides for uniform bonding of 50% of the total surface area of the sheet.

Paradiene 20 TS SA is available with Siplast RoofTag RFID roof asset technology on a Special-Made-To-Order basis. See RoofTag Commercial Product Data Sheet for more information.

### *Product Uses*

Paradiene 20 TS SA is the first ply of all semi-adhered Siplast Paradiene 20 TS SA/Paradiene 30 TG Systems. It is lapped 3 inches on sides and ends. End laps require heat welding. An alternative to the standard end lap method is seaming end joints using a 12-inch wide strip of Paradiene 20 TG. Paradiene 20 TS SA is designed for direct application to approved insulations and roof boards, primed structural concrete decks, and other approved substrates. Paradiene 20 TS SA can only be used as a self-adhered base ply in multi-layer roof systems with a torch applied finish layer of Paradiene TG, Veral, or Parafor. All laps of the Paradiene 20 TS SA must be heat welded when the Paradiene TG or Parafor TG over-layer is not installed during the same day's application. Contact Siplast for specific approval on other product uses.

### *Product Approvals*

Paradiene 20 TS SA is approved by FM Approvals (FM Standard 4470) for use as a base ply in Siplast Paradiene 20 TS SA/Paradiene 30 TG, Paradiene 20 TS SA/Veral, and Paradiene 20 TS SA/Parafor Class 1 insulated steel roof deck constructions and insulated and non-insulated concrete roof deck constructions, subject to FM conditions and limitations.

Contact Siplast for specific information regarding FM Class 1 windstorm resistance classifications.

Paradiene 20 TS SA is classified by Underwriters Laboratories as an acceptable substitute for Paradiene 20 TG in all $_{c}UL_{us}$ classification listings and assemblies.

Paradiene 20 TS SA meets or exceeds the requirements for ASTM D 6163 Type I, Grade S and CSA A123.23-15 Type A, Grade 1 for SBS modified bituminous sheet materials using glass fiber reinforcements.

Siplast Roof Systems have also received the approval of many regional and local code authorities. Contact Siplast for more information.

### COMMERCIAL PRODUCT INFORMATION

| | | | |
|---|---|---|---|
| Unit: | Roll | | |
| Coverage: | 1.0 Square | | (9.3 m²) |
| Coverage Weight Per Square: | Min: | 76 lb | (3.7 kg/m²) |
| Roll Length: | Min: | 33.5 ft | (10.21 m) |
| Roll Width: | Avg: | 3.28 ft | (1.00 m) |
| Thickness:* | Avg: | 98 mils | (2.5 mm) |
| | Min: | 94 mils | (2.4 mm) |
| Selvage Width: | Avg: | 3 in | (76 mm) |
| Selvage Surfacing: | Polyolefin Release Tape | | |
| Top Surfacing: | Silica Parting Agent | | |
| Back Surfacing: | Adhesive stripes, acrylic coating between the stripes. Split polyolefin release film. | | |

A laying line is placed 3 in (76 mm) from each edge of the material. The laying line for this material is white.

Packaging: Rolls are wound onto a compressed paper tube. The rolls are placed upright on pallets cushioned with corrugated cardboard and are adhered with adhesive at the labels. The top of the palleted rolls is covered with Kraft paper. The palleted material is protected by a heat shrink polyethylene shroud.

Pallet: 41 in X 48 in (104 cm X 122 cm) wooden pallet
Number Rolls Per Pallet: 25
Number Pallets Per Truckload: 20
Minimum Roll Weight: 76 lb (34.5 kg)

Storage and Handling: All Siplast roll roofing products should be stored on end on a clean flat surface. Care should be taken that rolls are not dropped on ends or edges and are not stored in a leaning position. Deformation resulting from these actions will make proper installation difficult. All roofing should be stored in a dry place, out of direct exposure to the elements, and should not be double stacked. Material should be handled in such a manner as to ensure that it remains dry prior to and during installation.

* Thickness measurement does not include the thickness of the adhesive stripes.

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# PARADIENE 20 TS SA

Physical and Mechanical Properties

| UNITED STATES TEST STANDARDS | | | CANADA TEST STANDARDS | |
|---|---|---|---|---|
| **Property (as Manufactured)** | **Values/Units** | **Test Method** | **Property (as manufactured)** | **Test Method CSA A123.23-15 Values/Units** |
| Thickness (minimum) | 94 mils (2.4 mm) | ASTM D 5147 section 6 | Thickness (minimum) | 2.4 mm (94 mils) |
| Thickness (average) | 98 mils (2.5 mm) | ASTM D 5147 section 6 | Thickness (average) | 2.5 mm (98 mils) |
| [1]Peak Load @ 73°F (23°C) (average) | 30 lbf/inch (5.3 kN/m) | ASTM D 5147 section 7 | [1]Peak Load 23°C (73°F) (average) | 5.3 kN/m (30 lbf/inch) |
| [1]Peak Load @ 0°F (-17°C) (average) | 70 lbf/inch (12.3 kN/m) | ASTM D 5147 section 7 | [1]Peak Load @ -17°C (0°F) (average) | 12.3 kN/m (70 lbf/inch) |
| [1]Elongation @ Peak Load, 73°F (23°C) (average) | 3% | ASTM D 5147 section 7 | [1]Elongation @ Peak Load, 23°C (73°F) (average) | 3% |
| [1]Elongation @ Peak Load, 0°F (-17°C) (average) | 3% | ASTM D 5147 section 7 | [1]Elongation @ Peak Load, -17°C (0°F) (average) | 3% |
| [1]Ultimate Elongation @ 73°F (23°C) (average) | 70% | ASTM D 5147 section 7 | [1]Ultimate Elongation @ 23°C (73°F) (average) | 70% |
| [1]Tear Strength (average) | 40 lbf (0.18 kN) | ASTM D 5147 section 8 | N/A | NA |
| Water Absorption (maximum) | 1% | ASTM D 5147 section 10 | N/A | N/A |
| Dimensional Stability (maximum) | 0.1% | ASTM D 5147 section 11 | Dimensional Stability (maximum) | 0.1% |
| Low Temperature Flexibility (maximum) | -15°F (-26°C) | ASTM D 5147 section 12 | Low Temperature Flexibility (maximum) | -26°C (-15°F) |
| Compound Stability (minimum) | 250°F (121°C) | ASTM D 5147 section 16 | Compound Stability (minimum) | 121°C (250°F) |
| Coating Thickness - Back Surface | ≥ 40 mils (1 mm) | ASTM D 5147 section 17 | Coating Thickness - Back Surface | 1 mm (≥ 40 mils) |
| Cyclic Fatigue | Paradiene 20 TS SA, bonded to an acceptable Paradiene 30, Paradiene 40 FR, or Parafor 50 LT cap sheet with an approved method of attachment, passes ASTM D 5849 both as-manufactured and after heat conditioning according to ASTM D 5147. | | Mass Per Unit Area (minimum) | 3.7 kg/m² (76 lb/sq) |

1. Thickness measurement does not include the thickness of the self-adhesive stripes or release film.
2. The value reported is the lower of either MD or XD.
3. The High Temperature Stability of the self-adhesive bitumen coating is 212°F (100°C).

# PARAFOR 30 TG

Commercial Product Data Sheet

### *Product Description*

Parafor 30 TG is a high performance, modified bitumen finish ply designed for use in homogeneous multi-layer modified bitumen roof membrane systems. Parafor 30 TG consists of a fiberglass scrim/polyester mat composite impregnated and coated with high quality styrene-butadiene-styrene (SBS) modified bitumen, and surfaced with ceramic granules. The back surface is manufactured using a special process that embosses the surface with a grooved pattern to provide optimum burnoff of the plastic film and maximize application rates.

Parafor 30 TG is available with Siplast RoofTag RFID roof asset technology on a Special-Made-To-Order basis. See RoofTag Commercial Product Data Sheet for more information.

### *Product Uses*

Parafor 30 TG is the finish ply of the Siplast Paradiene 20/Parafor 30 TG System and is used as a base flashing where granule-surfaced flashing sheets are required. Parafor 30 TG is lapped 3 inches (7.6 cm) at sides and 6 inches (15.2 cm) at ends. Parafor 30 TG is torch applied. Contact Siplast for specific approval on other product uses.

### *Product Approvals*

Parafor 30 TG is approved by FM Approvals (FM Standard 4470) for use in Parafor Class 1 insulated steel roof deck constructions and insulated and non-insulated concrete roof deck constructions, subject to FM conditions and limitations.

Parafor 30 TG is classified by Underwriters Laboratories for use in $_{c}UL_{us}$ Classified Siplast Parafor Roof Systems. Parafor 30 TG has been classified as a Class C roofing system over combustible, non-combustible, and insulated combustible decks.

Parafor 30 TG meets or exceeds the requirements of ASTM D 6162 Type II, Grade G and CSA A123.23-15 Type B, Grade 1 for SBS-modified bituminous sheet materials using a polyester reinforcement.

Siplast Roof Systems also have received the approval of many regional and local authorities. Please contact Siplast for specific information as required.

*Current copies of all Siplast Commercial Product Data Sheets are posted on the Siplast Canada Web site at www.Siplast.com.*

### COMMERCIAL PRODUCT INFORMATION

| | | | |
|---|---|---|---|
| Unit | Roll | | |
| Coverage: | 1.0 Square | | (9.3 m²) |
| Coverage Weight Per Square: | Min: | 114 lb | (5.5 kg/m²) |
| Roll Length: | Min: | 32.8 ft | (10.0 m) |
| Roll Width: | Avg: | 3.28 ft | (1.00 m) |
| Thickness: | Avg: | 161 mils | (4.1 mm) |
| Thickness at Selvage: | Avg: | 122 mils | (3.1 mm) |
| | Min: | 118 mils | (3.0 mm) |
| Selvage Width: | Avg: | 2.75 in | (70 mm) |

Selvage Surfacing: Burn-off Polyolefin Film

Top Surfacing: No. 11 ceramic granules, standard color finish is #A-720 Bone White. Contact Siplast for other available colors.

Back Surfacing: Polyolefin burnoff film

Lines: A laying line is placed 3 inches (7.6 cm) from the selvage edge of the material. The line color for this material is blue.

Packaging: Rolls are wound onto a compressed paper tube. The rolls are placed upright on end opposite the selvage on pallets cushioned with corrugated cardboard and are adhered with adhesive at the labels. The top of the palleted rolls is covered with Kraft paper. The palleted material is protected by a heat shrink polyethylene shroud.

Pallet: 41 in X 48 in (104 cm X 122 cm) wooden pallet.
Number Rolls Per Pallet: 20
Number Pallets Per Truckload: 18
Minimum Roll Weight: 114 lb (51.7 kg)

Storage and Handling: All Siplast roll roofing products should be stored on end on a clean flat surface. Care should be taken that rolls are not dropped on ends or edges and are not stored in a leaning position. Deformation resulting from these actions will make proper installation difficult. All roofing should be stored in a dry place, out of direct exposure to the elements, and should not be double stacked. Material should be handled in such a manner as to ensure that it remains dry prior to and during installation.

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# PARAFOR 30 TG

Physical and Mechanical Properties

| UNITED STATES TEST STANDARDS | | | CANADA TEST STANDARDS | |
|---|---|---|---|---|
| **Property (as Manufactured)** | **Values/Units** | **Test Method** | **Property (as manufactured)** | **Test Method CSA A123.23-15 Values/Units** |
| Thickness (average) | 161 mils (4.1 mm) | ASTM D 5147 section 6 | Thickness (average) | 4.1 mm (161 mils) |
| Thickness at selvage (minimum) (average) | 118 mils (3.0 mm) 122 mils (3.1 mm) | ASTM D 5147 section 6 | Thickness at selvage (minimum) (average) | 3.0 mm (118 mils) 3.1 mm (122 mils) |
| [1]Peak Load @ 73°F (average) | 80 lbf/inch (14 kN/m) | ASTM D 5147 section 7 | [1]Peak Load @ 73°F (average) | 14 kN/m (80 lbf/inch) |
| [1]Peak Load @ 0°F (average) | 125 lbf/inch (21.9 kN/m) | ASTM D 5147 section 7 | [1]Peak Load @ 0°F (average) | 21.9 kN/m (125 lbf/inch) |
| [1]Elongation @ Peak Load, 73° F (average) | 40% | ASTM D 5147 section 7 | [1]Elongation @ Peak Load, 73° F (average) | 40% |
| [1]Elongation @ Peak Load, 0° F (average) | 40% | ASTM D 5147 section 7 | [1]Elongation @ Peak Load, 0° F (average) | 40% |
| [1]Ultimate Elongation @ 73°F (average) | 90% | ASTM D 5147 section 7 | [1]Ultimate Elongation @ 73°F (average) | 90% |
| [1]Tear Strength (average) | 100 lbf (0.45 kN) | ASTM D 5147 section 8 | Strain Energy (before and after conditioning) @ 23°C (73°F) @ -18°C (0°F) | ≥ 5.5 kN/m (≥ 31 lbf/in) ≥ 3.0 kN/m (≥ 17 lbf/in |
| Water Absorption (maximum) | 1% | ASTM D 5147 section 10 | N/A | N/A |
| Dimensional Stability (maximum) | 0.5% | ASTM D 5147 section 11 | Dimensional Stability (maximum) | 0.5% |
| Low Temperature Flexibility (maximum) | -15°F ( -26°C) | ASTM D 5147 section 12 | Low Temperature Flexibility (maximum) | -26°C (-15°F) |
| Granule Embedment Max. avg. loss Max. individual loss | 1.5 grams per sample 2.0 grams per sample | ASTM D 5147 section 15 | Granule Embedment Max. avg. loss Max. individual loss | 1.5 grams per sample 2.0 grams per sample |
| Compound Stability (minimum) | 250°F (121°C) | ASTM D 5147 section 16 | Compound Stability (minimum) | 121°C (250°F) |
| Cyclic Fatigue | Parafor 30 TG utilized as a single-layer membrane, or bonded to an acceptable Paradiene 20 base ply with an approved method of attachment, passes ASTM D 5849 both as-manufactured and after heat conditioning according to ASTM D 5147. | | Mass Per Unit Area Minimum | 5.5 kg/m² (114 lb/sq) |

Test methods and tolerances: ASTM D 5147, and ASTM D 146 (product weight only)

1. The value reported is the lower of either MD or XD.

Sure Hazmat and Testing

October 1, 2019

***City of Surrey***
***Facilities Division***
6651 148th Street,
Surrey, BC
V3S 3C7

**Attention: Clayton Welch**

**Reference: Pre-Renovation Building Materials Investigation**
**14577 66 Avenue, Surrey, BC**

Sure Hazmat and Testing has, in accordance with your request, completed an investigation for hazardous materials and to identify any immediate hazards to workers during the renovation of the building located at 14577 66 Avenue, Surrey, BC.

The scope of our investigation was based on the client's renovation plans. Renovation activities include replacing the roof of the building.

The building was unoccupied at the time of the investigation. Sampling was destructive in nature and included limited demolition of walls and floors to determine the presence of any concealed hazardous materials.

Representative samples of suspect asbestos-containing building materials were collected and analyzed. A total of fifteen (15) samples were collected and analyzed for the presence of asbestos fibres. Two (2) samples were collected and submitted for analysis of lead content. A visual inspection was conducted of thermostatic controls for the presence of mercury. A visual inspection was conducted for the presence of older light fixtures with suspect PCB-containing ballasts. A visual inspection was performed for evidence of rodent activity and fungal contamination.

## ***Analytical Methodology***

*Asbestos*

Samples were analyzed at the in-house laboratory of Sure Hazmat and Testing in accordance with the NIOSH 9002 PLM Bulk Sampling Analytical Method using polarized light microscopy and dispersion staining techniques. The detection limit of this method is listed as <1%. A copy of our Asbestos Bulk Results spreadsheet is attached to this report for your information and records. All records should be retained for a period of ten years as required by WorkSafe BC.

All samples will be stored at our laboratory for two months before being disposed of. Should you wish to keep these samples beyond this, please notify us within this period.

*Lead-Based Finishes*

Suspect leaded paint finishes were submitted to Maxxam Analytics for analysis of lead content. For leaded paint finishes, samples were digested using nitric acid/hydrogen peroxide followed by analysis using Inductively Coupled Plasma Spectroscopy (ICAP) and/or Inductively Coupled Plasma/Mass Spectroscopy (ICPMS).

The federal *Hazardous Products Act* (HPA) under Surface Coating Materials regulation defines leaded paint or lead-based surface coating materials with a total lead concentration of 0.009% or 90 µg/g. Paint finishes that contain lead equal to or greater than 90 µg/g are considered to present a risk to pregnant women & children and a risk assessment must be conducted by a qualified person prior to the performance of any work that impacts lead-based paint finishes in work areas with high risk individuals in adjacent occupied areas.

## ***Asbestos-Containing Material Results***

***Please refer to attached bulk sample results and sample location drawings for specific sample locations.***

No asbestos-containing materials were identified in the scope of work.

## ***Non-Asbestos Material Results***

The following materials were sampled and determined to be non-asbestos:

- All layers of roofing materials
- Grey mastic on rooftop ductwork
- Black and Grey mastic on rooftop vent flashings

## ***Lead-Based Finish Results***

Suspect leaded paint finishes were sampled from the renovation area. Table 1 shows the concentration of lead in paint for these samples.

**Table 1 – Paint Sample Results**

| Sample # | Sample Location | Lead Concentration (µg/g) | HPA Standard Level (µg/g) |
|---|---|---|---|
| **L01** | **Brown Perimeter Metal Flashing Paint** | **183** | **90** |
| L02 | Blue Metal Parapet Wall Paint | <12 | 90 |

**Note: Bold values exceed standard level**

The concentration of lead was above the Health Canada & HPA standard level of 90 µg/g for the brown metal perimeter flashing cap paint. The concentration of lead was below the Health Canada & HPA standard level of 90 µg/g for blue metal parapet wall paint.

## ***Other Hazardous Materials***

Silica is one of the most common hazards on a construction site. Cutting, breaking, crushing, drilling, grinding, or blasting concrete or stone releases dust that can expose workers to airborne silica.

## ***Conclusions and Recommendations***

### *Asbestos*

No asbestos-containing materials were identified within the scope of work.

The survey was based on the client's renovation scope of work. If the scope of the renovation changes to include any areas or materials not included in this investigation, Sure Hazmat and Testing should be contacted to investigate prior to disturbance.

### *Lead*

Lead based finishes are present in the following locations:

- Brown Paint – Metal Perimeter Flashing

The presence of lead based paint finishes does not pose an immediate hazard to building occupants when present in good condition and left undisturbed.

As per the WorkSafe BC publication "Lead-Containing Paints and Coatings Preventing Exposure in the Construction Industry" all lead-containing waste materials must be sampled and analyzed using the standard Toxicity Characteristic Leaching Procedure (TCLP). This procedure is designed to determine the leachability of lead in liquid and solid wastes.

During demolition safe work procedures should be followed when disturbing lead-based finishes. A Risk Assessment should be conducted on site by a qualified person prior to the start of lead abatement work.

### *Silica and Nuisance Dusts*

Control measures must be implemented on all job sites where demolition or renovation activities are taking place. An exposure control plan (ECP) must be developed to reduce the risk of silica and nuisance dust exposure for workers. Engineering controls must be applied to avoid or modify operations which have the potential to generate significant quantities of hazardous dusts. Controlled work practices such as the use of water and ventilation equipment serve to reduce the amount of respirable dust in the work environment. Personal protective equipment such as respiratory protection provide protection for workers on the site.

## ***Limitations***

This report is intended for the exclusive use of the client to determine the likely locations of hazardous materials prior to planned renovations. This report is compliant with WorkSafeBC section 20.112 for the scope of the renovation only. For a full building demolition additional inspection(s) and destructive sampling is required. **This report is not a Specification or Scope of Work and the use of this document as such will be at the sole risk of the user.**

The contents of this report were based on a site visit conducted by Sure Hazmat and Testing personnel. Please note that some asbestos products may not have been accessible on the day of our survey and may remain unidentified. Asbestos products are sometimes used behind wall partitions, on mechanical systems located in pipe chases, in sub-floors or other concealed areas, and assumptions have been made as to the likely contents of those areas. Should a suspect material be encountered, all work must be stopped and Sure Hazmat will investigate immediately.

If further clarification is required, please contact our office. Thank you for having Sure Hazmat and Testing perform this work for you.

Prepared by:

Ryan Verhelst, B.Sc, *Project Manager*
Sure Hazmat and Testing

Reviewed by:

John Shaw, *Principal*
Sure Hazmat and Testing

Encl. Laboratory Bulk Report
Maxxam Analytics Lab Report
Sample Location Drawings
Site Photographs

Ref: 14834-R01

**Photo # 1** – Lead-based brown paint on perimeter metal flashing

101-4268 Lozells Avenue
Burnaby, B.C.
Tel: 604.444.0204

# SURE Hazmat and Testing

## Bulk Asbestos Results

**Client: 14834 - City of Surrey**

**Sampled By/ Date: R.Verhelst - September 25, 2019**

**Reference: 14577 66 Avenue, Surrey, BC**

| Client | Date Analyzed | Analyst | Sample Location | Material Type | Other Materials (glass, synthetics, cellulose) | | Asbestos Type & Amount |
|---|---|---|---|---|---|---|---|
| 14834-01 | 27-Sep-19 | IW | Roof - Northeast Section | Torch On Membrane | Non-Fibrous 70% | Other Fibres <30% | Non-Detected |
| | | | Top Layer | Insulation Board | Non-Fibrous 40% | Other Fibres <60% | Non-Detected |
| 14834-02 | 27-Sep-19 | IW | Roof - Northeast Section | Styrofoam | Non-Fibrous 95% | Other Fibres <5% | Non-Detected |
| | | | Bottom Layer | Tar Membrane | Non-Fibrous 95% | Other Fibres <5% | Non-Detected |
| 14834-03 | 27-Sep-19 | IW | Roof - Southeast Section | Torch On Membrane | Non-Fibrous 70% | Other Fibres <30% | Non-Detected |
| | | | | Insulation Board | Non-Fibrous 40% | Other Fibres <60% | Non-Detected |
| 14834-04 | 27-Sep-19 | IW | Roof - Northwest Section | Torch On Membrane | Non-Fibrous 70% | Other Fibres <30% | Non-Detected |
| | | | | Insulation Board | Non-Fibrous 40% | Other Fibres <60% | Non-Detected |
| 14834-05 | 27-Sep-19 | IW | Rooftop - Ductwork | Mastic | Non-Fibrous 95% | Other Fibres <5% | Non-Detected |
| | | | Grey | | | | |
| 14834-06 | 27-Sep-19 | IW | Rooftop - Ductwork | Mastic | Non-Fibrous 95% | Other Fibres <5% | Non-Detected |
| | | | Grey | | | | |
| 14834-07 | 27-Sep-19 | IW | Rooftop - Ductwork | Mastic | Non-Fibrous 95% | Other Fibres <5% | Non-Detected |
| | | | Grey | | | | |
| 14834-08 | 27-Sep-19 | IW | Southwest - Vent Flashing | Mastic | Non-Fibrous 95% | Other Fibres <5% | Non-Detected |
| | | | Black - Lower | | | | |
| 14834-09 | 27-Sep-19 | IW | Southeast - Vent Flashing | Mastic | Non-Fibrous 95% | Other Fibres <5% | Non-Detected |
| | | | Black - Lower | | | | |
| 14834-10 | 27-Sep-19 | IW | Northeast - Vent Flashing | Mastic | Non-Fibrous 95% | Other Fibres <5% | Non-Detected |
| | | | Black - Lower | | | | |

101-4268 Lozells Avenue
Burnaby, B.C.
Tel: 604.444.0204

# SURE Hazmat and Testing

## Bulk Asbestos Results

**Client: 14834 - City of Surrey**

**Sampled By/ Date: R.Verhelst - September 25, 2019**

**Reference: 14577 66 Avenue, Surrey, BC**

| Client | Date Analyzed | Analyst | Sample Location | Material Type | Other Materials (glass, synthetics, cellulose) | | Asbestos Type & Amount |
|---|---|---|---|---|---|---|---|
| 14834-11 | 27-Sep-19 | IW | Southwest - Duct Flashing<br>Grey | Mastic | Non-Fibrous 95% | Other Fibres <5% | Non-Detected |
| 14834-12 | 27-Sep-19 | IW | Southeast Flashing<br>Grey | Mastic | Non-Fibrous 40% | Other Fibres <60% | Non-Detected |
| 14834-13 | 27-Sep-19 | IW | Northeast Flashing<br>Grey | Mastic | Non-Fibrous 95% | Other Fibres <5% | Non-Detected |
| 14834-14 | 27-Sep-19 | IW | East Central Flashing<br>Grey | Mastic | Non-Fibrous 95% | Other Fibres <5% | Non-Detected |
| 14834-15 | 27-Sep-19 | IW | Southwest Flashing<br>Grey | Mastic | Non-Fibrous 40% | Other Fibres <60% | Non-Detected |

AIHA Proficiency Analytical Testing Programs, LLC Lab #193144

*Samples analyzed in accordance with NIOSH 9002 PLM Bulk Sampling Method

Sure Hazmat and Testing is an active participant of the American Industrial Hygiene Association (AIHA) Bulk Asbestos Proficiency Analytical Testing (BAPAT)

Your Project #: 14834
Site Location: CITY OF SURREY 14577 66 AVE
Your C.O.C. #: 589141-41-01

**Attention: Ryan Verhelst**

Sure Hazmat & Testing
101-4268 Lozells Avenue
BURNABY, BC
CANADA V5A 0C6

**Report Date: 2019/10/01**
Report #: R2789661
Version: 2 - Revision

# CERTIFICATE OF ANALYSIS – REVISED REPORT

**BV LABS JOB #: B982616**
**Received: 2019/09/27, 16:42**

Sample Matrix: Paint
# Samples Received: 2

| Analyses | Quantity | Date Extracted | Date Analyzed | Laboratory Method | Analytical Method |
|---|---|---|---|---|---|
| Elements by ICP-AES (acid extr. solid) | 2 | 2019/09/30 | 2019/09/30 | BBY7SOP-00018 | EPA 6010d m |

**Remarks:**

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bvlabs.com
Phone# (604) 734 7276

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs Job #: B982616
Report Date: 2019/10/01

Sure Hazmat & Testing
Client Project #: 14834
Site Location: CITY OF SURREY 14577 66 AVE
Sampler Initials: RV

## ELEMENTS BY ATOMIC SPECTROSCOPY (PAINT)

| BV Labs ID | | WP0893 | | WP0894 | | |
|---|---|---|---|---|---|---|
| Sampling Date | | 2019/09/26 | | 2019/09/26 | | |
| COC Number | | 589141-41-01 | | 589141-41-01 | | |
| | UNITS | L01-BROWN METAL FLASH | RDL | L02-BLUE METAL PARAPET | RDL | QC Batch |
| **Total Metals by ICP** | | | | | | |
| Total Lead (Pb) | mg/kg | 183 | 14 | <12 | 12 | 9608723 |
| RDL = Reportable Detection Limit | | | | | | |



Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: B982616
Report Date: 2019/10/01

Sure Hazmat & Testing
Client Project #: 14834
Site Location: CITY OF SURREY 14577 66 AVE
Sampler Initials: RV

## GENERAL COMMENTS

V2: Report reissued to amend sample IDs as per COC 2019/10/01.

**ELEMENTS BY ATOMIC SPECTROSCOPY (PAINT) Comments**

Sample WP0893 [L01-BROWN METAL FLASH] Elements by ICP-AES (acid extr. solid): Detection limits raised due to insufficient sample volume
Sample WP0894 [L02-BLUE METAL PARAPET] Elements by ICP-AES (acid extr. solid): Detection limits raised due to insufficient sample volume

**Results relate only to the items tested.**



Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

BV Labs Job #: B982616
Report Date: 2019/10/01

## QUALITY ASSURANCE REPORT

Sure Hazmat & Testing
Client Project #: 14834
Site Location: CITY OF SURREY 14577 66 AVE
Sampler Initials: RV

| | | | Spiked Blank | | Method Blank | | RPD | | QC Standard | |
|---|---|---|---|---|---|---|---|---|---|---|
| **QC Batch** | **Parameter** | **Date** | **% Recovery** | **QC Limits** | **Value** | **UNITS** | **Value (%)** | **QC Limits** | **% Recovery** | **QC Limits** |
| 9608723 | Total Lead (Pb) | 2019/09/30 | 98 | 75 - 125 | <2.0 | mg/kg | 12 | 40 | 109 | 70 - 130 |

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.



Bureau Veritas Laboratories Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Bureau Veritas Laboratories
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel (604) 734 7276 Toll-free 800-563-6266 Fax (604) 731 2386 www.bvlabs.com

Page of

B982616_COC

Bottle Order #: 589141

Chain Of Custody Record | Project Manager

C#589141-41-01 | Customer Solutions

**INVOICE TO:**

Company Name: #4212 Sure Hazmat & Testing
Contact Name: Karen Smith
Address: 101-4268 Lozells Avenue
BURNABY BC V5A 0C6
Phone: (604) 444-0204 Fax: (604) 420-9559
Email: ksmith@surehazmat.com

**Report Information**

Company Name:
Contact Name:
Address:
Phone: Fax:
Email: RVERHELST@SUREHAZMAT.COM

**Project Information**

Quotation #: B80847
P.O. #:
Project #: 14834
Project Name: City of Surrey
Site #: 14577 66 AVE
Sampled By: RV

Regulatory Criteria:
- [ ] CSR
- [ ] CCME
- [ ] BC Water Quality
- [ ] Other

Special Instructions:

**SAMPLES MUST BE KEPT COOL ( < 10°C ) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS**

| | Sample Barcode Label | Sample (Location) Identification | Date Sampled | Time Sampled | Matrix | Metals Field Filtered ? (Y / N) | LEAD IN PAINT | Lead (in Glazing/Tile/Other Solid) | TCLP Lead Leachate | Lead in SWAB | LEAD IN AIR | Respirable Silica in Air by XRD (NIOSH 7500) | # of Bottles | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | L01 - BROWN METAL FLASH | Sept 26 | | | | ✓ | | | | | | | |
| 2 | | L02 - BLUE METAL PARAPET | ↓ | | | | ✓ | ✓ | | | | | | |
| 3 | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | |

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

**Regular (Standard) TAT:**
(will be applied if Rush TAT is not specified): ☐
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

**Job Specific Rush TAT (if applies to entire submission)**
1 DAY ☐ 2 Day ☐ 3 Day ☒ Date Required: ☐
Rush Confirmation Number: (call lab for #)

| * RELINQUISHED BY: (Signature/Print) | Date: (YY/MM/DD) | Time | RECEIVED BY: (Signature/Print) | Date: (YY/MM/DD) | Time | # jars used and not submitted |
|---|---|---|---|---|---|---|
| | 19/09/26 | 16:40 | MEGAN SWIATEK | 2019/09/27 | 16:42 | |

Lab Use Only: Time Sensitive ☐ | Temperature (°C) on Receipt: NA | Custody Seal Intact on Cooler? ☐ Yes ☒ No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: BV Labs Yellow: Client

1770

Bureau Veritas Canada (2019) Inc.


N

**Legend**

X — Non-Asbestos Sample

X — Asbestos-Containing Sample

LX — Lead Sample

Sure Hazmat and Testing