S

ENGINEERING CHANGE NOTICE

Page 1 of 2

1. ECN 662314

Proj.
ECN

2. ECN Category (mark one) Supplemental ☐ Direct Revision ☒ Change ECN ☐ Temporary ☐ Standby ☐ Supersedeure ☐ Cancel/Void ☐	3. Originator's Name, Organization, MSIN, and Telephone No. T. Nuxall, CVDF, R3-86, 372-3739	4. USQ Required? ☐ Yes ☒ No	5. Date 9/2/00
	6. Project Title/No./Work Order No. SNF/W-441 Spent Nuclear Fuel Cold Vacuum Drying	7. Bldg./Sys./Fac. No. CVDF 142-K	8. Approval Designator Q
	9. Document Numbers Changed by this ECN (includes sheet no. and rev.) See block 13a	10. Related ECN No(s). N/A	11. Related PO No. N/A
12a. Modification Work ☐ Yes (fill out Blk. 12b) ☒ No (N/A Blks. 12b, 12c, 12d)	12b. Work Package No. N/A	12c. Modification Work Complete N/A Design Authority/Cog. Engineer Signature & Date	12d. Restored to Original Condition (Temp. or Standby ECN only) N/A Design Authority/Cog. Engineer Signature & Date
13a. Description of Change Hood SNF-3876, Rev. 2, SNF-3877, Rev. 2, SNF-3878, Rev. 1, SNF-3879, Rev. 3, SNF-3880, Rev. 1, SNF-3881, Rev. 2, SNF-3882, Rev. 2, SNF-3883, Rev. 3, SNF-3884, Rev. 2, SNF-3886, Rev. 2 , Rev. 1, SNF-4418, Rev. 1, SNF-3933, Rev. 1, SNF-3936, Rev. 2, SNF-5964, Rev. 0, SNF-5970, Rev. 1 ^{HMC} 9/2/00 SNF-4419, Rev. 1 9/2/00 Updated document numbers and deleted revision numbers. USQ Approval: CX B.1 from AP-NS-4-001-15.			
14a. Justification (mark one) Criteria Change ☐ Design Improvement ☒ Environmental ☐ Facility Deactivation ☐ As-Found ☐ Facilitate Const ☐ Const. Error/Omission ☐ Design Error/Omission ☐			
14b. Justification Details Editorial changes for configuration control. The design verification method for SS/SC components is by independent review in accordance with EN-6-027-01. Documentation of this review is accomplished by the independent review approval signature provided on page 2 of this ECN.			
15. Distribution (include name, MSIN, and no. of copies) See distribution sheet.

[illegible]

[illegible]

UNISTRUT PLAIN METAL CHANNEL INCLUDING NUTS, STRAPS AND CLAMPS

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Project Hanford Management Contractor for the
U.S. Department of Energy under Contract DE-AC06-96RL13200

Fluor Hanford
P.O. Box 1000
Richland, Washington

SNF-4419
Revision 2

ECN 662314

UNISTRUT PLAIN METAL CHANNEL INCLUDING NUTS, STRAPS AND CLAMPS

Project No: W-441

Document Type: RPT

Division: SNF

C Van Katwijk
FH

Date Published
September 2000

Prepared for the U.S. Department of Energy
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Fluor Hanford

P.O. Box 1000
Richland, Washington

Release Approval

9/3/2000
Date

Release Stamp

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Commercial Grade Item Upgrade Dedication Form		SNF-4419, Rev. 2
ECN No. NA	CGI No. CGI-SNF-D-NA-P4-033	Page 1 of 18
Title: UNISTRUT PLAIN METAL CHANNEL INCLUDING NUTS, STRAPS AND CLAMPS		

Section 1 Part Information		
Item No.: NA	Manufacturer: NA	Supplier: NA
Mfg. Part/Model No.: NA	Supplier's P/N: NA	
Part Description: NA		
End Use Description: NA		

Section 2a Component Information			
Equipment No.: See attached Section 9	Specification No.: SNF-5303/SNF-5304 (W-441-P4/P5) H-1-82367, SHEET 1, ITEMS 70 AND 71 (P5) H-1-82364, SHEETS 1 AND 2, ITEMS 152 THRU 154 AND 156 THRU 166 (P4)	Manufacturer: UNISTRUT METAL FRAMING, NW	Past P.O. No.: NA
Procurement and/or Model No.: See attached Section 9	Equipment Supplier (if different from manufacturer): NA		Equip. Supplier's Part No.: NA

Component Description: PLAIN METAL UNISTRUT CHANNEL, ASTM A570 GR33, INCLUDING PIPE CLAMPS, PIPE STRAPS, AND CUSH-A-CLAMPS, ASTM A576 GR1015 FOR CHANNEL NUTS.

Section 2b Commercial Availability of the Item								
<p>1. Is the Item available from a catalogue of a qualified NQA1 supplier? (coordinate with project CGI interface Engineer or BTR)</p> <p>☐ YES (go to #2 below)</p> <p>☒ NO (go to procedure step 5.3.2, proceed to dedicate Item.)</p> <p>If not available from a qualified NQA1 supplier, is it available from an ISO 9000 supplier? (coordinate with project CGI interface Engineer or BTR)</p> <p>☐ YES (go to #2 below, then go to procedure step 5.3.2, proceed to dedicate Item)</p> <p>☒ NO (go to procedure step 5.3.2, proceed to dedicate Item.)</p>								
<p>2. List of Candidate qualified suppliers or ISO 9000 suppliers</p> <table border="0"> <tr> <td>company name & type</td> <td>contact name</td> <td>phone</td> </tr> <tr> <td colspan="3">NA</td> </tr> </table>			company name & type	contact name	phone	NA		
company name & type	contact name	phone						
NA								

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3. Recommended Procurement Strategy (coordinate with project CGI interface Engineer or BTR): NA

Section 2c CGI Determination

1. Question #1: Is the Item subject to design or specification requirements that are unique to nuclear facilities or activities? [] YES (the Item is not commercial grade) [X] NO (continue)
2. Question #2: Is the Item used in applications other than nuclear facilities or activities? [] NO (the item is not commercial grade) [X] YES (continue)
3. Question #3: Is the Item ordered from manufacturer/supplier on the basis or specifications set forth in the published product information (e.g. manufacturer's catalog)? [] NO (the Item is not commercial grade) [X] YES (continue)

[X] **All three criteria have been satisfied. The Item meets the definition of commercial grade.**

Section 2d Reason for Dedication

The above described Item is being Dedicated for use in the application cited for the following reason(s):

[X] Item is being purchased from a non ESL manufacturer supplier as commercial grade to be used in a Safety Class application.
[] Item is being purchased from a non ESL manufacturer supplier as commercial grade to be used in a Safety Significant application.
[] Item was purchased from a non ESL manufacturer supplier as commercial grade to be used in a Safety Class application.
[] Item was purchased from a non ESL manufacturer supplier as commercial grade to be used in a Safety Significant application.
[] Other ('like-for-like', similar, substitution, replacement evaluation)

Section 3 Failure Effects Evaluation

A. Part/Component Safety Function:
1. PROVIDE THE STRUCTURAL SUPPORT FOR COMPONENTS, ELECTRICAL EQUIPMENT, RACEWAYS AND I&C TUBING.
2. _____
3. _____

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<p>B. Part/Component Functional Mode:</p> <p>Safety Function #1:</p> <p>☐ Active – Mechanical or Electrical change of state is required to occur for the component to perform its safety function</p> <p>☒ Passive – Change of state is not required for the component to perform its safety function</p> <p>Safety Function #2:</p> <p>☐ Active – Mechanical or Electrical change of state is required to occur for the component to perform its safety function.</p> <p>☐ Passive – Change of state is not required for the component to perform its safety function</p> <p>Safety Function #3:</p> <p>☐ Active – Mechanical or Electrical change of state is required to occur for the component to perform its safety function.</p> <p>☐ Passive – Change of state is not required for the component to perform its safety function</p>		
<p>C. Host Component Safety Function (if applicable): NA</p> <p>1.</p>		
<p>D. Failure Mode(s) and the effects on component or system safety function (see Worksheet 1):</p> <p>1. FRACTURE OR MATERIAL FATIGUE LEADS TO LOSS OF STRUCTURAL SUPPORT.</p>		
2.		
3.		
4.		
5.		
<p style="text-align: center;">Section 4 Environmental & Natural Phenomena Hazard Design</p>		
<p>Environmental Qualification Required:</p> <p>Yes ☐</p> <p>No ☒</p>	<p>If yes: Environmental Qualification Requirements</p> <p>Limiting Environmental Conditions:</p> <p>Required Safety Functions:</p> <p>Qualification Period:</p>	
<p>Natural Phenomena Hazard (NPH) Design Required:</p> <p>Yes ☐</p> <p>No ☒</p>	<p>If yes: NPH Design Requirements</p> <p>Performance Category:</p> <p>NPH Design Req'ts.:</p> <p>Required Safety Functions:</p>	
<p style="text-align: center;">Section 5 Component Functional Classification</p>		
<p>☒ Safety Class (SC) ☐ General Service (GS) ☐ Safety Significant (SS)</p> <p>If part/component classification is different from host component/system, document basis. NA</p>		

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Section 6 (Reserved)		
Section 7 (Reserved)		
Section 8 References (for Functional Classification)		
National Codes/Standards: ASTM A570 GR33 (STEEL SHEET AND STRIP, CARBON HOT ROLLED, STRUCTURAL QUALITY), ASTM A576 GR1015. PIPING CODE ASME B 31.3.	Safety Analysis Report (SAR): HNF-SD-SNF-SAR-002	Drawings: H-1-82367, SHEET 1, ITEMS 70 AND 71 (P5) H-1-82364, SHEETS 1 AND 2, ITEMS 152 THRU 154 AND 156 THRU 166 (P4)
Vendor Manual/Manufacturer/Supplier Information: UNISTRUT METAL FRAMING - GENERAL ENGINEERING CATALOG, NO 12. NOTE: CRITICAL CHARACTERISTICS FOR ACCEPTANCE ARE OBTAINED FROM THIS UNISTRUT CATALOG, NO. 12, WITH PAGES NOTED BELOW IN SECTION 9.		
Other: NA		

Section 9 Critical Characteristics				
Critical Characteristics Verification Document: UNISTRUT GENERAL CATALOG, NO. 12	Acceptance Criteria/Tolerances	Acceptance Method	ID	Function
1. Item Identification Critical Characteristics (necessary for reasonable assurance that the Item delivered is the Item specified)				
P1000 CHANNEL (PAGE 22) DIMENSIONS AND FINISH	NOMINAL 1 5/8" W, 1 5/8" H, 12 GAGE, PLAIN STEEL FINISH	1, IN	X	
P3300 CHANNEL (PAGE 22) DIMENSIONS AND FINISH	NOMINAL 1 5/8" W, 1 7/8" H, 12 GAGE, PLAIN STEEL FINISH	1, IN	X	
P5000 CHANNEL (PAGE 53) DIMENSIONS AND FINISH	NOMINAL 1 5/8" W, 3 1/4" H, 12 GAGE, PLAIN STEEL FINISH	1, IN	X	
P1006 1420-EG CHANNEL NUT (PAGE 72) DIMENSIONS AND FINISH	WITH SPRING, NOMINAL 1/4", 20 THREAD/IN, ELECTRO-GALVANIZED (EG) FINISH	1, IN	X	
P4006 1024-EG CHANNEL NUT (PAGE 72) DIMENSIONS AND FINISH	WITH SPRING, SIZE #10, 24 THREAD/IN, EG FINISH	1, IN	X	
P3006 1420-EG CHANNEL NUT (PAGE 73) DIMENSIONS AND FINISH	WITHOUT SPRING, NOMINAL 1/4", 20 THREAD/IN, EG FINISH	1, IN	X	
P5506 1420-EG CHANNEL NUT (PAGE 72) DIMENSIONS AND FINISH	WITH SPRING, NOMINAL 1/4", 20 THREAD/IN, EG FINISH	1, IN	X	

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P1006 1024-EG CHANNEL NUT (PAGE 72) DIMENSIONS AND FINISH	WITH SPRING, SIZE #10, 24 THREAD/IN, EG FINISH	1, IN	X	
P1006 0832-EG CHANNEL NUT (PAGE 72) DIMENSIONS AND FINISH	WITH SPRING, SIZE #8, 32 THREAD/IN, EG FINISH	1, IN	X	
P1115-EG PIPE CLAMP (PAGE 129) DIMENSIONS AND FINISH	NOMINAL 1.9" OD, 12 GAGE THICKNESS, EG FINISH	1, IN	X	
P2558-15-EG PIPE STRAP (PAGE 132) DIMENSIONS AND FINISH	NOMINAL 3 7/8" END TO END, 1/8" STRAP THICKNESS, 9/32" HOLE, EG FINISH	1, IN	X	
P2558-10-EG PIPE STRAP (PAGE 132) DIMENSIONS AND FINISH	NOMINAL 3 3/8" END TO END, 1/8" STRAP THICKNESS, 9/32" HOLE, EG FINISH	1, IN	X	
008-M011-EG CUSH-A-CLAMP (PAGE 137) DIMENSIONS AND FINISH	NOMINAL 2.2" END TO END, 0.5" ID, 0.26" HOLE, 0.06" STRAP THICKNESS, EG FINISH	1, IN	X	
FOR P5 ONLY. 008-M011-EG TUBE CLAMP (PAGE 137) DIMENSIONS AND FINISH	NOMINAL 2.2" END TO END, 0.5" ID, 0.26" HOLE, 0.06" STRAP THICKNESS, EG FINISH .	1, IN	X	
004-M007-EG CUSH-A-CLAMP (PAGE 137) DIMENSIONS AND FINISH	NOMINAL 1.81" END TO END, 0.25" ID, 0.20" HOLE, 0.06" STRAP THICKNESS, EG FINISH	1, IN	X	
FOR P5 ONLY 004-M007-EG TUBE CLAMP (PAGE 137) DIMENSIONS AND FINISH	NOMINAL 1.81" END TO END, 0.25" ID, 0.20" HOLE, 0.06" STRAP THICKNESS, EG FINISH	1, IN	X	

2. Physical Critical Characteristics (for reasonable assurance that the Item delivered is the Item specified)

Critical Characteristics Verification Document: UNISTRUT GENERAL CATALOG, NO. 12	Acceptance Criteria/Tolerances	Acceptance Method	ID	Function
CHANNELS HARDNESS	HRB 55-72	1, T		X
CHANNEL NUTS HARDNESS	HRB 90-105	1, T		X
PIPE CLAMPS, TUBING CLAMPS, & CUSH-A-CLAMPS HARDNESS	HRB 55-72	1, T		X

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PIPE STRAPS HARDNESS	HRB 55-72	1, T	X
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3. Performance Critical Characteristics (for reasonable assurance that the Item will perform its intended safety function(s))

NONE

4. Notes and Legend:

1) THESE ITEMS ARE CONSIDERED TO BE ;

A) SEISMICALLY RUGGED FOR USE IN SNF FACILITIES.
VERIFICATION OF THE CRITICAL CHARACTERISTICS FOR
ACCEPTANCE LISTED ABOVE IS SUFFICIENT WITHOUT
THE REQUIREMENT OF SEISMIC QUALIFICATION NEEDED.

B) THIS ITEM CONTAINS NO MATERIAL SUBJECT TO
DEGRADATION WITH RESPECT TO ENVIRONMENTAL
QUALIFICATION (EQ) AND IS SUITABLE FOR ANY EQ.

2) HARDNESS VALUES WERE PROVIDED BY UNISTRUT AND
CONFIRMED BY CONVERSION OF THE TENSILE STRENGTH
VALUES IN ASTM A570/A570M-98 TO HARDNESS VALUES
PER SAE J-417. HRB=HARDNESS ROCKWELL B-SCALE.

3) THIS DEDICATION DOES NOT INCLUDE UNISTRUT BOLTS OR
OTHER HARDWARE. BOLTS AND ANY ADDITIONAL
HARDWARE IS TO BE DEDICATED BY A SIMILAR APPROACH
AS ABOVE.

Acceptance Method:

1. Special Test and Inspection
1, IN for Inspection
1,T for Test
2. Commercial Grade Survey
3. Source Verification
4. Vendor/Item History

Rev. 2, Update to references and deletion of Revision numbers.

Section 10 Initial Review and Approval

Approvals:

Designated Engineer:

Design Authority:

QA Engineer:

9/2/00
Carl Van Katwijk 9/2/00
Carl Miska 9/2/00
Hank M. Chafin 9/2/00

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WORKSHEET 1 DETERMINATION OF FAILURE MECHANISMS/MODES		
Section 1		
Typical Failure Mechanisms	Definition	Applicable to Component under Evaluation
Fracture	Separation of a solid accompanied by little or no macroscopic plastic deformation.	Yes [☒] No [☐]; If Yes, indicate failure Mode <u>Fracture or material fatigue-loss of structure</u>
Corrosion	The gradual deterioration of a material due to chemical or electrochemical reactions, such as oxidation, between the material and its environment.	Yes [☐] No [☒]; If Yes, indicate failure Mode _____
Erosion	Destruction of materials by the abrasive action of moving fluids, usually accelerated by the presence of solid particles carried with the fluid.	Yes [☐] No [☒]; If Yes, indicate failure Mode _____
Open Circuit	An electrical circuit that is unintentionally broken so that there is no complete path for current flow.	Yes [☐] No [☒]; If Yes, indicate failure Mode _____
Short Circuit	An abnormal connection by which an electrical current is connected to ground, or to some conducting body, resulting in excessive current flow.	Yes [☐] No [☒]; If Yes, indicate failure Mode _____
Blockage	Clogging of a filtering medium resulting in the inability to perform its purification function or blockage of flow.	Yes [☐] No [☒]; If Yes, indicate failure Mode _____
Seizure	Binding of a normally moving item through excessive pressure, temperature, friction, jamming.	Yes [☐] No [☒]; If Yes, indicate failure Mode _____
Unacceptable Vibration	Mechanical oscillations produced are beyond the defined permissible limits due to unbalancing, poor support, or rotation at critical speeds.	Yes [☐] No [☒]; If Yes, indicate failure Mode _____
Loss of Properties	A loss of mechanical and physical properties of a material due to exposure to high temperatures, radiation exposure.	Yes [☐] No [☒]; If Yes, indicate failure Mode _____
Excess Strain	Under the action of excessive external forces the material of the part has been deformed or distorted.	Yes [☒] No [☐]; If Yes, indicate failure Mode <u>Material fatigue leads to loss of structure</u>
Mechanical Creep	From prolonged exposure to high temperature and stress, the object will show a slow change in its physical (shape and dimension) and mechanical characteristics.	Yes [☐] No [☒]; If Yes, indicate failure Mode _____
Ductile Fracture	Fracture characterized by tearing of metal accompanied by appreciable gross plastic deformation.	Yes [☒] No [☐]; If Yes, indicate failure Mode <u>Fracture or material fatigue - loss of structure</u>
Section 2 Additional Failure Modes Applicable to the Component Under Evaluation		
1.		

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CHECKLIST 1
ACCEPTANCE METHOD 1
SPECIAL TEST/INSPECTION VERIFICATION

SECTION 1			
Item Description: UNISTRUT PLAIN METAL CHANNEL INCLUDING NUTS AND HARDWARE		Equip #: NA	
System #: VARIOUS		Procurement and/or Model #: SEE CATALOG NUMBERS BELOW	
Manufacturer (Address/Phone): UNISTRUT, NW 18401 CASCADE AVENUE, SOUTH TUKWILA, WA 98188 P.O. # 18681 (OLYMPIC TOOL & ENGR)		Supplier (Address/Phone): UNISTRUT, NW 18401 CASCADE AVENUE, SOUTH TUKWILA, WA 98188	
SECTION 2 CRITICAL CHARACTERISTICS TO BE VERIFIED BY METHOD 1.			
Insp	Test	Post-Test	
☒	☐	☐	1. DIMENSIONS & FINISH (SEE SIXTEEN CC LISTED BELOW UNDER INSPECTION)
☐	☒	☐	2. CHANNELS HARDNESS
☐	☒	☐	3. CHANNEL NUTS HARDNESS
☐	☒	☐	4. PIPE CLAMPS, TUBE CLAMPS, & CUSH-A-CLAMPS HARDNESS
☐	☒	☐	5. PIPE STRAPS HARDNESS
☐	☐	☐	6.
☐	☐	☐	7.
☐	☐	☐	8.

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SECTION 3 VERIFIED BY INSPECTION

* See Attachment G of Desk Instruction for Sampling Size **REDUCED SAMPLING PLAN WAS SELECTED DUE TO THE PRODUCT HISTORY AND SIMPLICITY OF PRODUCT**

Characteristic: **P1000 CHANNEL (PAGE 22) DIMENSIONS AND FINISH**
Sample Size*: **REDUCED SAMPLING PLAN**
Acceptance Criteria: **NOMINAL 1 5/8" W, 1 5/8" H, 12 GAGE THICKNESS, PLAIN STEEL FINISH**
As Found: _____ Passed: Y / N (Circle)
Receipt Inspection Plan / Report #: _____
References (see Section 8): **UNISTRUT METAL FRAMING - GENERAL ENGINEERING CATALOG, NO 12.**
NOTE: CRITICAL CHARACTERISTICS FOR ACCEPTANCE ARE OBTAINED FROM THIS UNISTRUT CATALOG, NO. 12, WITH PAGES NOTED FOR EACH CHARACTERISTIC.

Characteristic: **P3300 CHANNEL (PAGE 22) DIMENSIONS AND FINISH**
Sample Size*: **REDUCED SAMPLING PLAN**
Acceptance Criteria: **NOMINAL 1 5/8" W, 1 7/8" H, 12 GAGE THICKNESS, PLAIN STEEL FINISH**
As Found: _____ Passed: Y / N (Circle)
Receipt Inspection Plan / Report #: _____
References (see Section 8): _____

Characteristic: **P5000 CHANNEL (PAGE 53) DIMENSIONS AND FINISH**
Sample Size*: **REDUCED SAMPLING PLAN**
Acceptance Criteria: **NOMINAL 1 5/8" W, 3 1/4" H, 12 GAGE THICKNESS, PLAIN STEEL FINISH**
As Found: _____ Passed: Y / N (Circle)
Receipt Inspection Plan / Report #: _____
References (see Section 8): _____

Characteristic: **P1006 1420-EG CHANNEL NUT (PAGE 72) DIMENSIONS AND FINISH**
Sample Size*: **REDUCED SAMPLING PLAN**
Acceptance Criteria: **WITH SPRING, NOMINAL 1/4", 20 THREAD/IN, ELECTRO-GALVANIZED (EG) FINISH**
As Found: _____ Passed: Y / N (Circle)
Receipt Inspection Plan / Report #: _____
References (see Section 8): _____

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Characteristic: **P4006 1024-EG CHANNEL NUT (PAGE 72) DIMENSIONS AND FINISH**
Sample Size*: **REDUCED SAMPLING PLAN**
Acceptance Criteria: **WITH SPRING, SIZE #10, 24 THREAD/IN, EG FINISH**
As Found: _____ Passed: Y / N (Circle)
Receipt Inspection Plan / Report #: _____
References (see Section 8): _____

Characteristic: **P3006 1420-EG CHANNEL NUT (PAGE 72) DIMENSIONS AND FINISH**
Sample Size*: **REDUCED SAMPLING PLAN**
Acceptance Criteria: **WITHOUT SPRING, NOMINAL 1/4", 20 THREAD/IN, EG FINISH**
As Found: _____ Passed: Y / N (Circle)
Receipt Inspection Plan / Report #: _____
References (see Section 8): _____

Characteristic: **P5506 1420-EG CHANNEL NUT (PAGE 72) DIMENSIONS AND FINISH**
Sample Size*: **REDUCED SAMPLING PLAN**
Acceptance Criteria: **WITH SPRING, NOMINAL 1/4", 20 THREAD/IN, EG FINISH**
As Found: _____ Passed: Y / N (Circle)
Receipt Inspection Plan / Report #: _____
References (see Section 8): _____

Characteristic: **P1006 1420-EG CHANNEL NUT (PAGE 72) DIMENSIONS AND FINISH**
Sample Size*: **REDUCED SAMPLING PLAN**
Acceptance Criteria: **WITH SPRING, SIZE #10, 24 THREAD/IN, EG FINISH**
As Found: _____ Passed: Y / N (Circle)
Receipt Inspection Plan / Report #: _____
References (see Section 8): _____

Characteristic: **P1006 0832-EG CHANNEL NUT (PAGE 72) DIMENSIONS AND FINISH**
Sample Size*: **REDUCED SAMPLING PLAN**
Acceptance Criteria: **WITH SPRING, SIZE #8, 32 THREAD/IN, EG FINISH**
As Found: _____ Passed: Y / N (Circle)
Receipt Inspection Plan / Report #: _____
References (see Section 8): _____

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Characteristic: **P1115-EG PIPE CLAMP (PAGE 129) DIMENSIONS AND FINISH**

Sample Size*: **REDUCED SAMPLING PLAN**

Acceptance Criteria: **NOMINAL 1.9" OD, 12 GAUGE THICKNESS, EG FINISH**

As Found: _____ Passed: Y / N (Circle)

Receipt Inspection Plan / Report #: _____

References (see Section 8): _____

Characteristic: **P2558-15-EG PIPE STRAP (PAGE 132) DIMENSIONS AND FINISH**

Sample Size*: **REDUCED SAMPLING PLAN**

Acceptance Criteria: **NOMINAL 3 7/8", END TO END 1/8" STRAP THICKNESS, 9/32" HOLE, EG FINISH**

As Found: _____ Passed: Y / N (Circle)

Receipt Inspection Plan / Report #: _____

References (see Section 8): _____

Characteristic: **P2558-10-EG PIPE STRAP (PAGE 132) DIMENSIONS AND FINISH**

Sample Size*: **REDUCED SAMPLING PLAN**

Acceptance Criteria: **NOMINAL 3 3/8", END TO END, 1/8" STRAP THICKNESS, 9/32" HOLE, EG FINISH**

As Found: _____ Passed: Y / N (Circle)

Receipt Inspection Plan / Report #: _____

References (see Section 8): _____

Characteristic: **008-M011-EG CUSH-A-CLAMP (PAGE 137) DIMENSIONS AND FINISH**

Sample Size*: **REDUCED SAMPLING PLAN**

Acceptance Criteria: **NOMINAL 2.2", END TO END, 0.5" ID, 0.26 HOLE, 0.06" STRAP THICKNESS EG FINISH**

As Found: _____ Passed: Y / N (Circle)

Receipt Inspection Plan / Report #: _____

References (see Section 8): _____

Characteristic: **FOR P5 ONLY 008-M011-EG TUBE CLAMP (PAGE 137) DIMENSIONS AND FINISH**

Sample Size*: **REDUCED SAMPLING PLAN**

Acceptance Criteria: **NOMINAL 2.2" END TO END, 0.5" ID, 0.26" HOLE, 0.06" STRAP THICKNESS, EG FINISH**

As Found: _____ Passed: Y / N (Circle)

Receipt Inspection Plan / Report #: _____

References (see Section 8): _____

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Characteristic: **004-M007-EG CUSH-A-CLAMP (PAGE 137) DIMENSIONS AND FINISH**

Sample Size*: **REDUCED SAMPLING PLAN**

Acceptance Criteria: **NOMINAL 1.81", END TO END, 0.25" ID, 0.20 HOLE, 0.06" STRAP THICKNESS EG FINISH**

As Found: _____ Passed: Y / N (Circle)

Receipt Inspection Plan / Report #: _____

References (see Section 8): _____

Characteristic: **FOR P5 ONLY. 004-M007-EG TUBE CLAMP (PAGE 137) DIMENSIONS AND FINISH**

Sample Size*: **REDUCED SAMPLING PLAN**

Acceptance Criteria: **NOMINAL 1.81" END TO END, 0.25" ID, 0.20" HOLE, 0.06" STRAP THICKNESS, EG FINISH**

As Found: _____ Passed: Y / N (Circle)

Receipt Inspection Plan / Report #: _____

References (see Section 8): _____

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SECTION 4 VERIFIED BY SPECIAL TEST	
* See Attachment G of Desk Instruction for Sampling Size	
Test To Be Performed by: ☐ Purchaser ☐ Supplier/Manufacturer** ☐ Other	Number of Items to be Tested: REDUCED SAMPLING PLAN WAS SELECTED DUE TO THE PRODUCT HISTORY AND SIMPLICITY OF PRODUCT Test/Inspection Location: AT FABRICATOR
Characteristic for Test: CHANNELS - HARDNESS Acceptance Criteria: HRB 55-72 Sample Size*: REDUCED SAMPLING PLAN Actual Test Value: Test Plan and Report #: _____ References (see Section 8): _____	
Characteristic for Test: CHANNEL NUTS - HARDNESS Acceptance Criteria: HRB 90-105 Sample Size*: REDUCED SAMPLING PLAN Actual Test Value: Test Plan and Report #: _____ References (see Section 8): _____	
Characteristic for Test: PIPE CLAMPS, TUBE CLAMPS, & CUSH-A-CLAMPS - HARDNESS Acceptance Criteria: HRB 55-72 Sample Size*: REDUCED SAMPLING PLAN Actual Test Value: Test Plan and Report #: _____ References (see Section 8): _____	
Characteristic for Test: PIPE STRAPS - HARDNESS Acceptance Criteria: HRB 55-72 Sample Size*: REDUCED SAMPLING PLAN Actual Test Value: Test Plan and Report #: _____ References (see Section 8): _____	

** If Supplier/Manufacturer or Other, Refer to CGI Checklist-2 for Support Information

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Section 5 Test / Inspection Summary (Acceptance Method 1)

1. SUMMARY OF VERIFIED CRITICAL CHARACTERISTICS, THEIR VERIFICATION METHODS, AND RESULTS

ITEM DESCRIPTION:													
Critical Characteristics					Verification Results								
Critical Characteristics	Acceptance Criteria/Tolerances	ID	Function	Method T/IN	Procedure or RR#	Check-list ID	Number Tested	Number Failed	Verifying Organization	Printed Name Signature	Date		
P1000 CHANNEL (PAGE 22) DIMENSIONS AND FINISH	NOMINAL 1 5/8" W, 1 5/8" H, 12 GAGE, PLAIN STEEL FINISH	X		IN									
P3300 CHANNEL (PAGE 22) DIMENSIONS AND FINISH	NOMINAL 1 5/8" W, 1 7/8" H, 12 GAGE, PLAIN STEEL FINISH	X		IN									
P5000 CHANNEL (PAGE 53) DIMENSIONS AND FINISH	NOMINAL 1 5/8" W, 3 1/4" H, 12 GAGE, PLAIN STEEL FINISH	X		IN									
P1006 1420-EG CHANNEL NUT (PAGE 72) DIMENSIONS AND FINISH	WITH SPRING, NOMINAL 1/4", 20 THREAD/IN, EG FINISH	X		IN									
P3006 1420-EG CHANNEL NUT (PAGE 73) DIMENSIONS AND FINISH	WITHOUT SPRING, NOMINAL 1/4", 20 THREAD/IN, EG FINISH	X		IN									
P5506 1420-EG CHANNEL NUT (PAGE 72) DIMENSIONS AND FINISH	WITH SPRING, NOMINAL 1/4", 20 THREAD/IN, EG FINISH	X		IN									

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FOR P5 ONLY. 008-MO11-EG TUBE CLAMP (PAGE 137) DIMENSIONS AND FINISH	NOMINAL 2.2" END TO END, 0.5" ID, 0.26" HOLE, 0.06" STRAP THICKNESS, EG FINISH	x		IN							
004-M007-EG CUSH-A-CLAMP (PAGE 137) DIMENSIONS AND FINISH	NOMINAL 1.81" END TO END, 0.25" ID, 0.20" HOLE, 0.06" STRAP THICKNESS, EG FINISH	x		IN							
FOR P5 ONLY. 004-M007-EG TUBE CLAMP (PAGE 137) DIMENSIONS AND FINISH	NOMINAL 1.81" END TO END, 0.25" ID, 0.20" HOLE, 0.06" STRAP THICKNESS, EG FINISH	x		IN							
CHANNELS HARDNESS	HRB 55-72		x	T							
CHANNEL NUTS HARDNESS	HRB 90-105		x	T							
PIPE CLAMPS, TUBE CLAMPS, & CUSH-A-CLAMPS HARDNESS	HRB 55-72		x	T							
PIPE STRAPS HARDNESS	HRB 55-72		x	T							

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2. DISPOSITION OF UNVERIFIED OR FAILED CRITICAL CHARACTERISTICS		
Critical Characteristic	Disposition	
3. SIGNATURE INDICATES ALL CRITICAL CHARACTERISTICS VERIFIED SATISFACTORY OR ACCEPTABLY DISPOSITIONED AND COMMERCIAL GRADE DEDICATION IS SATISFACTORY AND COMPLETE.		
Testing Agency Approval: _____	BUYER VERIFICATION	
	Design Authority: _____	Date _____
Testing Agency QA Engineer: _____	QA Engineer: _____	Date _____

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SECTION 6 CONTACTS / PHONE NUMBERS	
Name	Phone
Design Authority	()
QA	()
QC	()
Cog - Engineer	()
CGI Engineer	()
Procurement Engineer	()
Other	()
SECTION 7 SUPPORTING DOCUMENTATION FOR THIS CHECKLIST	
Initial Procurement Documents	For Critical Characteristics
☐ Drawings:	
☐ Manuals (specify type & number):	
☐ Design Calculations	
☐ Installation Instructions	
☐ Operation Instructions	
☐ Calibration Instructions	
☐ Manufacturer's Recommended Spare Parts List	
☒ Other: UNISTRUT GENERAL CATALOG, NUMBER 12	YES
Procurement Documents	
☐ Certificate of Conformance/Compliance	
☐ Seismic Qualification Certificate	
☐ Environmental Qualification Certificate	
☐ Test Report (s):	
☐ Inspection Report (s):	
☐ CMTRs for ASME Pressure Retaining Materials	
☐ Valve Seat Leakage Report	
☐ Weld Records	
☐ Material Traceability Record	
☒ Other: UNISTRUT GENERAL CATALOG, NUMBER 12	YES