SD INDUSTRIES
ENGINEERING & FABRICATION
SUPPORT SERVICES CATALOG

CERTIFICATIONS

Member of AISC | AISC Certified – Building Fabricator |
AWS Member – Ali Khalfan | HUB – Texas CPA | DBE – PANYNJ |
ACDBE – PANYNJ | MBE – PANYNJ | SBE – PANYNJ | SBE – TxDOT |
DBE – Caltrans | MBE – NYC SBS | MBE – NYC SCA | CAGE Code – DLA

SD® INDUSTRIES

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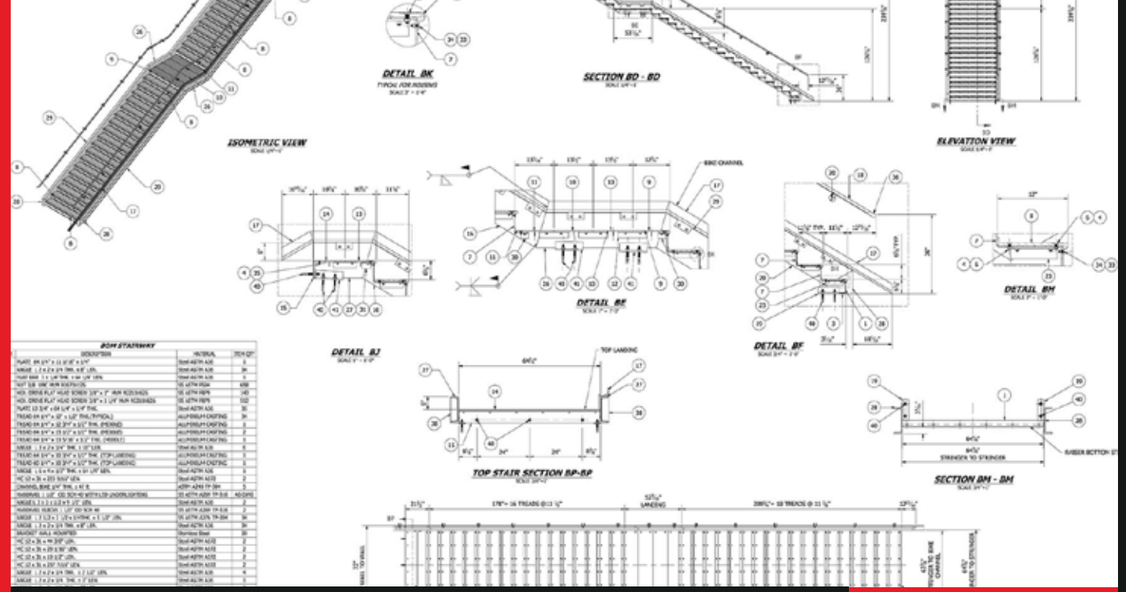
SHOP & FABRICATION DRAWINGS



SHOP & FABRICATION DRAWINGS

Our shop and fabrication drawing services convert approved design information into coordinated, fabrication-ready documents for architectural metal, structural steel, glass-support framing, and signage components.

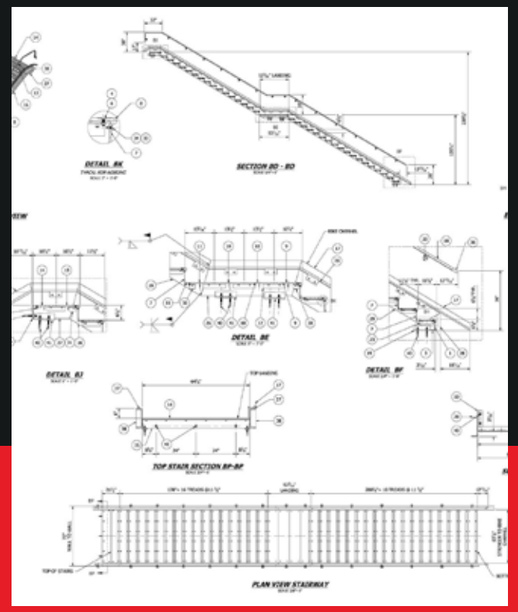
OVERVIEW

Drawing packages support dimensional control, material identification, assembly sequencing, connection detailing, and quality-controlled production.

- **Fabrication-Ready Detailing**
  Dimensions, materials, weld symbols, fasteners, connections, and assembly information are developed for production use.
- **Production Coordination**
  Parts and assemblies are coordinated with project requirements and manufacturing processes.
- **Organized Submittal Documentation**
  Drawing packages are structured for client, engineer, or design-team review..
- **Revision Control**
  Reviewed markups are incorporated into controlled drawing revisions before release for fabrication.

HOW IT WORKS

- **Review Approved Design Information**
  Review drawings, specifications, scope requirements, and available design criteria.
- **Develop Drawings and Models**
  Prepare detailed drawings showing materials, dimensions, welds, fasteners, and connections.
- **Internal Drawing Review**
  Check drawing completeness, dimensional coordination, and consistency with the defined fabrication scope.
- **Client Review and Release**
  Incorporate approved markups and issue the agreed drawing package for fabrication.



Fabrication Drawings

Steel Detailing

3D Detailing

3D RENDERING & VISUALIZATION

Our 3D rendering and visualization services create realistic digital representations of proposed products, assemblies, and architectural systems to support design review, fabrication planning, material evaluation, and client presentations.

OVERVIEW

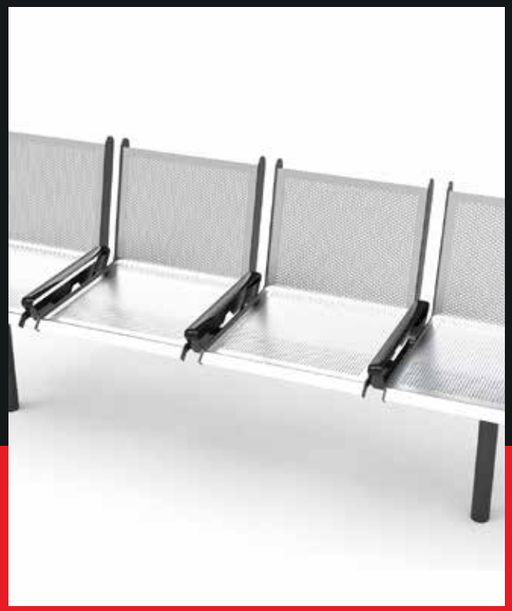
Digital visualizations help project stakeholders evaluate dimensions, materials, finishes, assemblies, and design intent before production begins.

- **Visualize Products and Assemblies**
  Review material finishes, layouts, profiles, and component relationships in realistic digital views.
- **Support Design Review**
  Provide clear visual information for early project discussions and approval workflows.
- **Presentation Support**
  Develop visuals for proposals, presentations, stakeholder reviews, and product communication.
- **Identify Coordination Items**
  Review visible design conflicts and unresolved details before fabrication documents are finalized.

HOW IT WORKS

- **Gather Design Inputs**
  We review architectural drawings and material selections.
- **Develop the 3D Model**
  Our team creates accurate models with textures and lighting.
- **Render & Animate**
  We produce images, walkthroughs, or animations as needed.
- **Review and Deliver Digital Files**
  We incorporate feedback and submit final files in your preferred format.

Architectural Renderings



Product Rendering

3D Modelling

Virtual Walkthroughs, Flythroughs & Animation

MODULAR & PREFABRICATED DESIGN

We develop repeatable, fabrication-ready component and assembly designs for controlled shop production, standardized manufacturing, and efficient material use.

OVERVIEW

The service focuses on manufacturability, repeatable component configurations, production planning, assembly sequencing, and coordinated fabrication documentation.

- **Designed for Manufacturing**
  Components and assemblies are developed around available materials, machinery, production processes, and shop capabilities.
- **Standardized Components**
  Repeatable modules and component details support consistency across production quantities.
- **Production Cost Planning**
  Material use, part repetition, connection details, and manufacturing sequences are evaluated during design development.
- **Factory-Assembly Planning**
  Assemblies are developed for controlled production and defined delivery configurations.

HOW IT WORKS

- **Review Product and Production Requirements**
  Review project scope, component quantities, material requirements, and manufacturing objectives.
- **Develop Standardized Modules**
  Create repeatable, fabrication-friendly components and assemblies.
- **Coordinate with Manufacturing**
  Align component details with machinery, forming, welding, assembly, and quality-control requirements.
- **Issue Fabrication-Ready Documentation**
  Deliver drawings and digital models for controlled production.

Design Optimization

Standardization

Cost-Effective Solutions

Prefabrication & Modular Fabrication

REALITY CAPTURE & DIGITAL MAPPING

Our reality capture and digital mapping services convert laser-scan, photographic, measurement, and project-provided data into point clouds, digital models, as-built documentation, and existing-condition deliverables.

OVERVIEW

Digital deliverables support fabrication planning, dimensional verification, reverse engineering, existing-condition modeling, and coordination of manufactured components.

- **Digital Measurement Data**
  Organize and process project measurement information into usable digital formats.
- **Point Cloud and Model Development**
  Convert scan or image data into point clouds, 3D models, and coordinated digital references.
- **As-Built Documentation**
  Develop documentation reflecting supplied or verified existing-condition information.
- **Reverse Engineering Support**
  Recreate digital geometry for existing components, replacement parts, modifications, or replication.

HOW IT WORKS

- **Define Data and Deliverable Requirements**
  Establish required formats, areas of interest, accuracy needs, and intended fabrication use.
- **Receive or Acquire Project Data**
  Obtain measurement, scan, image, or point-cloud data under the agreed project scope.
- **Process and Model**
  Convert available data into point clouds, models, drawings, or digital maps.
- **Review and Deliver**
  Complete internal file review and issue the agreed digital deliverables.

LiDAR Data Processing

Point Cloud Generation

As-Built Surveying

Reverse Engineering

Structural Measurement & Existing Conditions

Reality Capture & Digital Mapping

ENGINEERING SERVICES

ENGINEERING SERVICES

Our engineering services support the design and manufacture of fabricated metal components and assemblies through calculations, analytical modeling, connection detailing, and production-focused engineering.

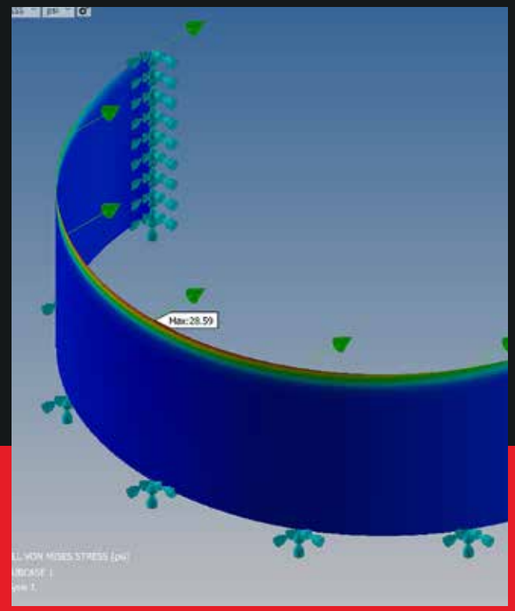
OVERVIEW

Engineering deliverables are developed from the stated project criteria, available design information, specified loading requirements, and defined fabrication scope.

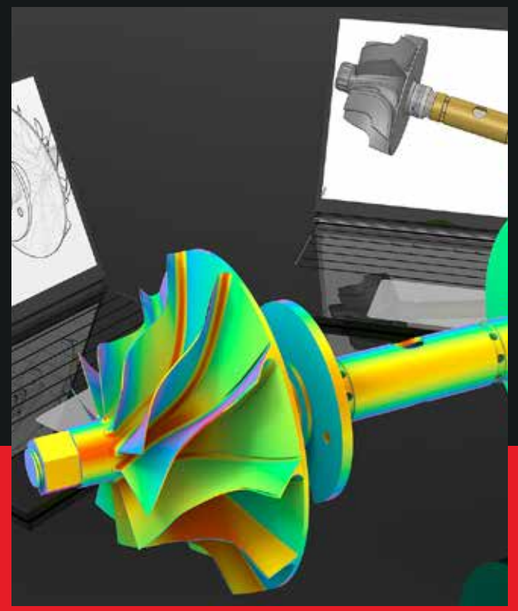
- **Structural Analysis**
  Perform calculations based on specified design criteria, materials, geometry, and loading information.
- **Connection Design**
  Develop welded and bolted connection details for fabricated components and assemblies.
- **Analytical Simulation**
  Use finite element analysis to evaluate modeled behavior under stated assumptions and loading conditions.
- **Fabrication Engineering**
  Coordinate engineering information with detailing, materials, machinery, assembly, and production requirements.

HOW IT WORKS

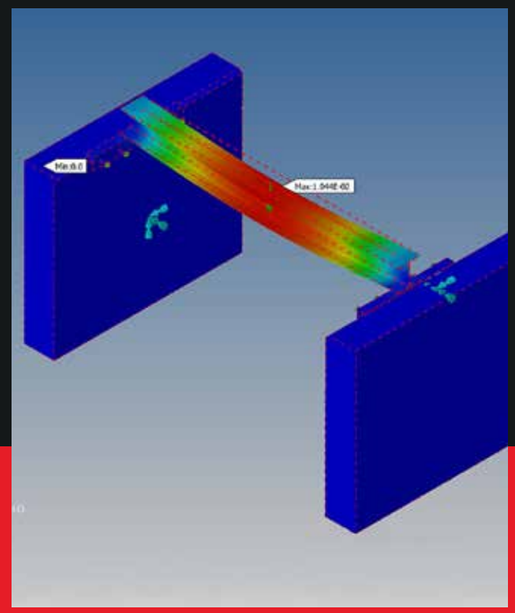
- **Review Design Criteria and Inputs**
  Review drawings, specifications, loading information, materials, and applicable project requirements.
- **Perform Calculations and Analysis**
  Develop the agreed calculations, analytical models, and connection evaluations.
- **Coordinate with Detailing and Fabrication**
  Align engineering outputs with drawings, production processes, and defined component interfaces.
- **Issue Engineering Deliverables**
  Provide calculations, reports, and design information in the agreed project format.



Structural Analysis & Calculations



Finite Element Analysis



Connection Design & Load Evaluation

Custom Metal Fabrication Engineering

CONSULTATION

CONSULTATION

Our consultation services support early-stage decisions involving materials, fabrication methods, specifications, manufacturing feasibility, and production planning.

OVERVIEW

The consultation scope may include material review, manufacturing feasibility, cost considerations, specification coordination, and quality-review support for fabricated products.

- **Material Selection Support**
  Review material and finish options in relation to fabrication requirements, product use, and project specifications.
- **Feasibility & Cost Analysis**
  Evaluate design concepts, quantities, manufacturing methods, and potential production considerations.
- **Specification & Standards Review**
  Compare proposed materials and fabricated components with identified project specifications and referenced standards.
- **Quality Review & Fabrication Audit**
  Review fabrication documentation, material records, production processes, and completed components under the defined scope.

HOW IT WORKS

- **Define Consultation Requirements**
  Confirm the technical questions, deliverables, project information, and defined review scope.
- **Review Drawings and Specifications**
  Evaluate available design documents, materials, finish requirements, and fabrication constraints.
- **Assess Manufacturing Feasibility**
  Review production methods, component details, material use, and cost considerations.
- **Issue Recommendations**
  Provide written observations, recommendations, or fabrication-review documentation.

Material Selection & Specification Review

Feasibility & Cost Analysis

Compliance & Code Consultation

Quality Review & Fabrication Audit

PROJECT MANAGEMENT

Our project management services coordinate engineering, detailing, procurement, fabrication, quality documentation, production scheduling, and delivery for manufactured components and assemblies.

OVERVIEW

The project management team monitors production milestones, material availability, documentation, costs, quality records, communication, and delivery requirements throughout the fabrication process.

- **Production Scheduling**
  Coordinate drawing releases, material procurement, manufacturing activities, inspections, and delivery milestones.
- **Fabrication Cost Tracking**
  Monitor material, production, subcontracted-process, and delivery costs against the defined fabrication scope.
- **Production Risk & Quality Control**
  Track potential production issues, drawing revisions, material availability, quality documentation, and manufacturing constraints.
- **Client Coordination & Reporting**
  Provide status updates, submittal information, production reports, and delivery coordination.

HOW IT WORKS

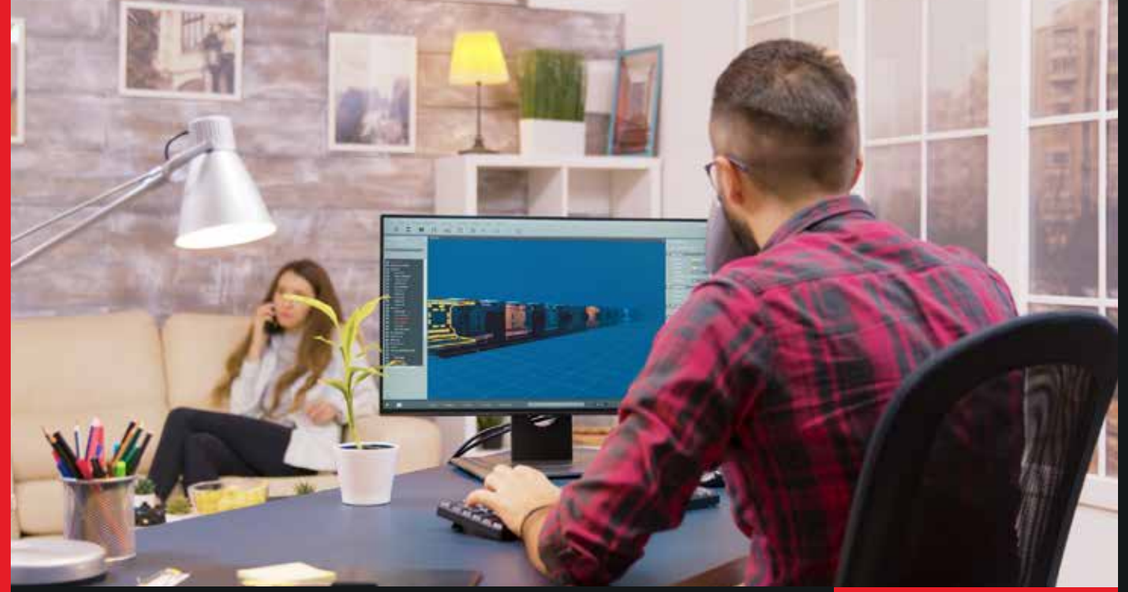
- **Define Fabrication Scope and Milestones**
  Establish deliverables, document requirements, production stages, and target delivery dates.
- **Plan Materials and Production Resources**
  Coordinate material availability, machinery, production sequencing, and approved subcontracted processes.
- **Monitor Production and Quality Documentation**
  Track progress, identify issues, and enforce quality checks.
- **Report Status and Coordinate Delivery**
  Provide scheduled updates and coordinate completed-product delivery requirements.

Scheduling & Resource Allocation

Budget & Cost Control

Risk Management & Quality Assurance

Client Coordination & Reporting



DESIGN SERVICES

Our design services develop concepts, prototypes, layouts, and production-ready design information for fabricated metal, glass-support framing, signage, and custom manufactured components.

OVERVIEW

Services may include conceptual layouts, product development, digital or physical prototypes, component design support, and production detailing based on the defined project scope.

- **Concept to Prototype**
  Develop initial ideas into reviewable digital models, drawings, or physical samples.
- **Signage and Metal Component Design**
  Develop layouts and component details for fabricated signage and architectural metal products.
- **Product Development Support**
  Refine geometry, materials, connections, dimensions, and production requirements before manufacturing.
- **Parametric & Computational Design**
  Use rules-based and computational modeling to develop complex or repetitive fabricated geometries.

HOW IT WORKS

- **Review Product and Design Requirements**
  Confirm intended use, appearance, materials, dimensions, and fabrication objectives.
- **Develop Design Concepts**
  Prepare initial layouts, models, component studies, or visualizations.
- **Produce Prototypes or Mock-Ups**
  Develop digital models or manufactured samples for review under the agreed scope.
- **Finalize Production Information**
  Issue the agreed drawings, models, specifications, or component information for fabrication planning.

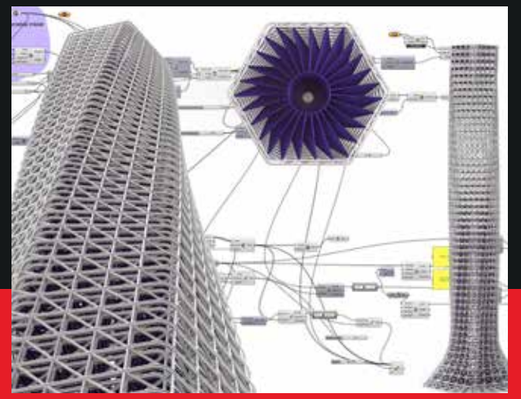
Prototyping & Mock-ups

Signage Design & Development

Conceptual Design

Product Development

Architectural Metal & Glass Design



Parametric & Computational Design

FABRICATION SERVICES

Our fabrication services produce precision-manufactured architectural metal, structural steel, signage, and custom metal components in a quality-controlled manufacturing facility.

OVERVIEW

Production capabilities include material preparation, cutting, forming, welding, assembly, finishing coordination, inspection, packaging, and release for delivery in accordance with approved drawings and project specifications.

- **Precision Fabrication**
  Components are manufactured using defined drawings, materials, dimensions, connection details, and finish requirements.
- **Controlled Production**
  Cutting, forming, welding, assembly, and inspection activities are coordinated within the manufacturing workflow.
- **Quality Verification**
  Production records and inspection requirements are reviewed according to the defined fabrication scope.
- **Packaging & Delivery Coordination**
  Completed components are identified, protected, packaged, and prepared for project delivery.

HOW IT WORKS

- **Review Approved Fabrication Information**
  Confirm drawings, material requirements, quantities, finishes, and production documentation.
- **Plan Manufacturing**
  Establish material preparation, cutting, forming, welding, assembly, inspection, and finishing sequences.
- **Fabricate and Inspect**
  Manufacture components and complete required production and quality-control documentation.
- **Package and Release for Delivery**
  Identify, protect, package, and coordinate release of completed products.

Architectural Metal & Glass Fabrication

Signage Fabrication

Metal Fabrication

BIM SERVICES

BIM SERVICES

Our BIM services support model-based coordination, fabrication planning, clash review, and production documentation for architectural metal, structural steel, glass-support framing, signage, and custom fabricated components.

OVERVIEW

BIM deliverables help organize model information, identify component interfaces, coordinate fabrication requirements, and develop digital documentation for production and project communication.

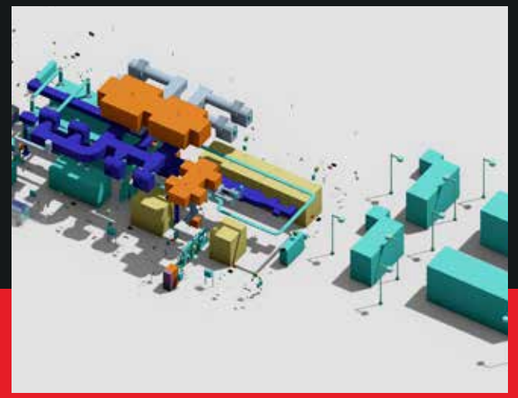
- **Model-Based Coordination**
  Review component geometry and interfaces across available project models.
- **Fabrication Model Development**
  Develop models that support detailing, material planning, assembly sequencing, and production documentation.
- **Interface Coordination**
  Coordinate manufactured components with architectural, structural, and identified building-system interfaces.
- **As-Built Model Development**
  Update models using supplied or verified completion information under the agreed scope.

HOW IT WORKS

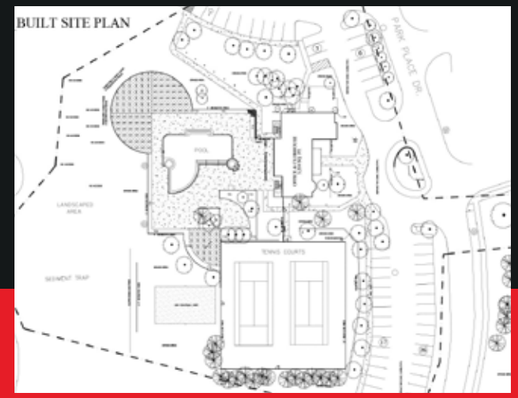
- **Define BIM Scope and Deliverables**
  Confirm model detail requirements, file formats, component scope, coordination responsibilities, and project milestones.
- **Develop and Coordinate Models**
  Create or update models for the defined architectural metal, structural steel, glass-framing, signage, or fabricated-component scope.
- **Complete Clash and Interface Reviews**
  Review model relationships and report identified coordination items.
- **Issue Models and Documentation**
  Deliver the agreed models, drawings, reports, and fabrication-support files.

BIM Architectural Development

BIM Management & Coordination



MEP Design & Integration



As-Built Drawings

Engineering Documentation

Permit Drawings

ENGINEERED FOR MANUFACTURING. FABRICATED TO SPECIFICATION.

INTEGRATED FABRICATION SUPPORT

Digital design, detailing, engineering coordination, production planning, and manufacturing services developed around fabricated components.

QUALITY-CONTROLLED PRODUCTION

Documented drawings, defined materials, coordinated production processes, and project-specific inspection requirements support consistent manufacturing.

TECHNICAL COORDINATION

Coordination with clients, architects, engineers, contractors, and project teams supports clear fabrication requirements.

PRODUCTION PLANNING

Drawing releases, material procurement, fabrication sequencing, inspections, and delivery milestones are coordinated through the manufacturing workflow.

DIGITAL FABRICATION WORKFLOWS

BIM, 3D modeling, detailing, visualization, and reality-capture data support fabrication planning and production documentation.

S+D® INDUSTRIES

US FEDERAL CAGE CODE 15HU7

PRECISION FABRICATION. BUILT TO SPECIFICATION.

Scope	Master Format Code	NAICS Code
Guardrails & Handrails	05 52 00	332323
Bollards	32 39 00	332323
Canopies	10 73 13	332311
Fencing	32 31 00	332323
Gates	08 34 53	332323
Metal Staircases	05 51 00	332323
Stair Railings	05 52 13	332323
Bicycle Racks	12 93 13	332323
Cladding	07 42 13	332322
Roofing	07 41 13 & 07 53 23	332322 & 238160
Escalator & Elevator Enclosures	14 91 23	238290
Ticket Booths	13 41 13	332311
Wayfinding	10 14 23	339950
Sign Boxes	10 14 33	339950
Logos & Letters	10 14 43	339950
Directories	10 14 23	339950
Bulletin Boards	10 14 23	339950
Plaques	10 14 13	339950
ADA Signage	10 14 00	339950
Glass & Glazing	08 80 00	327215

MASTER FORMAT & NAICS CODES