

PART 1- GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI B18.2.1	(1981; R 1992) Square and Hex Bolts and Screws Inch Series
ANSI B18.6.2	(1972; R 1993) Slotted Head Cap Screws, Square Head Set Screws, and Slotted Headless Set Screws
ANSI B18.6.3	(1972; R 1991) Machine Screws and Machine Screw Nuts

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME/ANSI B18.2.2	(1987; R 1993) Square and Hex Nuts (Inch Series)
ASME/ANSI B18.21.1	(1994) Lock Washers (Inch Series)
ASME/ANSI B18.22M	(1981; R 1990) Metric Plain Washers

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 53	(1996) Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless
ASTM A 123	(1989; Rev. A) Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A 153/A 153M	(1995) Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A 307	(1994) Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength
ASTM A 500	(1993) Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
ASTM C 33	(1993) Concrete Aggregates
ASTM C 94	(1996) Ready-Mixed Concrete
ASTM C 150	(1996) Portland Cement

ASTM C 260	(1995) Air-Entraining Admixture for Concrete
ASTM D 1187	(1995) Asphalt-Base Emulsions for Use as Protective Coatings for Metal
ASTM D 3451	(1992) Polymeric Powders and Powder Coatings
ASTM E 488	(1996) Strength of Anchors in Concrete and Masonry Elements

COMMERCIAL ITEM DESCRIPTIONS (CID)

CID A-A-1925	(Rev. A) Shield, Expansion (Nail Anchors)
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FEDERAL SPECIFICATIONS (FS)

FS TT - P – 664 Resisting	Primer, Synthetic, Rust Inhibiting, Lacquer
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1.2 SUBMITTALS

Submit the following in accordance with Division 1, Section 01330, "Submittal Procedures."

1.2.1 SD-02, Manufacturer's Catalog Data

- a. Benches
- b. Trash Receptacles

1.3 DELIVERY, STORAGE, AND PROTECTION

Protect from corrosion, staining, and other types of damage. Store items in an enclosed area free from contact with soil and weather. Remove and replace damaged items with new items.

PART 2 - PRODUCTS

2.1 MATERIALS

2.1.1 Anchor Bolts

ASTM A 307. Where exposed, shall be of the same material, color, and finish as the metal to which applied.

2.1.1.1 Threaded Inserts and Expansion Anchors

Provide inserts recessed not less than 2.5 inches into concrete or masonry. Pullout 198 pounds in concrete f'c of 3,000 psi, as tested, ASTM E 488.

CID A-A-1925, of group II, type 4, class 1. Provide embedment required by manufacturer.

2.1.1.2 Lag Screws and Bolts

ANSI B18.2.1, type and grade best suited for the purpose.

2.1.1.3 Toggle Bolts

ANSI B18.2.1.

2.1.1.4 Bolts, Nuts, Studs and Rivets

ASME/ANSI B18.2.2 and ASTM A 687 or ASTM A 307.

2.1.1.5 Powder Driven Fasteners

Follow safety provisions of ANSI A10.3.

2.1.1.6 Screws

ANSI B18.2.1, ANSI B18.6.2, and ANSI B18.6.3.

2.1.1.7 Washers

Provide plain washers to conform to ASME/ANSI B18.22.1. Provide beveled washers for American Standard beams and channels, square or rectangular, tapered in thickness, and smooth. Provide lock washers to conform to ASME/ANSI B18.21.1 or ASME/ANSI B18.21.2M.

2.1.2 Concrete

ASTM C 94, using 3/4 inch maximum size aggregate, and having minimum compressive strength of 3000 psi at 28 days. Provide as specified in Division 3, Section 03300, **Cast-In-Place Concrete**.

2.2 BENCHES

Provide benches as specified on plan.

2.2.1 Accessories

Provide manufacturer's standard materials and accessories as required for assembly of benches and as indicated on the assembly drawings.

2.2.2 Brackets and Anchors

Provide unexposed aluminum, stainless steel or steel plates, angles and supports as required for complete assembly. Separate dissimilar materials to prevent electrolytic action.

2.2.3 Fasteners

Provide concealed fasteners except where specifically approved; types as required for specific usage.

2.3 WASTE AND ASH RECEPTACLES

Provide waste and ash receptacles as specified on plans.

PART 3 - EXECUTION

3.1 INSTALLATION

Install items at locations indicated, according to manufacturer's instructions. Items listed below require additional procedures.

3.1.1 Assembly and Erection of Components

Items shall be shipped knocked-down (KD) ready for site assembly. Packaged components shall be complete including all accessories and hardware. Follow manufacturer's instructions for assembly and erection. Provide mounting bolts or hardware for mounting items to substrate.

3.2 ANCHORAGE, FASTENINGS, AND CONNECTIONS

Provide anchorage where necessary for fastening furniture or furnishings securely in place. Include for anchorage not otherwise specified or indicated slotted inserts, and expansion shields, when approved for concrete; toggle bolts and through bolts for masonry; machine and carriage bolts for steel; through bolts, lag bolts, and screws for wood. Do not use wood plugs in any material. Provide non-ferrous attachments for non-ferrous metal. Make exposed fastenings of compatible materials, generally matching in color and finish, to which fastenings are applied. Conceal fastenings where practicable.

3.3 BUILT-IN-WORK

Form for anchorage metal work built-in with concrete or masonry, or provide with suitable anchoring devices as indicated or as required. Furnish metal work in ample time for securing in place as the work progresses.

3.4 FINISHES

3.4.1 Dissimilar Materials

Where dissimilar metals are in contact, protect surfaces with a coat conforming to FS TT-P-664 to prevent galvanic or corrosive action.

END OF SECTION