Hocker Incorporated
13402 Weiman Road Houston, TX 77041
713-464-5829 Fax 713-464-3192

Customer PO #:	86476
Certification #:	23-1333
Calibration Date:	10/5/2023
Due Date:	10/5/2024

ASTM E317-16 Performance Evaluation
Ultrasonic Flaw Detector

F-UTFL Rev-0

Meets ASTM E317-16 Minimum Requirements? YES

Company:	P&B Testing Inc.			Equipment Model & Serial #	Sonatest 350M sn-I008767	Equipment Condition As Found:	
Address:	6645 W. Tidwell						
City:	Houston			Lab Conditions:			New
State:	Texas	Contact:	Buck Sneider			X	Good
Zip:	77092	Phone:	713-290-8490	Temp:	72°F		Poor
Country:	USA	Email:	qa@pbtesting.com	Hum.%:	51%		

Performance Evaluation Equipment:		Serial:	NIST:	Cert. Blocks C to G:	Serial:	NIST:
Calib. Block A	ASTM-E317 Block	SN 03-8399	03-19698-A	ASTM E127 1-0300	SN 15-8035	14-20265-A 14-21740-A
Calib. Block B	ASTM Type RA	SN 04-5671	04-25714-A	ASTM E127 2-0300	SN 15-8036	
Transducer "A"	FCHR-5050 Hi Res	SN 931/37	n/a	ASTM E127 3-0300	SN 15-8037	
Transducer "B"	PSLM-5050 5mhz 1/2"	SN 504/03	n/a	ASTM E127 4-0300	SN 15-8038	
Transducer "C"	PSLM-5050 5mhz 1/2"	SN 424/20	n/a	ASTM E127 5-0300	SN 15-8039	
Calibrated Attenuator	S/N: SO383925	NIST #:	1821-1022/1104681/9000-1439,1230,1336			

Horizontal Limit Linearity

Horiz. Accuracy Limit + or -	2.0%
Meets Accuracy Required?	Yes
Horiz. Accuracy Deviation	0.0%
Horiz. Screen Width used?	10"

Vertical Limit Linearity

Verticle Accuracy Limit + or -	2.0%
Meets Accuracy Required?	Yes
Vert. Accuracy Deviation	-2.0%
Equipment Overall Pass/ Fail Result:	Pass

% Horiz. Screen Width

Echo #	Actual %	Ideal	Deviation
1	0.0%	0.0%	0.0%
2	10.0%	10.0%	0.0%
3	20.0%	20.0%	0.0%
4	30.0%	30.0%	0.0%
5	40.0%	40.0%	0.0%
6	50.0%	50.0%	0.0%
7	60.0%	60.0%	0.0%
8	70.0%	70.0%	0.0%
9	80.0%	80.0%	0.0%
10	90.0%	90.0%	0.0%
11	100.0%	100.0%	0.0%
Maximum Horizontal Deviation			0.0%

%Vertical Screen Height

Ideal %	Actual %	Ideal%	Actual%	Ideal%	Actual%
+1db steps		-2db steps		-4db Steps	
50.0%	50.0%	50.0%	50.0%	16.0%	16.0%
56.0%	55.0%	40.0%	40.0%	10.0%	10.0%
63.0%	62.0%	31.0%	31.0%	6.0%	6.0%
71.0%	69.0%	25.0%	25.0%	5.0%	4.0%
79.0%	78.0%	20.0%	20.0%	3.0%	2.0%
89.0%	88.0%	16.0%	16.0%	2.0%	1.0%
100.0%	98.0%				
			Maximum Vertical Deviation		-2.0%

Accuracy Of Calibrated Gain Controls

Ideal	Actual	Ideal	Actual
1	1	10	10
2	2	12	12
4	4	14	14
6	6	20	20

Sensitivity & Noise

Test Block Number	Sig. Ampl.	Break Pt.	Noise Lvl.	Hole Size
ASTM E127 1-0300	60.0%	8.0%	1.0%	1/64
ASTM E127 2-0300	60.0%	8.0%	1.0%	1/32
ASTM E127 3-0300	60.0%	9.0%	1.0%	3/64
ASTM E127 4-0300	60.0%	10.0%	1.0%	1/16
ASTM E127 5-0300	60.0%	10.0%	1.0%	5/64

Gain Control Deviation DB	0
Max Noise Level (Sensitivity & Noise Test)	1.0%
Max Noise Level (Resolution Test)	1.0%

Near Surface Resolution at 80%

Depth	Break Pt.	Noise %
0.7"	16.0%	1.0%
0.5"	12.0%	1.0%
0.3"	11.0%	1.0%

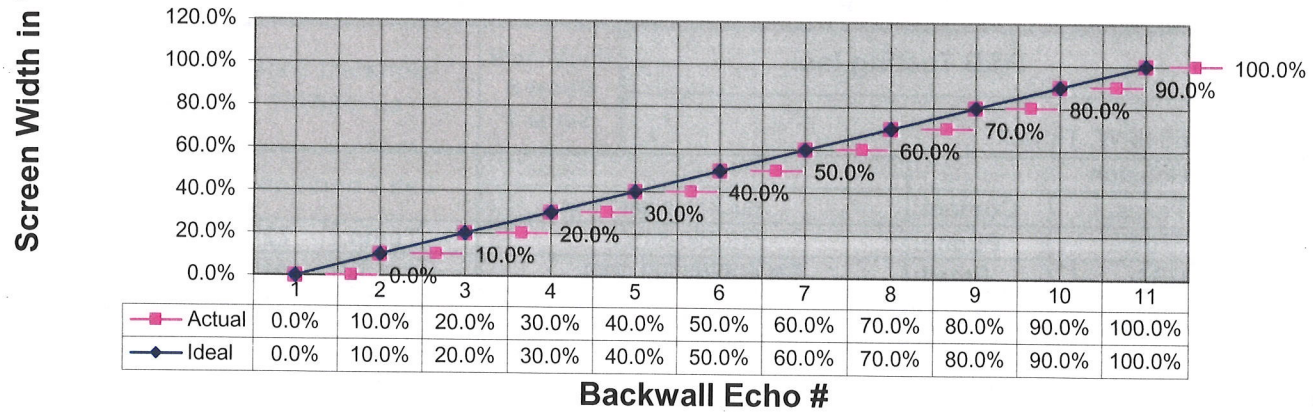
Far Surface Resolution at 80%

Depth	Break Pt.	Noise %
.01"	15.0%	1.0%
.02"	17.0%	1.0%
.03"	18.0%	1.0%

P&B Testing Inc.

Certification # 23-1333
Certification Date 10/5/2023

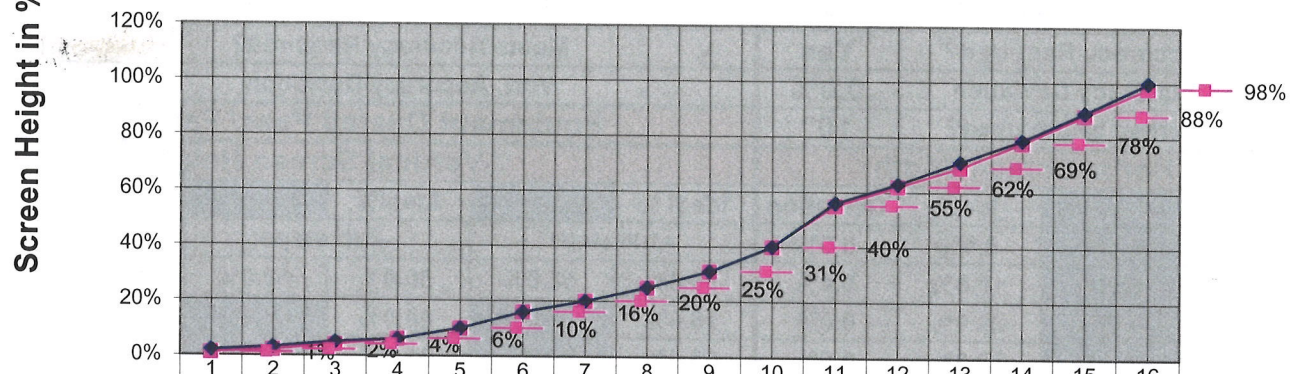
Horizontal Linearity As Received!



	1	2	3	4	5	6	7	8	9	10	11
Actual	0.0%	10.0%	20.0%	30.0%	40.0%	50.0%	60.0%	70.0%	80.0%	90.0%	100.0%
Ideal	0.0%	10.0%	20.0%	30.0%	40.0%	50.0%	60.0%	70.0%	80.0%	90.0%	100.0%

Backwall Echo #

Vertical Linearity As Received!



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Actual	1%	2%	4%	6%	10%	16%	20%	25%	31%	40%	55%	62%	69%	78%	88%	98%
Ideal	2%	3%	5%	6%	10%	16%	20%	25%	31%	40%	56%	63%	71%	79%	89%	100%

Return Echo #

Notes:

Buck Snider

Digitally signed by Buck Snider
DN: cn=Buck Snider, o=PB Testing, Inc., ou=P&B Testing, Inc., email=qa@pbtesting.com, c=US
Date: 2023.10.11 12:48:52 -05'00'

This performance evaluation was done in accordance with ASTM-E317-16 and Hocker Incorporated procedure CP-UTFL Rev 0. Test equipment and calibration blocks used to perform this evaluation are traceable to the National Institute of Standards and Technology. NIST numbers listed in this document and supporting documentation is on file. This performance evaluation is made in conformance with ANSI/NCSL 2540.3-2006 and/or ISO 10012, and with 10CFR21.

F-UTFL Rev-0 05/01/2018

Technician Signature:

Technician Performing Evaluation: Roger Kimmons

Date: 10/5/2023

Approval Signature:

Approved By: Derrick Schumann

An ISO 9001:2015 Registered Company