Harbourfront Fire Station, Queen's Quay, Toronto. Jurecka + Associates/architecture and design. Kanalco "Series 1 Dry Set" panel system consists of 1579 m² (17,000 sq. ft.) of 4 mm PE (Polyethylene) core material with Champagne Metallic and Pure White Finish. Photographer: Peter Sellar.

PRODUCT DESCRIPTION
The Reynobond® dry-set aluminum composite building panel system employs an aluminum finished composite panel and reveal joint fitted with a weather resistant closure strip. The resultant assembly features a low maintenance, durable, and extremely attractive panel system.

The Reynobond panel itself consists of a thermoplastic compound core laminated between two 0.50 mm (.020") sheets of aluminum. The reveal joint closure strip is made from the same Reynobond material which can be finished to match the panel, or alternatively, colored to provide an accent strip. Reynobond is also available with optional proprietary fire-resistant (FR) core material that meets or exceeds national building code requirements.

Panel Thickness
Available from 3 mm to 6 mm (1/8" to 1/4"). See Panel Size chart on page 2.

Panel Sizes
See Panel Sizes chart on page 2.

Finishes
Reynobond Aluminum Composite Material is protected and colored with high-performance Colorweld 500 coatings. These finishes feature 70% KYNAR 500®/HYLAR 5000® polyvinylidene fluoride (PVDF) resins, coil coated to ensure the highest color uniformity and quality. Colorweld 500 coatings exhibit outstanding color and gloss retention, and are considered the premier architectural coating for metal. They provide excellent flexibility and film adhesion for forming, and offer superior resistance to humidity, impact, salt spray, pollution, abrasion and graffiti.

Opaque Finishes: These are 2-coat finishes typically consisting of a 0.2 mil primer and a 0.8 mil color coat, for a nominal dry film thickness of 1.0 mil.

Mica Finishes: These are 2-coat finishes typically consisting of a 0.2 mil primer and a 0.8 mil color coat with mica flakes suspended in the finish. Nominal dry film thickness is 1.0 mil.

Metallic Finishes: These are 3-coat finishes typically consisting of a 0.2 mil barrier primer, a 0.8 mil color coat and a .05 mil clear top coat, for a nominal dry film thickness of 1.5 mils.

Colors
Reynobond is available in 20 standard architectural colors:
Series 1: Frisco White, Classic Bronze, Parchment, Pueblo Tan, Oyster White, Cadet Gray, Pure White, Banner Red®, Konig Blue, Deep Black, Bone White, Classic Green.
Series 2: Platinum, Bright Silver Metallic, Champagne Metallic, Vancouver Copper.

Custom Colors or Finishes
Virtually any color can be produced in 2-coat, 3-coat (XL), metallic or mica finishes. Other coatings are also available to meet special requirements. Minimum quantities may apply. Set-up charges apply for less than 10,000 square feet (929 square metres). Consult Kanalco for specific details.
USES

• Exterior or interior cladding
• Industrial and specialty product design
Example uses include:
- beam wrap - ceilings
- interior walls - partitions
- elevators - clean rooms
- signage - canopies
- column covers - equipment covers

FEATURES

Low Maintenance; matching, recessed, dry-set composite joint closure strip means no caulked joints to maintain; also, cleaning of occasional panel staining typically associated with wet-seal applications is eliminated.

Rainscreen and Pressure Equalized; designed as part of a rain penetration control assembly commonly referred to as “rainscreen” wall. The Reynobond cladding acts as the first line of defence in controlling the impact of wind driven rain on exterior walls. The second line of defense consists of a cavity space and the barrier system behind the cladding.

Cost Effective; Aluminum design utilizing Reynobond materials is an economical, low maintenance dry-set panel system suited to modern, clean architecture.

Strong; rigidity and strength provides extreme architectural flatness with virtual elimination of dimpling, buckling and oil canning, and exceptional load-bearing capacity and flexural strength.

Light; high strength-to-weight ratio allows cladding with little or no alterations to existing structural systems.

Formable; options include small radius curves, reverse curves, angles and radiused corners. Fabrication techniques include routing, drilling, punching, shearing, brake-forming, roll-forming, cutting, hot-air welding, bolting and riveting.

Easy Fabrication; shop forming using common woodworking and metalworking tools allow fabrication to exact specifications at relatively low cost.

Beautiful; ideal medium for imaginative and discriminating architects, builders, designers, engineers, and owners. Blends beautifully with other materials.

Durable; Colorweld® 500 coil coated panels are weather and corrosion resistant; Kynar 500® polyvinylidene fluoride coatings provide excellent chalk and fade resistance, humidity resistance, gloss retention, hardness, and flexibility. Lasting beauty and physical bond integrity in both outdoor and indoor environments are Reynobond attributes.

DURABILITY


TECHNICAL DATA

Surface Burning Characteristics (ASTM E-84): Class A

<table>
<thead>
<tr>
<th>Product</th>
<th>Flame Spread</th>
<th>Smoke Developed</th>
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</thead>
<tbody>
<tr>
<td>Reynobond PE</td>
<td>15</td>
<td>120</td>
</tr>
<tr>
<td>Reynobond FR</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>FR Core only</td>
<td>15</td>
<td>30</td>
</tr>
</tbody>
</table>

Toxicity: FR material is no more toxic than wood (evaluated by University of Pittsburgh, test method to New York Code Provisions). See Building Codes. Min. Bond Strength (ASTM D-178-76): 178 N/mm (40 in-lb/ in) Note: this is double that of competitive products.

Paint Finish Performance

<table>
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<th>Property</th>
<th>Test Method</th>
<th>Opque</th>
<th>Mica</th>
<th>Metallic</th>
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<tbody>
<tr>
<td>Specular Gloss 85%</td>
<td>ASTM D523-89</td>
<td>20</td>
<td>20</td>
<td>25</td>
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<tr>
<td>Adhesion</td>
<td>ASTM D3359 92A</td>
<td>HB H</td>
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<tr>
<td>Flexibility</td>
<td></td>
<td>1T No Cracking</td>
<td>1T No Cracking</td>
<td>1T No Cracking</td>
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<tr>
<td>Abrasion Resistance</td>
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<td>50 80 Litters</td>
<td>50 80 Litters</td>
<td>Minimum 130 Litters</td>
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<tr>
<td>Color Retention</td>
<td>ASTM D2244 89</td>
<td>Pass 2500 Hours</td>
<td>Pass 2500 Hours</td>
<td>Pass 2500 Hours</td>
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<th>Property</th>
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<th>Metallic</th>
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<td>Change</td>
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INSTALLATION
Reynobond panels can be installed using a variety of different methods i.e. rout and return dry set or wet seal, or glazed into storefront or window applications.

Kanalco Ltd. are a custom manufacturer specializing in the metal fabrications field. Installation of the Reynobond composite panels is normally carried out by the appropriate trades and experienced installers according to specifications and approved shop drawings.

Building Codes: Reynobond is recognized as a cladding material for the following building codes:
- NBCC National Building Code of Canada and the various provincial codes.
- ICBO (No. PFC-4909, PFC-5051)
- BOCA (N0. 93-57)
- SBCCI (PST & ESI No. 9509)
- New York City M.E.A. (No. 7591-M)
- Los Angeles (No. RR25121, RR25285)
- State of Wisconsin (Approval No. 930066-1)
- Chicago

Recognized internationally in the U.S., Canada, United Kingdom, France, Germany, Singapore, New Zealand, Australia, Hong Kong, Israel, Poland, and People’s Republic of China.

MAINTENANCE
To keep aluminum composite building panels attractive, a definite maintenance program must be followed. The frequency of cleaning will depend on:
- atmospheric environment and severity of pollution
- effect of weathering on the aluminum finish and ability of the finish to shed dirt and grime.
- cost involved.
- owner’s interest in retaining the original appearance.

RELATED DATA
- Reynobond “Material + Mind = Idea” architectural brochure.
- Reynobond Aluminum Composite Material Color Guide
- Other Reynobond promotional literature.
- Other Kanalco technical literature e.g. Reynobond Aluminum Composite Building Panels (wet seal), Aluminum Wall Panels, Stainless Steel Wall Panels, Metal Column Covers, Rainscreen Cladding, and Pre-formed Metal Profiles.

AVAILABILITY & COST
Reynobond is available worldwide. Contact Kanalco for information.

WARRANTY
Normal 1 year construction warranty.

TECHNICAL SERVICES
Kanalco Ltd. can provide consultation from preliminary design through to product application, including the following:
- technical advice for both new work and retrofit applications
- finish samples
- specification assistance
- shop drawings
- recommending contractor sources
- site advice and recommendations

SPECIFICATION
SPEC NOTE: This specification is basic and must be adapted to suit the requirements of individual projects. It is written in accordance with the CSC/CSI 3-Part Section Format. Square brackets [ ] indicate choice, alternatives, data required or need for the specifier to make a decision.

1 General

1.1 GENERAL REQUIREMENTS
.1 Comply with General Conditions of Contract, Supplementary Conditions and the requirements of Division 1.

1.2 RELATED SECTIONS
.1 Structural steel supports [05100]

1.3 DESIGN REQUIREMENTS
SPEC NOTE: for 1.3.1. insert expected temperature range for locality of building including allowance for skin temperature heat gain in sunlight on colored finish.

.1 Design cladding system to provide for thermal movement of component materials caused by ambient temperature range of [_____°C (°F)] without causing buckling, wind rattle, undue stress on fasteners or other detrimental effects.

.2 Include expansion joints to accommodate movement in wall system and between wall system and building structure, caused by structural movements, without permanent distortion.
.3 Design framing members to withstand dead load and wind loads as calculated in accordance with [NBCC and applicable municipal regulations], to maximum allowable deflection of L/175 of span or 19 mm (3/4") whichever is less for system supports, and L/60 of span for panel system.

.4 Provide for positive drainage of condensation occurring within wall construction and water entering at joints, to exterior face of wall in accordance with [NRC “Rain Screen Principles”].

.5 Design wall system to accommodate specified erection tolerances of structure.

.6 Maintain following installation tolerances:
   .1 Maximum variation from plane or location shown on approved shop drawings: 1/2" in 20'-0" (13 mm in 6 m) maximum.
   .2 Maximum offset from true alignment between two adjacent members abutting end to end, in line: 0.75 mm (1/32").

1.4 SHOP DRAWINGS
   .1 Submit shop drawings in accordance with Section [01340].
   .2 Indicate dimensions, wall openings, head, jamb, sill and mullion details, materials and finish, anchor details, compliance with design criteria and requirements of related work.
   .3 Shop drawings complete calculations to be reviewed by and bear stamp of a professional engineer.

1.5 SAMPLES
   .1 Submit duplicate 75 mm x 125 mm (3" x 5") samples of wall system, representative of materials, finishes and colors, in accordance with Section [01340] for approval.

1.6 QUALITY ASSURANCE
   .1 Installation of cladding system to be by work forces approved by cladding fabricator as per written installation instructions provided by manufacturer.

1.7 MOCK-UPS
   .1 Provide mock-up on building consisting of complete cladding system, including but not limited to metal furring, panels, securement devices and mouldings for approval. Cladding finish and mouldings to be of finish and color as designated by the [Consultant] [Architect].
   .2 Location of mock-up to be as directed by [Consultant] [Architect]. Size to be four panels minimum in a 2 over 2 configuration.

   .3 Modify mock-up as necessary for [Consultant’s] [Architect’s] approval. Mock-up [may] [may not] remain in place as part of completed work. Mock-up to represent standard for completed work.

1.8 STORAGE AND PROTECTION
   .1 Handle, store and protect materials in accordance with cladding manufacturer’s written instructions.

1.9 MAINTENANCE DATA
   .1 Provide maintenance data for care and/or panel replacement for incorporation into operation and maintenance manual specified in Section [01730].

2 Products
   SPEC NOTE: If more than one type panel, thickness, size, or color is required, specific type, etc. and ensure drawings or specifications indicate location of each type.

2.1 MATERIALS
   Composite metal building panels: Reynobond dry-set composite material consisting of a thermoplastic compound [PE] [FR] core laminated between two 0.50 mm (.020") sheets of 3105 H25 aluminum; with Class ‘A’ Surface Burning Characteristics (ASTM E84); [RB grade; [ ] thickness; [ ] color; [ ] panel size; as manufactured by Alcoa Cladding Systems and fabricated and furnished by Kanalco Ltd.

   .2 Panel finish: Colorweld 300 coating consisting of 70% Kynar 500/Hylar 5000 polyvinylidene fluoride (PVDF) resins, coil coated to ensure highest color uniformity and quality, of color as specified, and thickness and paint finish performance as stated in manufacturer’s literature.

   .3 Copings and flashings: formed material to match cladding.

   .4 Sub-girts: 1.2 mm (18 ga.) zinc coated steel to ASTM A525 with Grade A coating to ASTM Z275.

   .5 Fasteners: all exposed rivets/fasteners to be stainless steel finished to match panels; all concealed fasteners to be Climaseal coated or stainless steel.

2.2 FABRICATION
   .1 Panels to be factory fabricated in accordance with specifications and approved shop drawings.
   .2 Bond panels using continuous process without using applied glues or adhesives.

   .3 Maximum allowable fabrication tolerances to be:
      .1 Panel bow: 0.8% of panel dimensions.
      .2 Width or length ± 0.08 mm (0.032") up to 1220 mm (48") ± 1.5 mm (0.06") from 1220 mm to 3360 mm (48" x 144")
      .3 Squareness: Maximum 4.7 mm (0.187") difference between diagonal measurements.

2.3 CLEANING
   .1 As work progresses, remove any foreign materials which would set up or become difficult to remove from finished surfaces.

3 Execution

3.1 INSPECTION
   .1 Prior to installation, examine alignment of substrate and notify [Consultant] [Architect] in writing if substrate does not comply with manufacturer’s recommendations.

3.2 INSTALLATION
   .1 Install cladding in accordance with manufacturer’s written instructions and shop drawings. Allow for thermal movement.

   .2 Maintain following installation tolerances:
      .1 Maximum variation from plane or location shown on shop drawings: 10 mm/10 m (3/8" in 300'-0") maximum.
      .2 Maximum deviation for a vertical member: 3 mm (1/8") in a 8.5 m (25'-0") run.
      .3 Maximum deviation for a horizontal member: 3 mm (1/8") in an 8.5 m (25'-0") run.

   .4 Maximum offset from true alignment between two adjacent members abutting end to end, in line: 0.75 mm (1/32").

   .5 Knife form metal flashings to profile required, in maximum lengths.

   .6 Where aluminum materials come in contact with dissimilar materials, install isolation shim or tape at fastening locations.

   .7 Employ [control] [expansion] joints as indicated.

   .8 Remove strippable coating from panels as cladding is installed.

3.3 CLEANING
   .1 As work progresses, remove any foreign materials which would set up or become difficult to remove from finished surfaces.

End of Section