

6060 APPENDIX H

6061 DIRECTIONS SUPPLIED TO ROUND
6062 ROBIN TECHNICIANS

6063 H.1 Directions for Conventional UT Technicians

6064 Directions for Conventional UT Round Robin

- 6065 1. Please read and sign the attached Confidentiality Agreement
- 6066 2. Please see the attached questionnaire for the data that we would like to collect
- 6067 3. Please scan the 1/16" side drilled hole in the provided IIW Type 1 Block after calibration but
- 6068 before testing and report amplitude. Do not recalibrate, just report the amplitude.
- 6069 4. Please scan per AWS D1.5:2015 (tension criteria)

6070

6071
6072
6073
6074
6075
6076
6077
6078
6079
6080
6081
6082
6083
6084
6085
6086
6087
6088
6089
6090
6091
6092
6093
6094
6095
6096
6097
6098
6099
6100
6101
6102
6103
6104
6105
6106
6107
6108
6109

CONFIDENTIALITY AGREEMENT

NCHRP 14-35

Principal Investigator: Dr. Robert J Connor
Co-Principal Investigator: Dr. Glenn A. Washer, PE
Graduate Students: Curtis J. Schroeder, PE

As a participant in this research study I understand that I may have access to confidential information regarding the test procedures and test specimens. By signing this statement, I am indicating my understanding of my responsibilities to maintain confidentiality and agree to the following:

- I understand that details about study procedure and test specimens are completely confidential.
- I agree not to discuss, divulge, publish, or otherwise make known to unauthorized persons or to the public any information, including scan data, obtained in the course of this research study without written permission from the principal investigator.
- I understand that sharing any information with other participants in the study invalidates the results and hinders improvement in bridge weld testing procedures and inspection quality. I agree not to divulge or otherwise make known to unauthorized persons any of this information, unless specifically authorized to do so by approved protocol or by the local principal investigator acting in response to applicable law or court order, or public health or clinical need.
- I agree to notify the principal investigator immediately should I become aware of an actual breach of confidentiality or a situation which could potentially result in a breach, whether this be on my part or on the part of another person.
- I agree to erase all setups, data files, and reports related to the study after submitting the results to the research study team.

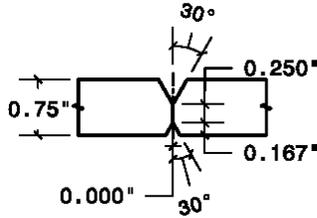
Signature

Date

Printed name

WELD BEVEL DETAIL
SCALE - 1:2

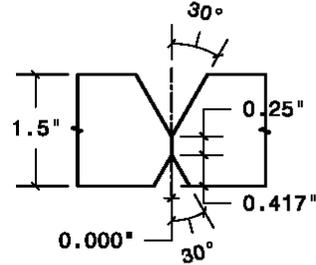
ID# PLATE 6
PLATE 7
PLATE 8



17" x 14" PLATES
WELD GROUND SMOOTH

BASE MATERIAL	A709 Gr. 50
WELD MATERIAL	A5.23
MATERIAL	F8A2-EN11K-N11

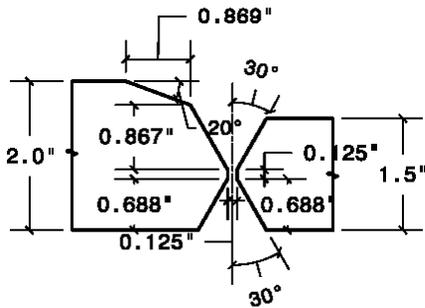
ID# PLATE 9
PLATE 10
PLATE 11



18" x 14" PLATES
WELD GROUND SMOOTH

BASE MATERIAL	A709
WELD MATERIAL	Gr. HPS 70W
MATERIAL	A5.23
	F9A4-EN15-G

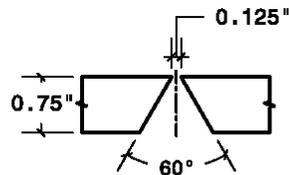
ID# PLATE 4
PLATE 5



20" x 14" PLATES
WELD REINFORCEMENT REMAINING
ON BOTH SIDES

BASE MATERIAL	A514 Gr. H
WELD MATERIAL	E10018
MATERIAL	

ID# PLATE 1
PLATE 2
PLATE 3



12" x 7" PLATES

NDE-1 & NDE-17
WELD REINFORCEMENT
REMAINING ON WELD FACE

BASE MATERIAL	A36
WELD MATERIAL	E7018
MATERIAL	

NDE-22
WELD REINFORCEMENT
REMAINING ON ROOT

BASE MATERIAL	A709 Gr. 50
WELD MATERIAL	E7018
MATERIAL	



1040 SOUTH RIVER ROAD
WEST LAFAYETTE, IN 47906
P: 765-494-2227 F: 765-494-8886

PROJECT:
NCHRP 14-35

SHEET NOTES:

REVISIONS:		
NO.	DATE	BY
DESIGNED BY:	CJS	
DRAWN BY:	CJS	
CHECKED BY:		
DATE:	12/8/2016	
PROJECT NO.:	NCHRP 14-35	

SHEET TITLE:
WELD BEVEL DESIGN

SHEET NO.:
1 of 1

6110

6111

6112

6113 QUESTIONNAIRE FOR CONVENTIONAL UT

Technician Details		
Name:	Company:	
Date:	Weather:	
ASNT Level and Certification:	Hrs of formal training:	
Practical Exam (Y/N):		
Total experience (yrs):	Age:	
Equipment Details		
Instrument Make/Model:		
Couplant Type:		
Amplitude for SDH on provided IIW Block (Don't change calibration):		
Results (in addition to typical reported values) (Fill out for each flaw; please provide a sketch)		
Transducer Angle:	From Face:	Leg:
Indication rating:	Defect length	Angular Distance:
Depth below surface:	Defect location:	Acceptable (Y/N):
Defect type, if possible (volumetric vs planar, please note cracks separate):		
Would indication have been recordable and why (Amplitude basis, length, or other limit):		
Time to scan and evaluate each plate:		

6114

6115

6116 H.2 Directions for PAUT/TOFD Technicians

6117 Directions for PAUT, TOFD, and combined PAUT/TOFD

- 6118 5. Please read and sign the attached Confidentiality Agreement
- 6119 6. Please see the attached questionnaire for the data that we would like to collect
- 6120 7. PAUT only: Please scan the 1/16" side drilled hole in the provided IIW Type 1 Block after
- 6121 calibration but before testing and report amplitude. Do not recalibrate, just report the amplitude.
- 6122 8. PAUT only: Please scan per AWS D1.5:2015 Annex K (tension criteria)
- 6123 9. PAUT and/or TOFD: Please report an estimation of flaw size for all detected discontinuities
- 6124 10. We would like all of the plates (11 total) scanned, but if the time to scan all of these plates
- 6125 exceeds that which is available please, at least, scan the following plates:
- 6126 • Plate 1
 - 6127 • Plate 3
 - 6128 • Plate 5
 - 6129 • Plate 7
 - 6130 • Plate 10
 - 6131 • Plate 11

6132

6133
6134
6135
6136
6137
6138
6139
6140
6141
6142
6143
6144
6145
6146
6147
6148
6149
6150
6151
6152
6153
6154
6155
6156
6157
6158
6159
6160
6161
6162
6163
6164
6165
6166
6167
6168
6169
6170
6171

CONFIDENTIALITY AGREEMENT

NCHRP 14-35

Principal Investigator: Dr. Robert J Connor
Co-Principal Investigator: Dr. Glenn A. Washer, PE
Graduate Students: Curtis J. Schroeder, PE

As a participant in this research study I understand that I may have access to confidential information regarding the test procedures and test specimens. By signing this statement, I am indicating my understanding of my responsibilities to maintain confidentiality and agree to the following:

- I understand that details about study procedure and test specimens are completely confidential.
- I agree not to discuss, divulge, publish, or otherwise make known to unauthorized persons or to the public any information, including scan data, obtained in the course of this research study without written permission from the principal investigator.
- I understand that sharing any information with other participants in the study invalidates the results and hinders improvement in bridge weld testing procedures and inspection quality. I agree not to divulge or otherwise make known to unauthorized persons any of this information, unless specifically authorized to do so by approved protocol or by the local principal investigator acting in response to applicable law or court order, or public health or clinical need.
- I agree to notify the principal investigator immediately should I become aware of an actual breach of confidentiality or a situation which could potentially result in a breach, whether this be on my part or on the part of another person.
- I agree to erase all setups, data files, and reports related to the study after submitting the results to the research study team.

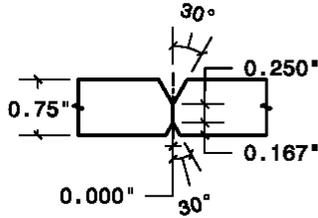
Signature

Date

Printed name

WELD BEVEL DETAIL
SCALE - 1:2

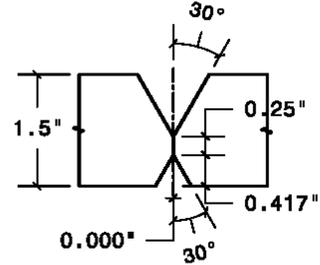
ID# PLATE 6
PLATE 7
PLATE 8



17" x 14" PLATES
WELD GROUND SMOOTH

BASE MATERIAL	A709 Gr. 50
WELD MATERIAL	A5.23
MATERIAL	F8A2-EN11K-N11

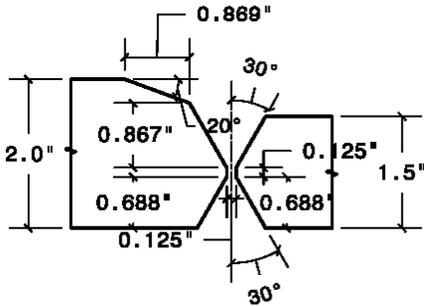
ID# PLATE 9
PLATE 10
PLATE 11



18" x 14" PLATES
WELD GROUND SMOOTH

BASE MATERIAL	A709
WELD MATERIAL	Gr. HPS 70W
MATERIAL	A5.23
	F9A4-EN15-G

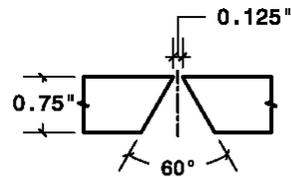
ID# PLATE 4
PLATE 5



20" x 14" PLATES
WELD REINFORCEMENT REMAINING
ON BOTH SIDES

BASE MATERIAL	A514 Gr. H
WELD MATERIAL	E10018

ID# PLATE 1
PLATE 2
PLATE 3



12" x 7" PLATES

NDE-1 & NDE-17
WELD REINFORCEMENT
REMAINING ON WELD FACE

NDE-22
WELD REINFORCEMENT
REMAINING ON ROOT

BASE MATERIAL	A36
WELD MATERIAL	E7018

BASE MATERIAL	A709 Gr. 50
WELD MATERIAL	E7018



1040 SOUTH RIVER ROAD
WEST LAFAYETTE, IN 47906
P: 765-494-2227 F: 765-494-9886

PROJECT:
NCHRP 14-35

SHEET NOTES:

REVISIONS:

NO.	DATE	BY
DESIGNED BY:	CJS	
DRAWN BY:	CJS	
CHECKED BY:		
DATE:	12/8/2018	
PROJECT NO.:	NCHRP 14-35	

SHEET TITLE:
WELD BEVEL DESIGN

SHEET NO.:
1 of 1

6174
6175

QUESTIONNAIRE FOR TOFD AND PAUT DATA COLLECTION

Technician Details		
Name:		Company:
Date:		Weather:
ASNT Level and Certification:		Hrs of formal training:
Practical Exam (Y/N):		Hrs of testing w/ technology:
Total experience (yrs):		Age:
Calibration Details		
Distance calibration reflector details (type and size):		
Sensitivity calibration reflector details (type, size, and depth):		
Sensitivity Level (%SH):	Gain correction, if applicable:	
TCG (Y/N):	TCG reflector details (type, size, and depth):	
Beam angle verification details, if applicable:		
Type and size of sensitivity verification specimen, if applicable::		
Sensitivity verification reflector details:		Signal-to-noise ratio:
<i>PAUT Only:</i> Amplitude for SDH on provided IIW Block (Don't change calibration)		
% FSH @ 45°		%FSH @ 70°
Equipment Details		
Instrument		
Make/Model:		# of pulsers:
Software:	Data sampling spacing:	# of channels:
Probe		
Make/Model:	Frequency:	Size:
# of elements:	Element Elevation:	Element Pitch:
Wedge		
Make/Model:		Angle:
Encoder		
Make/Model:	Type:	Scan Speed:
Resolution:	Manual, automatic, semi-automatic:	
Couplant		
Type:	Application Method:	
Scan Plan		
TOFD Parameters		
Wave Type:	Pulse rise time:	Pulse amplitude:
Pulse width:	Receiver frequency limits:	
Focusing, if applicable:		Pulse duration:
Cable and probe impedance:		Cable Length:
Scanning direction (D-scan and/or B-scan):		
Probe spacing:		Index Position:

6176
6177

Scan Plan		
PAUT Parameters		
Wave Type:	Pulse voltage:	Pulse duration:
Bandpass filter:	# of elements:	Active element #'s:
Active aperture:	Angular range:	Angular sweep increment:
Focal Depth, if applicable:		Dead elements?
Increased scanning gain or color palette change:		Sides scanned:
Index Position:	Scan overlap:	
# of crossing directions:		Perpendicular to fusion face:
Scanning of edges:		Transverse indication scanning:
Laminar reflector scan		
Performed (Y/N):	Equipment Details:	
Flaw Evaluation		
Method for discriminating geometric vs weld defect indications:		
Method for sizing indications:		
Method for grouping indications:		
Analysis software or method:		
Results		
(Fill out for each flaw; please provide a sketch and provide scan data if encoded)		
Flaw Size Approximation		
(For all detected discontinuities)		
Peak amplitude:	Defect location:	Depth below surface:
Defect height:	Defect length:	
Defect type (volumetric vs planar, please note cracks separate):		
Would indication have been recordable and why (Amplitude basis, length, or other limit):		
Time to scan and flaw size each plate:		
AWS D1.5 Annex K (PAUT only; please provide scan data)		
Peak amplitude:	Defect location:	Depth below surface:
Indication rating:	Defect length	Acceptable (Y/N):
Time to scan and evaluate each plate:		

6178
6179