



MANU-DATA
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INFORMATION/SPECIFICATION

KANALCO LTD.

ALUMINUM PANEL SYSTEMS

ALUMINUM WALL PANELS

07410

Metal Building Panels
KANALCO LTD.

1. PRODUCT NAME

Metal building panels:
Kanalco aluminum wall panels
(and column covers)

2. MANUFACTURER

Kanalco Ltd.
Aluminum Panel Systems
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3. PRODUCT DESCRIPTION

The popularity of aluminum as a building material can be attributed to the following:

Formability: A unique combination of properties makes aluminum one of the most versatile of engineering and construction materials. It is highly ductile and formable.

Lightweight: Aluminum is probably best known for its light weight, only one-third that of steel. But it can also be made very strong – some of its alloys are stronger than structural steels. In addition, preformed aluminum panel systems are known to exceed the strength and fabrication capabilities of composite panels at no increase in cost.

Easy maintenance: Painting or refinishing of aluminum products is eliminated. The only cleaning generally required is washing

with detergent and water. In inaccessible areas, rainfall is normally sufficient to keep aluminum clean.

Attractive appearance: Aluminum is a bright, clean-looking material that blends well with all kinds of building materials. It readily accepts a wide range of surface finishes.

Finish integrity: An important property of aluminum is its chemical affinity for oxygen, which causes it to form a thin, tough, invisible and impervious film of oxide on its surface immediately on the metal's exposure to air which is virtually impenetrable by the atmosphere once it has formed. Finishes adhere very tightly to the metal; this means that there is no flaking off of the oxide and continuous corrosive attack of the surface, and no colored wash-off to stain adjacent surfaces.

Cost: The cost comparison of building materials is unrealistic if only initial outlay is considered. Total cost includes insurance, maintenance, custodial care, replacement and other factors. Of these, maintenance generally represents the highest cost. Aluminum is recognized as a long-lasting, easily maintained material for both interior and exterior architectural applications. Its smooth, dense, corrosion-resistant to dirt and maintenance.

Basic Use:

- Exterior or interior
- New construction or renovation
- Commercial or other applications
- Typical architectural use examples include
 - exterior wall panels
 - enclosure panels for lobbies and mezzanines
 - entranceway treatments
 - store fronts
 - fascia panels
 - flashing
 - ceiling panels, soffits
 - spandrel panels
 - beam enclosures
 - column covers
 - escalator panels
 - partitions
 - wall trim and accent strips
 - signage

Limitations: For non-structural (non-load bearing) use only.

Composition and Materials: Solid 3 mm (.125") aluminum alloy (5005-H34 anodizing quality or 3003-H14 paint quality tensioned levelled sheet) is used to fabricate the many Kanalco architectural products, however other thicknesses or alloys are available. Materials, coming from the mill in sheet form and finished to customer specifications, are covered with strippable, protective plastic film and then formed or worked as required.

Flat metal is brake formed; curved panels are either brake or roll formed, depending on radius and direction of curve. Corners of pan-formed panels can be welded and ground smooth.

Kanalco panels may be supplied as a composite panel with insulated core and flat liner sheet backing if desired. See accessories below.

Finishes: The following aluminum finishes are offered as standard by Kanalco.

Anodized finishes: Architectural Class 1, 20 μm (0.0008") or Class 2, 10 μm (.0004") in clear or standard colors.

Paint finishes: PPG Duranar® fluorocarbon coatings containing Kynar 500* resin in a wide range of architectural colors.

Accessories (optional):

Glass fibre insulation of thickness, density and thermal value as required.
Flat liner sheet of factory formed commercial quality aluminum.

Sizes:

Width: - Coil or sheet is available in up to 1829 mm (72") width and may be slit to smaller widths.

Length: - As desired, depending on material availability.

Thickness: - 3 mm (.125") is standard. Other thicknesses available.

Radiused Corners: - 6 mm (1/4") minimum.

Shapes: - Brake or roll (roller die) forming can produce an infinite variety of shapes. Kanalco can advise on proposed design configurations upon request.





Applicable Standards: Kanalco aluminum fabrications conform to: CAN/CGSB-93.1M

Aluminum Association Designation System for Aluminum Finishes (clear or color anodized).

AAMA #605 for Duranar colored coatings "Voluntary Specification for High Performance Organic Coatings on Architectural Extrusions and Panels".

4. TECHNICAL DATA

Comprehensive data relating to the physical and mechanical properties of aluminum can be found in AAMA technical literature available upon request from Architectural Aluminum Manufacturers Association, Washington D.C.

5. INSTALLATION

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

Precautions: Brackets, clips or other fixing devices, when made from another metal, should be insulated from the aluminum by bitumastic or similar insulators to prevent corrosion or possible unsightly "bleeding" of other metals.

Eliminate drainage onto aluminum from other materials, such as chloride bearing cements and other corrosive materials.

Fasteners should be concealed as much as possible for aesthetic reasons, and should have corrosion resistance equal to or better than the aluminum to eliminate later repairs.

If possible always use stainless steel fasteners.

The designer's specifications should make clear to all trades whose work prejoins the aluminum panels that suitable precautions against damage must be maintained.

Building Codes: Kanalco metal building panels comply with the National Building Code of Canada and the various provincial codes.

6. AVAILABILITY & COSTS

Kanalco fabricated metal products can be shipped worldwide. Current cost data is available upon request.

7. WARRANTY

Normal 1 year construction warranty.

8. MAINTENANCE

To keep aluminum architectural components 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.

Cleaning Methods

Anodized finishes (in order of increasing severity)

- 1) Wash with clean warm water; dry with a soft cloth.
- 2) Wash with mild soap or detergent and water; scrub with a stiff bristle brush; rinse and dry.
- 3) Apply solvent-type cleaner (kerosene, naphtha, turpentine); rinse to avoid streaks, and dry.
4. Use a proprietary polish cleaner as directed by the manufacturer; rinse with water or solvent and dry.
- 5) Apply a mild abrasive cleaner with a damp cloth (jute is very effective) or soft brush; rinse with soap and water, then with clean water.
- 6) Use a strong abrasive cleaner applied either as in 5 or with a reciprocating power tool. This method should be used only as a last resort because it destroys the anodic finish.

Note: Refer to appropriate AAMA literature for more detailed cleaning data e.g. suggested frequency of cleaning etc.

Duranar finishes

Duranar coatings require very little maintenance. Most surface residue may be removed using conventional detergents or solvents. Harsh chemicals or solvents and abrasive materials must not be used on Duranar coatings. Minor scratches can be touched up with a specially formulated air-dry fluorocarbon coating system - Duranar A.D. (contact a Building Product Sales Office for further information).





9. 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 contract sources.
- Site advice and recommendations.

10. RELATED REFERENCES

AAMA technical literature available from the Architectural Aluminum Manufacturers Association, Washington, D.C.

Duramar technical literature and color chart data available from PPG Inc., Pittsburgh, PA.

Additional Kanalco Ltd MANU-DATA technical literature:

- Stainless Steel Wall Panels
- Metal Column Covers
- Specialty Sheet Metal Fabrication
- Insulated Panels

See "Specification" following:

SPECIFICATION

SPEC NOTE: The following material and fabrication clauses are arranged for inclusion in the appropriate "Manufactured Wall Panels" specification Sections using the CSC/CSI 3-Part Section format. Square brackets [] indicate alternatives, data required, or need for the specifier to make a decision.

MATERIALS

- .1 **Metal Building Panels**
Preformed custom fabricated aluminum building panels as manufactured by Kanalco Ltd. and as follows:
 - .1 **Sheet aluminum:** to CAN/CGSB-93.1M, solid [3 mm (.125")] [5005-H34] [3003-H14] alloy with architectural [Class 1, 20 μ m (.0008")] [Class 2, 10 μ m (.0004")] [clear] [_____ color] anodized finish **OR** PPG Duramar fluorocarbon coating containing Kynar 500 resin finish [_____ color] as selected.
 - .2 **Screws:** stainless steel to CSA B35.3-1962
SPEC NOTE: For item 3 below, refer to "Sealants" Section for data and insert here as required.
 - .3 **Sealants:** in accordance with [Section 07 _____], paragraph[_____], [_____] color.
 - .4 **Gaskets:** closed cell polyurethane foam, adhesive on two sides, release paper protected.
 - .5 **Isolation coating:** [alkali resistant] [bituminous paint] [epoxy resin solution].
 - .6 **Galvanized steel brackets, liner sheet, etc:** hot dipped galvanizing with zinc coating [600] g/m² [(3/4 mils)] to CSA G164-M1981 or ASTM A123-84

SPEC NOTE: Specify items .7 and .8 only when composite panel construction is required.

- .7 **Insulation:** glass fibre, density [_____ kg/m³ (_____ psf)], flame spread [25], permeance 28.75 ng/(Pa.s.m² (_____ perms)), [RSI-(R)] indicated.
- .8 **Insulation adhesive:** compatible with type of insulation and (zinc coated steel), incombustible after curing.

FABRICATION

- .1 Fabricate wall panels in accordance with specifications and approved shop drawings.
- .2 Maximum allowable fabrication tolerances to be:
 - .1 Panel bow: 0.2% of panel dimensions up to 0.187" maximum.
 - .2 Width or length \pm 0.80 mm (0.032") up to 1220 mm (48") \pm 1.5 mm (0.064") from 1220 mm tp 3360 mm (48" to 144").
 - .3 Squareness: Maximum 4.7 mm (0.187") difference between diagonal measurements.
- .3 Form all panels to specified dimensions with tolerances to accommodate thermal expansion and contraction between panels and structural members. Accurately form radii of curved panels in plant.
- .4 Factory fabricate accessory and trim components, ready for installation.

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