NOTE: Where a product is named in the Specifications by one of the following names or by any name followed by the number of one of the following articles, the product shall conform to the latest issued standard named in the corresponding article, except as specified or indicated otherwise.

1. METALS

1. Aluminum (A1)

1. Bar, rod, wire, extruded shapes; architectural: CSA HA. Series (AA/AnS1 6063) (Alcan 50S) condition T5.

2. Bar, rod, wire, extruded shapes; Structural: CSA HA Series (AA/ANS1 6061) (Alcan 65S) Condition T6.

3. Plate, sheet, coil; utility: CSA HA Series Alloy MC10, (AA/ANS1 3003) (Alcan D3S); condition H14 (sheet, coil), F (plate).

4. Plate, sheet, coil; anodizing: CSA HA Series Alloy 990C, (AA/ANS1 1100) (Alcan D2S); condition H14.

5. Specially anodized aluminum (hard anodized): (AA-M21 or M12C22A42) conform to Finishes, Aluminum, Hard Anodized (FA.HA) attached to Section 01 01 60.

6. Painted aluminum: conform to Finishes, Aluminum, Baked on Coatings FABC attached to Section 01 01 60.

7. Anodized Aluminum: AA-M21 or M12C22A31.

8. Aluminum for elevated floor plates (Bruce EDP) US Fed. Spec.QQ-A-591c, Ty A380 (mil-HDBK-H1C code 20087).

9. Aluminum sand casting (signs, etc.) AA 443.0.

2. Sheet Gauges

1. Gauges and equivalent thicknesses of sheet, plate, coil and strip shall conform to the table of gauges and equivalent thicknesses (GET) attached to Section 01 01 60. See 1.3.4 and 1.3.6 special application of gauges to structural sheet.

3. Galvanized Sheet Steel

1. ASTM A525 and 526, commercial quality sheets, plain commercial galvanized, stretcher levelled or temper rolled to stretcher levelled standard of flatness if specified.

2. Same as 1.3 .1 except wipe coated instead of plain commercial galvanized.

3. Same as 1.3.1 except mill phosphatized instead of plain commercial.

4. ASTM A446 structural quality, Grades A or B, max. permissible working stress: Grade A, 20,000 psi; Grade B, 22,400 psi. plain commercial galvanized. Gauges shall apply to core sheet and shall be msg. Coating thickness shall be added to core thickness to determine thickness of coated sheet (see 1.2 .1).

5. Same as 1.3.4 except wiped coated instead of plain commercial, with a coating not less than .050 oz. per sq. ft. (see 1.1.4).

6. Same as 1.3.4 except wiped coated instead of plain commercial galvanized (see 1.2.1).

7. Preparation for painting, in ship, ASTM D2092-68.

4. Copper Metals
   1. Nickel Silver (white bronze): Anaconda American Brass Alloy 796 (leaded nickel silver) (has higher zinc content than any of the nickel silvers in ASTM B122-71a):

Copper	45%
Zinc	42%
Nickel	10%
Lead	1%
Maganese	2%

   1. Sheet copper and strip copper for roofing, flashing and building construction: ASTM B370, cold rolled temper, 16 oz. or as specified otherwise.

   2. Monel: (nickel 63-70%, approx. 5% other metals, remainder copper) plate, sheet, strip, hot rolled, annealed and pickled, AST B127; (Inco Monel 400).

   3. All applicable copper metals: ASTM B248.

   4. Architectural Bronze (Red Brass), ASTM B36, No. 3 (85% CU + 15% NI).

5. Stainless Steel

   1. Plate, sheet and strip; CSA G110.6-1968, Type 302 or 304 as specified, or as specified otherwise; finish: No. 4 unless specified otherwise.

   2. Structural shapes and bars, CSA G110, 4-1968, Type 302, 304 or 316 as specified; No. 4 finish unless specified otherwise.

6. Sheet Steel

   1. Sheets, cold-rolled carbon steel, commercial quality, ASTM A366 stretcher levelled or temper rolled to stretcher levelled standard of flatness if specified.

   2. Porcelain enamelling steel, ASTM A424, Commercial Quality, Type 1 or 2.

   3. Same as 1.6.1 except special quality for electro deposited coatings.

   4. Same as 1.3.4. except ungalvanized.

   5. Hot-rolled, carbon steel sheets and strip, structural quality ASTM A570-70, 5 grades (stair treads, risers, etc.).

   6. Hot-rolled carbon steel sheet and strip, commercial quality ASTM A569-66T.

   7. Prepainted:

      1. CSSB1 Technical Bulletin No. 5, as currently amended (modified silicone alkyd, 2000).

      2. CSSB1 Technical Bulletin No. 5, as currently amended, except humidity resistance 5000 hours; salt spray resistance 400 hours; resistance to accelerated weathering 2500 hours (fluoropolymer, 10,000).

      3. CSSB1 Technical Bulletin No. 5, as currently amended, except humidity resistance 3000 hours (silicone alkyd, 5000).

7. Sheet Steel (Cold Rolled)/Structural Steel (Hot Rolled)

    1. When steel thickness is indicated by gauge or by decimal fractions of inches, it is sheet steel (1.6) or galvanized sheet steel (1.3) or stainless steel (1.5). When steel thickness is indicated by common fractions of inches, it is structural steel (1.8). However, some sheet steels are structural quality, (i.e. having guaranteed strength).

8. Structural Steel

    1. CAN/CSA G40.21-M87, 38W or 44.

9. Soldering Materials

    1. Solder: All solder used throughout the project to conform to all specifications in applicable divisions, including but not limited to Division 20, 22, 23, 26, 28 and 33. Under no circumstances shall any lead containing solder be used on this site especially any potable water piping systems throughout the project.

    2. Flux: on stainless steel:

        1. Muriatic acid killed by the addition of zinc until all effervescence stops and no excess of zinc remains; improved by the addition of a small amount of ammonium chloride, plus 10% acetic acid; or

        2. muriatic acid: ferric chloride: nitric acid 90:50:3, by weight; or

        3. Approved commercial flux designed especially for use with stainless steel, such as EutecSol 682, or approved equal.

    3. Flux: on copper and galvanized steel:

        1. killed muriatic acid as specified in 1.9 b.1; or
        2. suitable rosin type.

10. Galvanizing

    1. All steel except (1.3), CSA G164 Hot Dip Galvanizing of irregular Shaped Articles. Must be done after all welding complete. No welding of galvanized products allowed.

11. Welding Materials

    1. CSA W59, CSA W 55.2; for stainless steel, ASTM A371; for aluminum, ASTM B285.

12. Metal Filler

    1. Epoxy: Hysol 6C epoxy adhesive kit (or 4297 in bulk) manufactured by Hysol (Canada) Limited, or approved equal.

13. Plating (Electrodeposited Coatings)

    1. Cadmium (on steel): ASTM A165, Type NS (13 mu), OS (7.6 mu), TS (3.8 mu).

    2. Chrome (on steel): ASTM B.456, Fe Ni20b Cr r unless specified otherwise, bright unless dull specified.

    3. Chrome (on copper and copper-base alloys): ASTM B456, Type FC unless KC or QC specified; bright unless dull specified. (In this case FC is thick and QC is thin.)

4. Weight of zinc coating and thickness to be added to base metal to determine thickness of coated material.
(Source: ASTM A-446, Tables 2 and 4)

Coating Class oz. Per sq. ft.	Triple-Spot Test, Minimum Check Limited oz. per sq. ft.	Thickness in
2.75	2.35	0.0041
2.5	2.1	0.0037
2.25	1.85	0.0033
2	1.65	0.003
1.75	1.4	0.0026
1.5	1.15	0.0022
1.25 commercial	0.9	0.0019
Wipe Coated (Colourbond or Satincoat in Canada only)	0.25	0.0005

NOTE: Light Commercial not available in Canada.

11. Paint (See 1.6.7)

1. Bituminous paint: CGSB 1-GP-108c.

2. Baked enamel on steel: primer, CGSB 1-GP-81e, Type 2; finish CGSB 1-GP-88e, baking alkyd enamel.

3. Baked enamel on aluminum: FA.BTAE, attached to Section 01 01 60

End of Section 01 01 60