SPECIFICATIONS
FOR
INSTALLED STEEL ENTRY DOOR SYSTEMS

PART 1. GENERAL

1.1 SCOPE OF WORK

1.1.1. All entry or security door systems of the type(s) and size(s) shown in this solicitation shall be furnished as a complete unit including door, steel adapter frame or hollow metal frame, weather-strip, stops, threshold, and all hardware. Installed doors shall include locksets as specified herein. Fire rating shall be as specified herein. The demolition (removal of existing doors) necessary for installation of new doors and disposal of demolition material shall be included.

1.1.2. Door and frame assemblies covered by these specifications must comply with the dimensional requirements of Standard ISDSI-100.

1.1.3. Standards and specifications are a part of this specification where referenced.

1.1.4. All exterior doors shall be sealed, caulked, weather-stripped with threshold installed. New interior wood casing shall be furnished and installed. Painting not included.

1.1.5. **Weak Link Testing**. For purposes of this solicitation, it is not necessary to provide test reports for each steel thickness and item number. Testing documentation must however be submitted for each model door bid in its weakest condition in order to qualify superior variations of the same model. The following shall be applicable.

1. Mechanical properties tests shall be performed on the lightest gauge frame and leaf to be supplied. Doors with glass lites are not required to be mechanically tested.

2. Air infiltration and water resistance tests shall be performed on a door with the largest glass lite to be supplied. Any variations in the frame to leaf sealing system must be retested.

3. Thermal performance tests must be performed on the heaviest gauge frame and leaf with the largest area of glass to be supplied. Any variation in the thermal design aspects of the door such as different insulation, type of thermal break, or type of frame, must be retested

1.1.6. **Referenced Standards**. The standard insulated/non-insulated steel door unit shall be considered acceptable if the door unit meets the acceptance criteria in the following standards as applicable:

ISDSI-101	Air Infiltration Performance Standard for Insulated Steel Door System
ISDSI-102	Installation Standard for Insulated Steel Door Systems
ISDSI-104	Water Resistance Performance Standard for Insulated Steel Door System
ISDSI-105	Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors and Hardware Reinforcing (ANSI-A151.1)
ISDSI-106	Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames (ANSI-A224.1)
ISDSI-107	Thermal Performance Standard for Insulated Steel Door and Weather-strip Frame Assemblies
S.D.I.100	Recommended Specifications - Standard Steel Doors and Frames
S.D.I.105	Recommended Erection Instructions for Steel Frames
S.D.I.106	Recommended Standard Door Type Nomenclature
S.D.I.107	Hardware on Steel Doors (Reinforcement-Application)
S.D.I.108	Recommended Selection and Usage Guide for Standard Steel Doors
S.D.I.109	Hardware for Standard Steel Doors and Frames
S.D.I.110	Standard Steel Doors and Frames for Modular Masonry Construction
S.D.I.111	Recommended Standard Details Steel Doors and Frames
S.D.I.113	Test Procedure and Acceptance Criteria for Apparent Thermal Performance of Steel Door and Frame Assemblies
S.D.I.116	Standard Test Procedure and Acceptance Criteria
S.D.I.117	Manufacturing Tolerances Standard Steel Doors and Frames
S.D.I.118	Basic Fire Door Requirements
ANSI A123.1	Nomenclature for Steel Doors and Steel Door Frames

ANSI A151.1 Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors and Hardware Reinforcings

ANSI A224.1 Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames

ANSI/ASTM F-476 Security of Swinging Door Assemblies

ASTM A-525 General Requisition for Sheet Steel, Zinc Coated (galvanized)

1.2 DOORS

1.2.1. Doors shall consist of two steel face sheets, wood or steel stiles and rails with full support lock reinforcement. Steel face shall be a minimum of 24 gauge or 18 gauge galvanized and bonderized steel.

1.2.2. Wood stiles and rails, when provided by the manufacturer, shall be of kiln dried clear Ponderosa pine, Douglas fir or equal, and not extend beyond edges of steel face sheets.

1.2.3. The door system shall facilitate installation of standard cylindrical and/or full mortise locks with multiple point throw if specified.

1.2.4. Twenty four gauge doors shall be prepared to receive three 4" full mortise or butt hinges flush with the edge of the door, or equal. Eighteen gauge doors shall receive 4 1/2" hinges. PHA may specify hinges to meet their special requirements. Non-rising pins (NRP) shall be installed on all out-swing doors. Additional costs shall be negotiated between the PHA and the contractor.

1.2.5. Decorative trim shall be accomplished by embossing of some 24 gauge doors and 18 gauge doors to achieve the desired architectural effect as shown in the illustrations of door items. **Thickness are AISI standard tolerance ranges:**

"18 gauge" means .0449 to .0508 inches thick
"24 gauge" means .0225 to .0254 inches thick

1.2.6. Insulated doors shall have a solid foam core of an approved insulating material, such as polyurethane, or polystyrene, etc. Core must fully adhere to steel face sheets, stiles, rails and lock block and completely fill the void.

1.3 FRAME

1.3.1. Wood frame, when required, shall be of kiln dried Ponderosa pine and be toxic treated and primed.

1.3.2. Steel hollow metal frames and/or adapter frames shall be a minimum of 18 gauge galvanized bonderized steel pre-drilled and reinforced for hinges as required. Shape of frame shall be generally L-shaped. Security door frames shall be a minimum of 16 gauge steel (same specification as 18 gauge above), or as required by the PHA.

1.3.3. Exterior frame covers, where required, shall be 24 gauge factory finished shaped to existing contour. Pre-finished aluminum break metal may be negotiated by PHA/IHA if required.

1.4 HARDWARE

1.4.1. Hardware shall meet ANSI A156.1 which shall perform the functions for which it was intended. Butts and hinges may be specified by the PHA.

1.4.2. Hardware for labeled fire doors and exit doors. Hardware shall conform to requirements of NFPA 80 for labeled fire doors and to NFPA 101 (life safety) for exit doors, as well as to other requirement specified. Labeling and listing by UL building Materials Directory, for class of door being used will be accepted as evidence of conformance to these requirements. Install minimum latch throw as specified on label of individual doors. Provide hardware listed by UL, except where heavier materials, larger sizes or higher grades are specified herein and by the PHA. In lieu of UL labeling and listing, test reports from a nationally recognized testing agency may be submitted showing that hardware has been tested in accordance with UL test methods and that it conforms to NFPA requirements.

1.5 LOCK SETS

1.5.1. Lock sets shall meet one of the following standards (as specified herein and by the PHA). The Bidder/Contractor shall self certify that the lock bid or provided to the PHA meets the following standards:

ANSI A156.2-1983, Grade 2, Bored and Pre-assembled Locks and Latches
ANSI A156.55 Dead bolt
ANSI A156.12-1979, Grade 2, Interconnected deadlock and passage set

1.5.2. The cylindrical lock (included in the bid) shall be a grade 2 cylindrical deadbolt lock/passage set combination. This combination shall be included for bidding purposes. Deadbolts shall have key outside - thumb turn inside.

1.5.3. Two keys shall be furnished for each lock supplied. Master keying and keying alike shall be provided on any locks supplied, at the request of the ordering agency, at no additional charge.

1.5.4. Locks shall have interchangeable cores.

1.5.5. PHA may upgrade lockset by addition to bid.

1.6 SEALANTS AND CAULKING

The type of sealant, caulking and substrate preparation shall be specified by the PHA. The door frames and thresholds where joining other exterior or interior materials shall be fully caulked with sealing compound complying with Federal Specifications FS TT-S-00227 Type II, Class B and FS TT-S-00230 Type III, Class B. Alternately, caulking compound complying with FS TT-C-00598, Type I or II for interior application, where the door frame perimeter adjoins exposed interior concrete and masonry surfaces shall be used.

1.6.1. The surfaces to be sealed/caulked shall be clean, dry and free of any foreign matter that would degradate adhesion. The clean surfaces shall be primed per the recommendation of the sealant/caulking compound manufacturer. Back-up material shall be neoprene, butyl, polyurethane, vinyl, or polyethylene rod. Surfaces adjacent to the joints shall be

protected by masking tape before applying caulk or sealant. The tape shall be removed upon finishing the sealing/caulking work.

1.7 GLASS

1.7.1. Glass installed in windows shall meet FS-DD-G-451D and be not less than "B" quality. Plate and float glass shall be glazed quality. Standard factory glazing shall be "DSB".

1.7.2. Safety glazing materials where used shall meet ANSI Z97.1-1975. Tempered glass, where used, shall also meet FS-DD-G1403B.

1.8 WEATHERSTRIPPING AND THRESHOLDS

1.8.1. The weather strips for doors and frames shall be adjustable types with replaceable contact stops as specified by the PHA. Types are listed below:

Type AI (for bottom of door with threshold greater than 1/4") Solid neoprene or vinyl strips mounted in extended aluminum retainers.

Type B (for bottom of door with threshold less than 1/4" in height) Curved vinyl strips with extruded aluminum retainers.

Type C (for door frame heads and jambs) , extruded aluminum with extruded solid vinyl insert similar to Reese Enterprise Inc., Series DS 54.

Type DI (for door frame heads and jambs) Closed all sponge neoprene or vinyl strip with leveled edge mounted in an aluminum/wood retainer.

1.8.2. Rain drips shall be installed on the door heads, which are not protected by canopy or soffit, if required by the PHA. The rain drips shall be extruded aluminum with sufficient projection. The price of the rain drips is extra as negotiated with the PHA.

1.8.3. Fastening of weather-strips to wood or metal shall be by stainless steel connectors or equal. The threshold shall be secured to concrete with stainless screws or equal and lead expansion shields. Exposed finish of the fasteners shall match the finish of weather-strip or as directed by the PHA.

1.8.4. **Installation**. The weather-strips shall be accurately cut, fitted, aligned, and secured for maintaining a weatherproof seal without hampering the operation of door. Blocking shall be provided as necessary to clear hardware. The cut wood surfaces shall be primed with wood sealer before weather strips are installed.

1.8.5. **Specifications**. The following specifications shall govern the weather stripping:

FS QQ-A-200-9D, Aluminum Alloy Bar, Rod, Shapes, Tubes and Wire Extruded, Alloy 6063-T-5

ASTM D2287-75, Non-rigid Vinyl Chloride, Polymer and Copolymer Molding, and Extension Compounds, grade as required

MIL-S6855, Synthetic Rubber Sheets, Strips, Molded and Extruded Shapes, Class II, Grade 40 (Solid neoprene)

MIL-R6130B, Rubber, Cellular, Chemically Brown, Type II, Grade C (Sponge neoprene)

1.9 FINISH

1.9.1. Entry Door System shall be clean and free from serious surface blemishes. All exposed surfaces shall be factory final finished including primer meeting the performance requirements of ISDSI-106. Color shall be from manufacturers' list of colors. Custom painting shall not be requested in this solicitation.

1.9.2. Finish shall be in accordance with ASTM A525 Hot Dip A40 (G60) Electrolytic Class B minimum coating weight.

1.10 CONSTRUCTION

1.10.1. Doors shall be assembled in a secure and workmanlike manner to assure neat, weather-tight construction.

1.11 DRAWINGS AND INSTALLATION DETAILS

Door manufacturer shall furnish standard details showing recommendations for installation of doors. Drawings shall include size of fasteners, spacing, minimum penetration of fasteners into load-bearing material and maximum clearance between frame and rough opening.

1.12 ERECTION (INSTALLATION)

Erection contractor shall securely anchor doors in place straight, plumb and level conditions, without distortion in accordance with drawings and installation details specified in paragraph 1.10. above and ISDSI-102 and SDI-105 as appropriate.

Note: This solicitation does not include any pricing or consideration for special treatment of surfaces which have lead base paint (see page 8 - same)

SPECIFICATIONS
FOR
INSTALLED STEEL ENTRY DOOR SYSTEM

PART 2. SPECIFIC REQUIREMENTS

2.1 TESTING

2.1.1. All doors specified shall meet or exceed all the performance requirements as specified in this section as well as Section 1. General Requirements of this specification.

2.1.2. Test sample size for all door systems shall be 30/68 and be complete with all hardware and subframe.

2.2 INSULATED ENTRY DOOR SYSTEM

2.2.1. **Mechanical properties** - Each type door shall be subjected to all performance tests in accordance with ISDSI-105, Level "C".

2.2.2. **Air Infiltration** - Each type door shall be subjected to an air infiltration test in accordance with ISDSI-101 and ASTM E283. At a test pressure of 1.56 pounds per square foot (psf) air infiltration shall not exceed 0.56 cfm per foot of crack length.

2.2.3. **Water Resistance** - Each type door shall be subjected to a water resistance test in accordance with ISDSI-104 and ASTM E331. There shall be no leakage as defined in the standard at a test pressure of 1.56 psf.

2.2.4. **Thermal Performance** - Each type door shall be subjected to a thermal performance test in accordance with ISDSI-107. Minimum acceptance criteria shall be as defined in the standard except a Thermal (UC) Transmittance of 0.32 BTU/HR/FT 2 degrees F is required.

2.4 INSULATED HEAVY DUTY DOOR SYSTEM

2.4.1. Doors covered by this specification shall be fabricated of 18 gauge minimum steel face sheets, stiles, top and bottom closures.

2.4.2. Doors covered by this specification shall be installed only in steel frames of 18 gauge minimum thickness.

2.4.3. Mechanical Properties. Doors shall be subjected to all performance tests in accordance with ANSI A151.1/ISDSI-105.1, Level "C".

2.4.4. Air Infiltration. Each type door shall be subjected to an air infiltration test in accordance with ISDSI-101/ASTM E283. At a test pressure of 1.56 pounds per square foot air infiltration shall not exceed 0.50 cfm per foot of crack length.

2.4.5. Water Resistance. Each type door shall be subjected to a water resistance test in accordance with ISDSI-104 and ASTM E331. There shall be no leakage as defined in the standard at a test pressure of 1.56 psf.

2.4.6. Thermal Performance. Each type door shall be subjected to a thermal performance test in accordance with ISDSI-107. Minimum acceptance criteria shall be as defined in the standard except a "U" factor of 0.50 BTU/HR FT 2 degrees F is required.

2.4.7. All heavy door systems, when required, shall have a B label, 1 1/2 hour fire rating as determined using ASTM E152 and bear the label of a recognized fire rating program (i.e., UL).

Note: This solicitation does not include any pricing or consideration for special treatment of surfaces which have lead base paint.

BID ITEMS TECHNICAL REPORT
STEEL ENTRY DOORS

INSTALLED

1. Insulated steel entry door system, specification 2.2. Steel door and steel adapter frame, finish painted, flush, peep-viewer, deadbolt/passage set, all hardware and new interior casing. (Door minimum 24 gauge steel)

2. Insulated steel entry door system, specification 2.2. Steel door and steel adapter frame, finish painted, six panel embossed trim, peep-viewer, deadbolt/passage set, all hardware and new interior casing. (Door minimum 24 gauge steel)

3. Insulated steel entry door system specification 2.4, Flush steel door and full 6 3/4" hollow metal frame, finish painted, peep-viewer deadbolt/passage set, all hardware . (Door minimum 18 gauge steel)

4. Insulated Steel entry door system, specification2.4. Six panel embossed steel door and full 6 ¾" hollow metal frame, finish painted, peep-viewer, deadbolt/passage set and all hardware. (Door minimum 18 gauge steel)

BID/SUMMARY PRICE SHEET FOR
STEEL ENTRY DOORS

CPC Bid Number: _____ **Bid Date:** _____
(Available on Invitation to Bid)

Name of Firm: _____ **Contact:** _____

Address: _____

Email: _____ **Phone:** _____

Manufacturer: _____ **Model No. / Name:** _____

Item 1. Insulated Steel Entry Door System, Specification 2.2. Steel Door and Steel Adapter Frame, Finish Painted, Flush, Peep-viewer, Deadbolt/Passage Set, All Hardware and New Interior Casing. (Door Minimum 24-Gauge Steel)

		Quantities		
Door Size Opening		**10 - 99**	**100 -299**	**Over 300**
2'-6"				
2'-8"	X 6'-8"			
2'-10"				
3'-0"				
2'-6"				
2'-8"	X 6'-10"			
2'-10"				
3'-0"				

For Other Sizes Not Covered by this Solicitation, the PHA May Negotiate the Price with the Vendor.

Lockset Type and Model Number: Specify Lockset Type Furnished.

1. Cylindrical Passage Set Manufacturer / Model No. _____ _____
2. Deadbolt Lockset Manufacturer / Model No. _____ _____

BID/SUMMARY PRICE SHEET FOR
STEEL ENTRY DOORS

CPC Bid Number: _____ **Bid Date:** _____
(Available on Invitation to Bid)

Name of Firm: _____ **Contact:** _____

Address: _____

Email: _____ **Phone:** _____

Manufacturer: _____ **Model No. / Name:** _____

Item 2. Insulated Steel Entry Door System, Specification 2.2. Steel Door and Steel Adapter Frame, Finish Painted, Six Panel Embossed Trim, Peep-viewer, Deadbolt/Passage Set, All Hardware and New Interior Casing. (Door Minimum 24-Gauge Steel)

		Quantities		
Door Size Opening		**10 - 99**	**100 -299**	**Over 300**
2'-6"				
2'-8"	X 6'-8"			
2'-10"				
3'-0"				
2'-6"				
2'-8"	X 6'-10"			
2'-10"				
3'-0"				

For Other Sizes Not Covered by this Solicitation, the PHA May Negotiate the Price with the Vendor.

Lockset Type and Model Number: Specify Lockset Type Furnished.

1. Cylindrical Passage Set Manufacturer / Model No. _____ _____
2. Deadbolt Lockset Manufacturer / Model No. _____ _____

BID/SUMMARY PRICE SHEET FOR STEEL ENTRY DOORS

CPC Bid Number: _____ **Bid Date:** _____
(Available on Invitation to Bid)

Name of Firm: _____ **Contact:** _____

Address: _____

Email: _____ **Phone:** _____

Manufacturer: _____ **Model No. / Name:** _____

Item 3. Insulated Steel Entry Door System, Specification 2.4. Flush Steel Door and Full 6 3/4" Hollow Metal Frame, Finish Painted, Peep-viewer, Deadbolt/Passage Set, All Hardware. (Door Minimum 18-Gauge Steel)

		Quantities		
Door Size Opening		**10 - 99**	**100 -299**	**Over 300**
2'-6"				
2'-8"	X 6'-8"			
2'-10"				
3'-0"				
2'-6"				
2'-8"	X 6'-10"			
2'-10"				
3'-0"				

For Other Sizes Not Covered by this Solicitation, the PHA May Negotiate the Price with the Vendor.

Lockset Type and Model Number: Specify Lockset Type Furnished.

1. Cylindrical Passage Set Manufacturer / Model No. _____ _____
2. Deadbolt Lockset Manufacturer / Model No. _____ _____

BID/SUMMARY PRICE SHEET FOR
STEEL ENTRY DOORS

CPC Bid Number: _____ **Bid Date:** _____
(Available on Invitation to Bid)

Name of Firm: _____ **Contact:** _____

Address: _____

Email: _____ **Phone:** _____

Manufacturer: _____ **Model No. / Name:** _____

Item 4. Insulated Steel Entry Door System, Specification 2.4. Six Panel Embossed Steel Door and Full 6 3/4" Hollow Metal Frame, Finish Painted, Peep-viewer, Deadbolt/Passage Set, All Hardware. (Door Minimum 18-Gauge Steel)

		Quantities		
Door Size Opening		**10 - 99**	**100 -299**	**Over 300**
2'-6"				
2'-8"	X 6'-8"			
2'-10"				
3'-0"				
2'-6"				
2'-8"	X 6'-10"			
2'-10"				
3'-0"				

For Other Sizes Not Covered by this Solicitation, the PHA May Negotiate the Price with the Vendor.

Lockset Type and Model Number: Specify Lockset Type Furnished.

1. Cylindrical Passage Set Manufacturer / Model No. _____ _____
2. Deadbolt Lockset Manufacturer / Model No. _____ _____

BID/SUMMARY PRICE SHEET FOR STEEL ENTRY DOORS

CPC Bid Number: _____ **Bid Date:** _____
(Available on Invitation to Bid)

Name of Firm: _____ **Contact:** _____

Address: _____

Email: _____ **Phone:** _____

Prices Bid are for Standard Door Systems as Defined in Bidders Instructions.

Deductions or Additions from this Configuration Must be Indicated in the Appropriate Space Below:

Deduction to Eliminate Installation:	$ _____
Deduction if Existing Inside Casing is Reused:	$ _____
Deduction to Eliminate Peep-viewer:	$ _____
Deduction to Provide Door Prime Painted Only:	$ _____
Addition for up to 2 Insulating Glass Lites:	$ _____
Addition to Provide Metal Cover Over Existing Frame (See 1.3.3):	$ _____
Addition to Provide New Wood Frame:	$ _____
Addition to Install on Existing Frame (Grout Filled):	$ _____
Addition for "B" 1 1/2-hour Fire Label Door:	$ _____
Addition for Filling, Sanding and Painting (2 Coats Latex) Wood Casing:	$ _____
Addition for Finish Painting Wood Stops to Match Door/Frame:	$ _____
Addition to Furnish Factory Finished Aluminum Stops In lieu of Wood:	$ _____