SECTION 05 70 00 - Decorative Metal

ARCHITECTURAL ORNAMENTAL METAL

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\*\* NOTE TO SPECIFIER \*\* Hoesch Schwerter Extruded Profiles GmbH; hot extruded steel profiles.  
This section is based on the products of Hoesch Schwerter Extruded Profiles GmbH available through ThyssenKrupp Steel Services, which is located in the US at:  
2716 Old Richburg Rd  
Richburg, SC 29729  
Tel: (803) 789-6900  
Email: ed.dailey@thyssenkrupp.com  
Web: http://www.TKMNAsteelprofiles.com  
 HYPERLINK "http://www.arcat.com/arcatcos/cos9550/arc50141.html?src=spec" click Herefor additional information.  
Hoesch Schwerter Extruded Profiles GmbH  
Eisenindustriestrasse 1  
D-58239 Schwerte, Germany  
Cefival S.A.  
35, Rue du Docteur-Touati - B. P. 54  
95340 Persan, France  
Siderval S.p.A.  
Via Chini Battisti, 60  
23018 Talamona (SO), Italy  
Hoesch Schwerter Extruded Profiles GmbH in Germany, Siderval S.p.A. in Italy and Cefival S.A. in France belong to the Italian Calvi Group, which has been established its position as a recognized global leader inside the metallurgical and mechanical industries. Inside the Business Unit Extrusion all 3 companies are specialized in hot extruded steel profile solutions. Within the realm of the production possibilities, special steel profiles can fulfill almost all the requirements for freedom of design, construction physics and architecture as part of an overall ecological concept. We develop our special profiles in close co-operation with our customers: alongside range of standard profiles, we offer above all solutions for unique design and production problems.

1. GENERAL
   1. SECTION INCLUDES
      1. Engineering and fabrication of ornamental structural metal components for architectural applications.
   2. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 08 83 13 - Mirrored Glass Glazing.
    2. Section 08 44 23 - Structural Sealant Glazed Curtain Wall.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Shop Drawings: Include details of construction and relationship with adjacent construction. Provide 3-D views of complex profiles. Shop drawings shall be stamped by the professional engineer engaged by the Contractor.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Verification Samples: For each finish product specified, two complete sets of prototypes representing manufacturer's approved technical documentation and finish of required components.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Delegated-Design Submittal: For architectural metal structural components required by the design.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Minimum 10 year experience manufacturing similar products.
        1. Ability to carry out chemical, electro-chemical, physical, mechanical, metallographic and metallurgical inspections. Performance shall comply with:
           1. DIN EN 9100.
           2. DIN EN ISO 9001.
           3. DIN EN ISO 14001.
     2. Engineer Qualifications: Registered as a structural engineer in the jurisdiction of the project.
     3. Installer Qualifications: Minimum 2 year experience installing similar products.

\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
       1. Finish areas designated by Architect.
       2. Do not proceed with remaining work until workmanship is approved by Architect.
       3. Remodel mock-up area as required to produce acceptable work.
  1. PRE-INSTALLATION MEETINGS
     1. Convene a minimum of two weeks prior to starting work of this Section.
  2. DELIVERY, STORAGE, AND HANDLING
     1. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
     2. Handle materials to avoid damage.
  3. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
  4. SEQUENCING
     1. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Hoesch Schwerter Extruded Profiles, available through ThyssenKrupp Steel Services, which is located at: 2716 Old Richburg Rd; Richburg, SC 29729; Tel: 803-789-6900; Email: [request info ()](http://admin.arcat.com/users.pl?action=UserEmail&company=Hoesch+Schwerter+Extruded+Profiles,+available+through+ThyssenKrupp+Steel+Services&coid=50141&rep=&fax=&message=RE:%20Spec%20Question%20(05700hse):%20%20&mf=); Web: [TKMNAsteelprofiles.com](http://TKMNAsteelprofiles.com)

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
  1. MATERIALS
     1. Stainless Steel: DIN EN 10 088-3/DIN 17 440. Z-30.3-6 and DIN EN 10088-3.
     2. Structural products for general construction steels under DIN EN 10 025 and for tempered steels under DIN EN 10083-1 and 2.
  2. PROFILES

\*\* NOTE TO SPECIFIER \*\* Delete types not required.

* + 1. Standard Steel Profiles:
       1. Standard hollow profiles.
       2. Standard T profiles.
       3. Equal and deep webbed T profiles.
       4. Special profiles.
    2. Standard Stainless Steel Profiles:

\*\* NOTE TO SPECIFIER \*\* delete profile not required.

* + - 1. Equal Angle: 25/32 to 7-7/8 inches (20 to 200 mm).
      2. Unequal Angle: 1-3/16 x 25/32 inches to 7-7/8 x 5-29/32 inches (30 x 20 mm to 200 x 150 mm.
      3. T-Profiles: Height 1 inch to 6-19/64 inches (25 to 160 mm). Width 1-3/16 inches to 5-33/64 inches (30 mm to 140 mm).
      4. I-Beam Profile: Narrow and wide flange. Similar to DIN 1025. Height 3-5/32 inches to 17-23/32 inches (80 to 450 mm). Width 2-23/64 inches to 10-15/64 inches (60 to 260 mm).
      5. U Profiles: 1-3/16 x 19/32 inch to 15-3/4 x 4-21/64 inches (30 x 15 mm to 400 x 110 mm).
    1. Profile Characteristics: Components shall exhibit the following physical characteristics.
       1. Sharp Edges: External radii of 1.5 mm for hot extruded to 0.8 mm for cold drawn.
       2. Seamless finish for solid and hollow profiles (homogenous grain structure and no danger of leakage, particularly suited for heated facades.
       3. Different material thicknesses within a profile cross-section closely controlled for force resisting economies of scale.
       4. Integration of grooves to accommodate seals without abrasion or rupture of seal material.
       5. Surface smoothing by process of cold drawing.
  1. FABRlCATlON
     1. Hot Extruding:
        1. Advantages of Hot Extrusion: Manufacturing of complex profile forms; profiles possible even in metallic materials which are difficult to form; economic production even of small batch sizes.
        2. Dimensions: Circumscribed circle for solid and hollow profiles up to 10 inches (255 mm) diameter; inner diameters or diagonals for hollow profiles of at least 25/32 inch (20 mm) to a maximum of 6-19/64 inches (160 mm); minimum wall thickness 5/32 inch (4 mm).
        3. Lengths: Up to 55 feet (16,800 mm) depending on profile cross-section, with sawn ends, fixed lengths as required.
        4. Weight per Unit: Minimum 1 lbs/feet (1.5 kg/m); maximum 73.4 lbs/feet (110 kg/m).
     2. Post Production Fabrication:
        1. Manufacturer shall complete designed profiles for application without further processing. Post production shall include, but not be limited to, the following as applicable to the project:
           1. Sawing.
           2. Milling.
           3. Turning.
           4. Grinding.
           5. Welding.
           6. Drilling.
           7. Thread cutting.
           8. Heat treatment.
           9. Surface finishing (e.g. galvanizing, electro-galvanizing, spray galvanizing, sandblasting, priming).

1. EXECUTION
   1. PREPARATION
      1. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   2. INSTALLATION
      1. Install in accordance with approved submittals, manufacturer's instructions and in proper relationship with adjacent construction.
   3. PROTECTION
      1. Protect installed products until completion of project.
      2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION