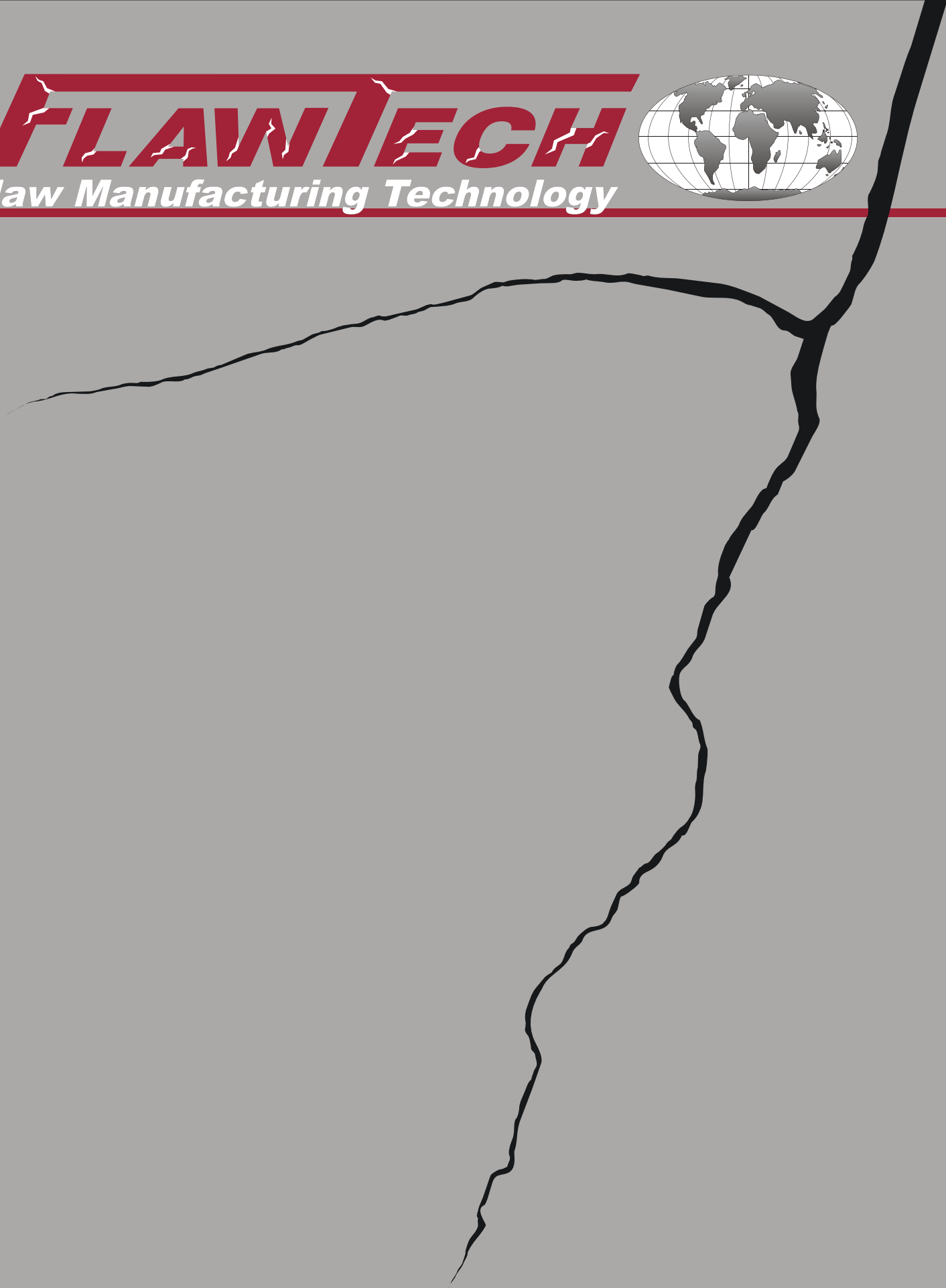


FLAWTECH

Flaw Manufacturing Technology



~ THE WORLD LEADER IN MANUFACTURING REAL FLAWS ~

TO ORDER THE HIGHEST QUALITY FLAWED SPECIMENS CALL: (704) 795-4401 OR VISIT WWW.FLAWTECH.COM



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STANDARD • ADVANCED • CRITICAL

**STANDARD
 SPECIMENS**

HAVE A TOLERANCE OF
 +/- 0.150" (4MM).

INCLUDES ALL STANDARD KIT
 SPECIMENS AND ALL UT &
 MT/PT PRACTICAL EXAM
 SPECIMENS.

DESIGNED TO ENHANCE THE
 TRAINING AND DEVELOPMENT
 OF NEW AND VETERAN
 NDT TECHNICIANS.

NORMALLY SMALLER IN SIZE
 AND LESS EXPENSIVE
 THAN ADVANCED AND
 CRITICAL SPECIMENS.

BASIC DOCUMENT PACKAGE
 WITH CAD DRAWINGS IS
 INCLUDED WITH EACH KIT
 OR EXAM SPECIMEN.

CUSTOM SPECIMENS ARE
 AVAILABLE AT THIS LEVEL OF
 TOLERANCE.

**ADVANCED
 SPECIMENS**

HAVE A TOLERANCE OF
 +/- 0.080" (2MM)

INCLUDES ALL ADVANCED
 SPECIMENS, API-UT-1 KIT &
 ALL ASME SECTION XI
 APPENDIX VII SPECIMEN BANK.

DESIGNED TO ENHANCE THE
 TRAINING & QUALIFICATION
 OF LEVEL I, II & III
 PERSONNEL WITH REGARDS TO
 SNT-TC-1A, EN473 & PCN.

STOCK ADVANCED SPECIMENS
 ARE LARGER IN SIZE THAN
 THE STANDARD SPECIMEN
 AND HIGHER TOLERANCE.

DOCUMENT PACKAGE WITH
 CAD DRAWINGS IS INCLUDED
 WITH EACH KIT OR INDIVIDUAL
 ADVANCED SPECIMEN.

CUSTOM SPECIMENS ARE
 AVAILABLE AT THIS LEVEL OF
 TOLERANCE.

**CRITICAL
 SPECIMENS**

HAVE A TOLERANCE OF
 +/- 0.040" (1MM)

INCLUDES ALL ASME SECTION
 XI APPENDIX VIII SPECIMENS
 AND MOST OF THE CUSTOM
 DESIGNED SPECIMENS.

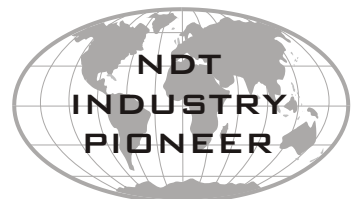
DESIGNED TO CUSTOMER
 SPECIFICATIONS FOR THEIR
 TRAINING & QUALIFICATION
 OF NDT PERSONNEL,
 EQUIPMENT AND PROCEDURES.

SIZE OF SPECIMENS RANGE
 FROM A SMALL BOLT FOR THE
 SPACE SHUTTLE TO A 20,000
 POUND REACTOR NOZZLE.

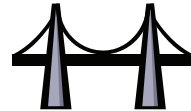
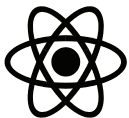
DETAILED DOCUMENTATION
 IS INCLUDED WITH SPECIMENS.
 CONTACT FLAWTECH FOR
 EXACT DETAILS.

CUSTOM SPECIMENS ARE
 AVAILABLE AT THIS LEVEL OF
 TOLERANCE.

CALL FLAWTECH TODAY FOR DETAILS



INDUSTRIES THAT USE FLAWTECH SPECIMENS



#	FLAW TYPE	WELD	NDT METHOD
---	-----------	------	------------

10	TOE CRACK	SV / DV	-	MT/PT	UT	RT
11	TOE CRACK	FILLET	-	MT/PT	UT	-
12	ROOT CRACK	SV	-	MT/PT	UT	RT
13	UNDERBEAD CRACK	FILLET	-	-	UT	-
14	CENTER LINE CRACK (SURFACE)	SV / DV	-	MT/PT	UT	RT
15	CENTER LINE CRACK (SUB-SURFACE)	SV / DV	-	-	UT	RT
16	CIRCUMFERENTIAL CRACK (FLUSH CROWN)	SV / DV	-	MT/PT	UT	RT
17	TRANSVERSE CRACK (FLUSH CROWN)	SV / DV	-	MT/PT	UT	-
18	BASE METAL CRACK (CROWN HAZ AREA)	SV / DV	-	MT/PT	UT	-
19	BASE METAL CRACK (ROOT HAZ AREA)	SV	-	MT/PT	UT	-
20	CRATER CRACK (CROWN STOP/START AREA)	SV / DV	VT	MT/PT	-	-
30	POROSITY (SUB-SURFACE)	SV / DV	-	-	UT	RT
31	POROSITY (SUB-SURFACE)	FILLET	-	-	UT	RT
32	POROSITY (SURFACE)	SV / DV	VT	MT/PT	-	-
33	POROSITY (SURFACE)	FILLET	VT	MT/PT	-	-
34	SINGLE GAS PORE	SV / DV	-	-	UT	RT
35	SINGLE GAS PORE	FILLET	-	-	-	RT
36	SLAG INCLUSION (ROOT AREA)	SV	-	-	UT	RT
37	SLAG INCLUSION (WELD GROOVE AREA)	SV / DV	-	-	UT	RT
38	SLAG INCLUSION (ROOT AREA)	FILLET	-	-	UT	RT
39	TUNGSTEN INCLUSION (ROOT AREA)	SV / DV	-	-	-	RT
50	LAMINATION (BASE METAL)	SV	-	-	UT	-
51	LAMINATION (BASE METAL)	WP FACE	-	MT/PT	-	-
52	LACK OF FUSION (SUB-SURFACE)	SV / DV	-	-	UT	-
53	LACK OF FUSION (SURFACE BREAKING)	SV / DV	-	MT/PT	UT	-
54	LACK OF FUSION (SURFACE BREAKING)	FILLET	-	MT/PT	-	-
55	LACK OF FUSION (ROOT AREA)	SV	-	MT/PT	UT	-
56	INCOMPLETE ROOT PENETRATION	SV	VT	MT/PT	UT	RT
57	INCOMPLETE ROOT PENETRATION	DV	-	-	UT	RT
58	INCOMPLETE ROOT PENETRATION (BRIDGING)	FILLET	-	-	UT	-
59	INCOMPLETE GROOVE WELD (CROWN AREA)	SV / DV	VT	MT/PT	UT	RT
70	ROOT CONCAVITY	SV	VT	-	-	RT
71	EXCESS ROOT PENETRATION	SV	VT	-	-	RT
72	MISALIGNMENT (ROOT & CROWN AREA)	SV	VT	-	-	RT
73	UNEVEN LEG LENGTH	FILLET	VT	-	-	-
74	EXCESS CROWN	SV / DV	VT	-	-	-
75	EXCESS CROWN	FILLET	VT	-	-	-
76	CONCAVE CROWN	SV / DV	VT	-	-	-
77	CONCAVE CROWN	FILLET	VT	-	-	-
78	UNDERCUT	SV / DV	VT	-	-	-
79	UNDERCUT	FILLET	VT	-	-	-
80	OVERLAP	FILLET	VT	MT/PT	-	-
90	WELD SPATTER	SV / DV	VT	-	VT	RT
91	WELD SPATTER	FILLET	VT	-	VT	RT
92	CHIPPING HAMMER MARKS	SV / DV	VT	-	VT	RT
93	CHIPPING HAMMER MARKS	FILLET	VT	-	VT	-

HOW TO REQUEST A CUSTOM SPECIMEN

- | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1ST</p> <p>SELECT A TOLERANCE</p> <p>STANDARD +/-0.150" (4MM)</p> <p>ADVANCED +/-0.080" (2MM)</p> <p>CRITICAL +/-0.040" (1MM)</p> | <p>2ND</p> <p>SELECT YOUR FLAWS</p> <p>FROM THE ABOVE TABLE</p> <p>OR SPECIFY YOUR</p> <p>SPECIAL REQUIREMENTS</p> | <p>3RD</p> <p>SELECT THE MATERIAL</p> <p>TYPE, WELD PREP GEOMETRY</p> <p>AND THE REQUIRED NDT</p> <p>METHOD OF INSPECTION</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|



FLAWTECH STANDARD KIT SPECIFICATIONS

**RT KIT
 UT KIT
 MT/PT KIT
 VT KIT**

EACH KIT CONTAINS

- 10 CARBON STEEL SPECIMENS PER KIT / CUSTOM ALLOYS AVAILABLE
- 20 “REAL” FLAWS PER KIT / 2 PER SPECIMEN RANDOMLY PLACED
- “FREE” CARRYING CASE
- DETAILED DOCUMENT PACKAGE WITH CAD DRAWINGS



- FLAWTECH STANDARD KIT SPECIMENS ARE DESIGNED TO ENHANCE THE TRAINING AND DEVELOPMENT OF NEW AND VETERAN TECHNICIANS
- KITS WILL ASSIST WITH BASIC FLAW DETECTION AND SIZING OF REAL FLAWS FOUND IN COMMON WELD GEOMETRIES

DEMONSTRATION KIT

**SPECIAL
 KITS**

- 5 CARBON STEEL SPECIMENS
- 2 RT, 1 UT, 1 VT & 1 MT/PT SPECIMENS
- TOTAL OF 11 REAL FLAWS
- INCLUDES DOCUMENTATION AND CASE

REFERENCE RADIOGRAPHS

- TOTAL OF 16 RADIOGRAPHS
- SHOWING 20 REAL FLAWS
- PLUS 6 PROCESSING DEFECTS
- INCLUDES DOCUMENTATION AND FILM



SEE THE FOLLOWING PAGES FOR KIT DETAILS

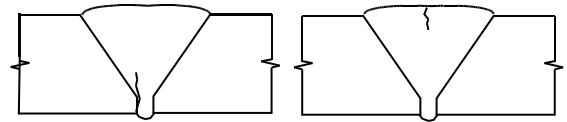
The **Radiographic Kit** contains:
8 Plates, 1 Pipe and 1 Tee / Carbon Steel

Each specimen contains 2 "**REAL FLAWS**", randomly placed

Actual X-Ray film is provided for each specimen. Specimens are packaged in 2 **FREE CARRYING CASES**. Complete with Document Package with "Flaw Truth" documented by CAD drawings with a Standard Tolerance of $\pm 0.150"$ (4mm).

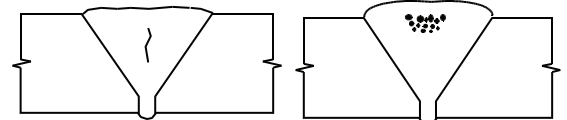
The Standard **Radiographic Examination Kit** contains 20 flaws similar to those shown in the cross section drawings below.

VISIT FLAWTECH WEBSITE OR CALL FOR PRICE INFORMATION



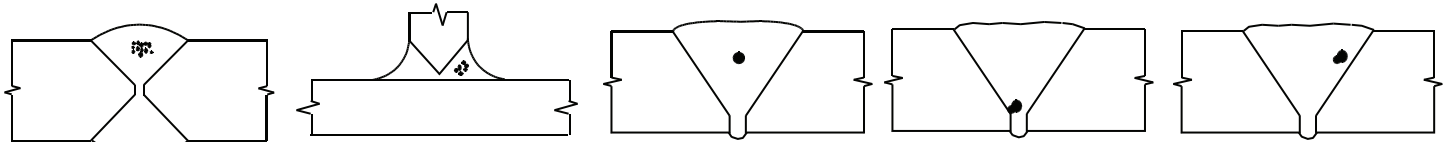
12. Root Crack in Single Vee
MT/PT, UT, RT

14. Centerline Crack, Single Vee
(surface breaking)
MT/PT, UT, RT



15. Centerline Crack, Single Vee
(sub-surface)
UT, RT

30. Porosity in Single Vee
RT, UT



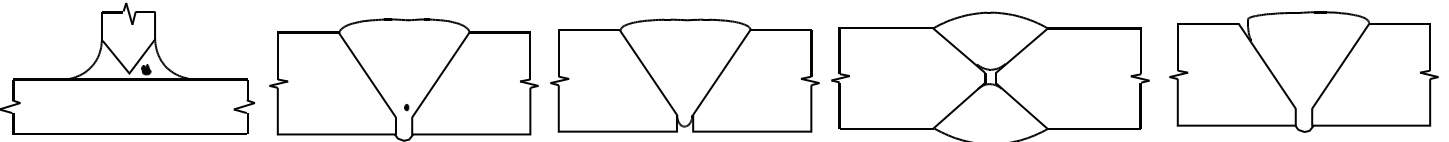
30. Porosity in Double Vee
(sub-surface) UT, RT

31. Porosity in Fillet
(sub-surface) UT, RT

34. Single Gas Pore in Single Vee
UT, RT

36. Slag Inclusion in Single Vee
(root area) UT, RT

37. Slag Inclusion in Single Vee
(weld groove area) UT, RT



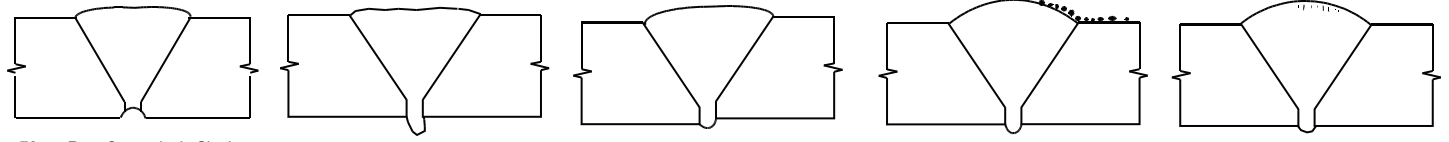
38. Slag Inclusion in Fillet
(root area) UT, RT

39. Tungsten Inclusion in Single Vee
(root area) RT

56. Incomplete Root Penetration in Single Vee,
VT, UT, RT

57. Incomplete Root Penetration in Double Vee,
UT, RT

59. Incomplete Groove Weld
(crown area)
VT, MT/PT, UT, RT



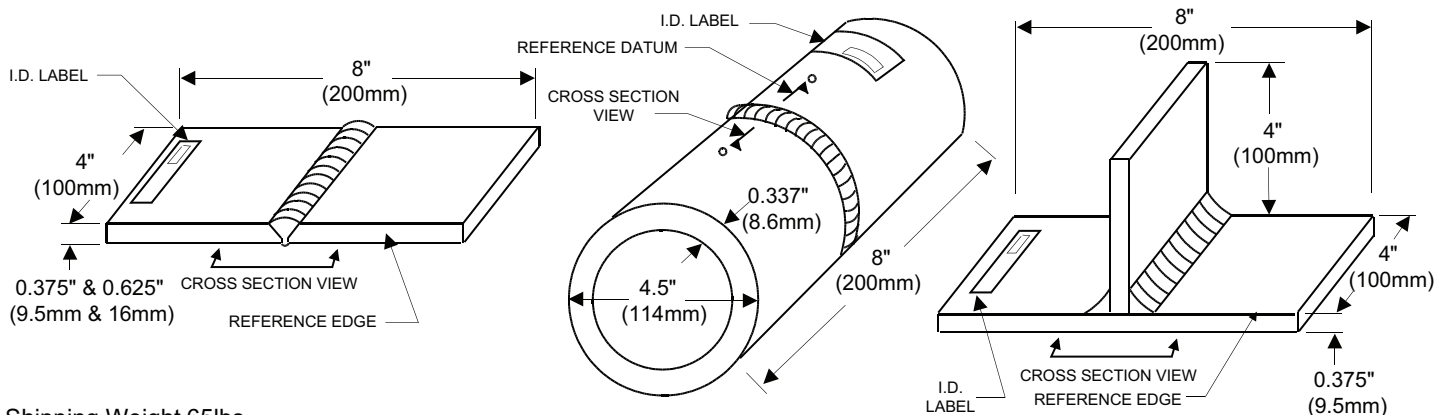
70. Root Concavity in Single Vee
VT, RT

71. Excess Root Penetration in Single Vee
VT, RT

72. Misalignment, Root & Crown in Single Vee
VT, RT

90. Weld Spatter on Single Vee
VT, RT

92. Chipping Hammer Marks on Single Vee,
VT, RT



Shipping Weight 65lbs

ALL SPECIMENS CONTAIN
"REAL FLAWS"

CONTACT YOUR LOCAL NDT
SUPPLIER OR
FLAWTECH FOR ORDERING DETAILS

STANDARD ULTRASONIC KIT

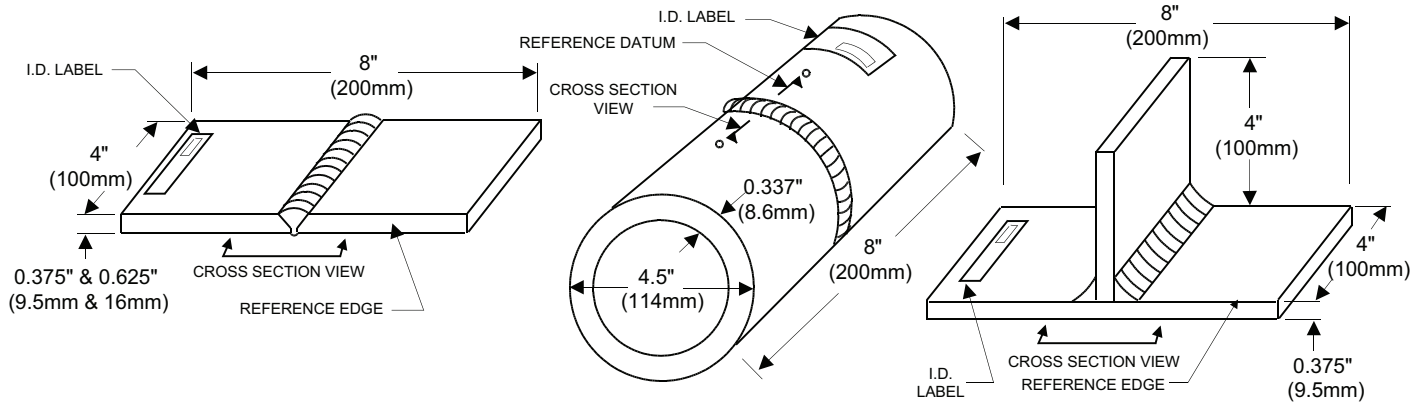
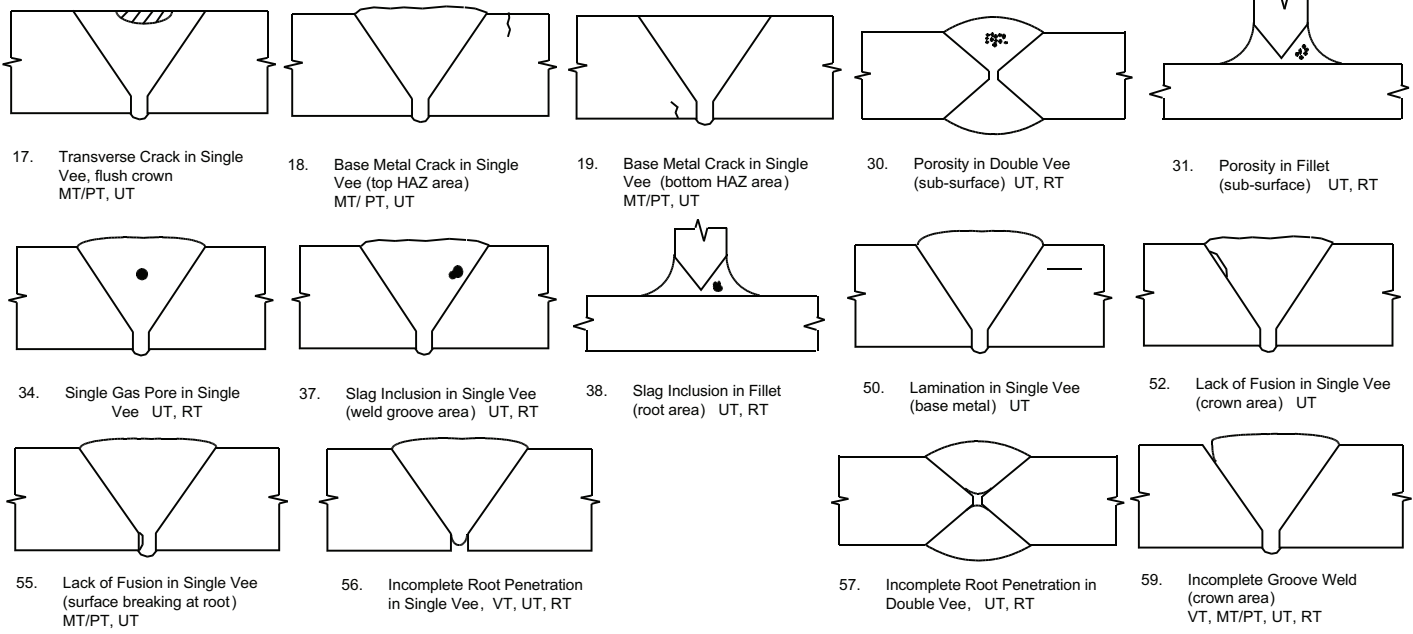
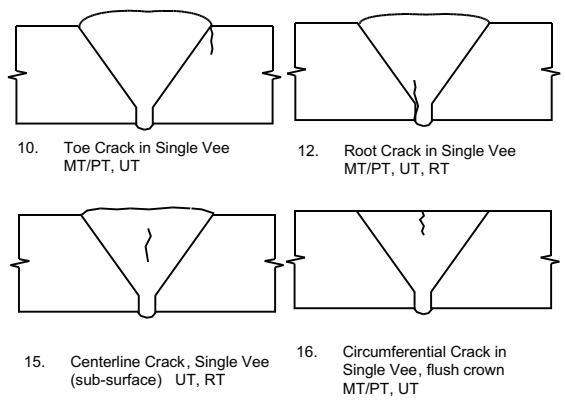
The **Ultrasonic Kit** contains:
 8 Plates, 1 Pipe and 1 Tee / Carbon Steel

Each specimen contains 2 "**REAL FLAWS**", randomly placed

Specimens are packaged in **2 FREE CARRYING CASES**.
 Complete with Document Package with "Flaw Truth" documented
 by CAD drawings with a standard tolerance of ± 0.150 " (4mm).

The Standard Ultrasonic Examination Kit contains 20 flaws
 similar to those shown in the cross section drawings below.

VISIT FLAWTECH WEBSITE OR CALL FOR PRICE INFORMATION



Shipping Weight 65lbs

**ALL SPECIMENS CONTAIN
"REAL FLAWS"**

**CONTACT YOUR LOCAL NDT
SUPPLIER OR
FLAWTECH FOR ORDERING DETAILS**

STANDARD MAGNETIC PARTICLE LIQUID PENETRANT KIT

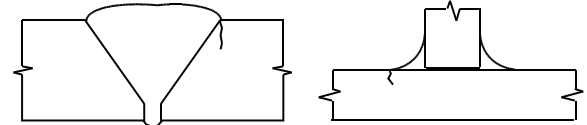
The **MT/PT Kit** contains:
8 Plates and 2 Tees / Carbon Steel

Each specimen contains 2 "**REAL FLAWS**", randomly placed

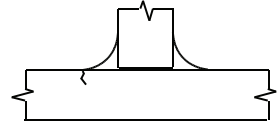
Specimens are packaged in a **FREE CARRYING CASE**.
Complete with Document Package with "Flaw Truth" documented
by CAD drawings with a standard tolerance of $\pm 0.150"$ (4mm).

The Standard MT/PT Kit contains 20 "real" flaws similar to those
shown in the cross section drawings below.

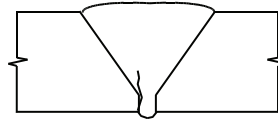
VISIT FLAWTECH WEBSITE OR CALL FOR PRICE INFORMATION



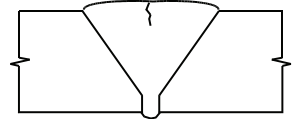
10. Toe Crack in Single Vee
MT/PT, UT



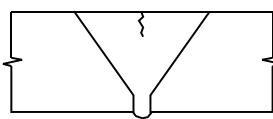
11. Toe Crack in Fillet
MT/PT, UT



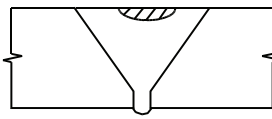
12. Root Crack in Single Vee
MT/PT, UT, RT



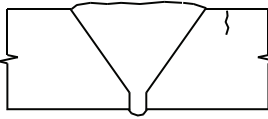
14. Centerline Crack, Single Vee
(surface breaking)
MT/PT, UT, RT



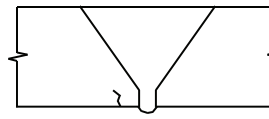
16. Circumferential Crack in
Single Vee, flush crown
MT/PT, UT



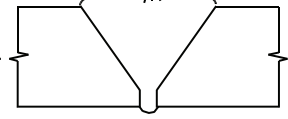
17. Transverse Crack in Single
Vee, flush crown
MT/PT, UT



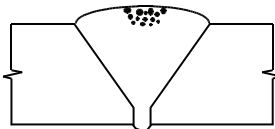
18. Base Metal Crack in Single
Vee (top HAZ area)
MT/PT, UT



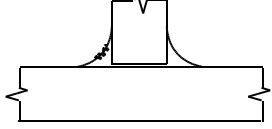
19. Base Metal Crack in Single
Vee (bottom HAZ area)
MT/PT, UT



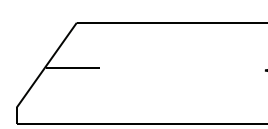
20. Crater Crack in Single Vee
(surface stop-start area)
MT/PT, UT



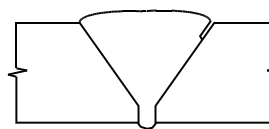
32. Porosity in Single Vee
(surface breaking)
VT, MT/PT



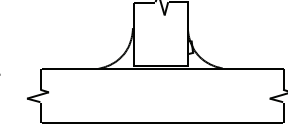
33. Porosity in Fillet
(surface breaking)
VT, MT/PT



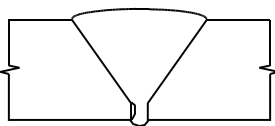
51. Lamination in Weld Prep
MT/PT



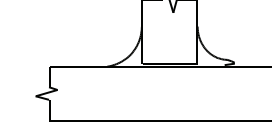
53. Lack of Fusion in Single Vee
(surface breaking at crown)
MT/PT, UT



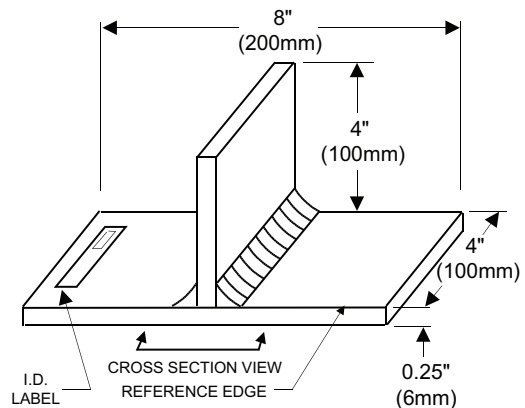
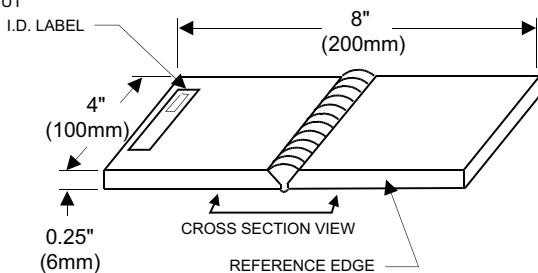
54. Lack of Fusion in Fillet
(surface breaking at crown)
MT/PT



55. Lack of Fusion in Single Vee
(surface breaking at root)
MT/PT, UT



80. Overlap in Fillet
VT, MT/PT



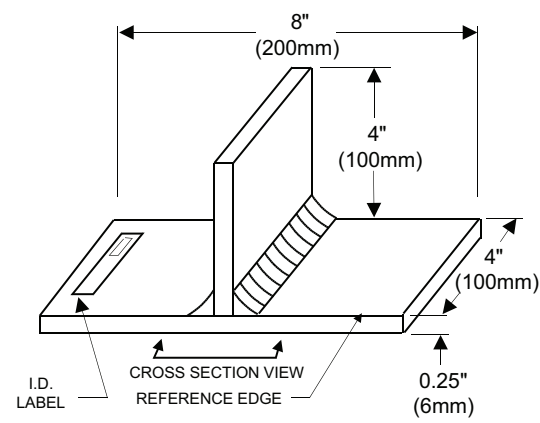
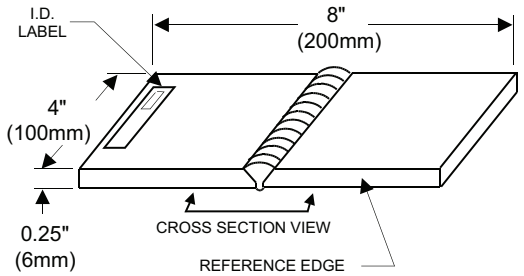
Drawings Not to Scale

Shipping Weight 35lbs

**ALL SPECIMENS CONTAIN
"REAL FLAWS"**

**CONTACT YOUR LOCAL NDT
SUPPLIER OR
FLAWTECH FOR ORDERING DETAILS**

STANDARD VISUAL KIT



Drawings Not to Scale

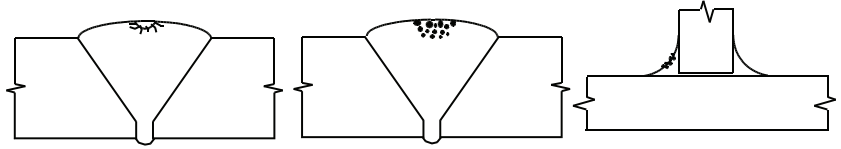
The **Visual Kit** contains:
 7 Plates and 3 Tees / Carbon Steel

Each specimen contains 2 **"REAL FLAWS"**, randomly placed

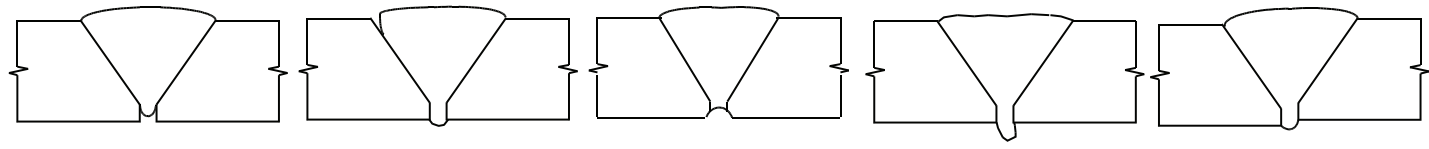
Specimens are packaged in a **FREE CARRYING CASE**, complete with Document Package with "Flaw Truth" documented by CAD drawings with a standard tolerance of +/- 0.150" (4mm).

The Standard Visual Examination Kit contains a total of 20 flaws similar to those shown in the cross section drawings below.

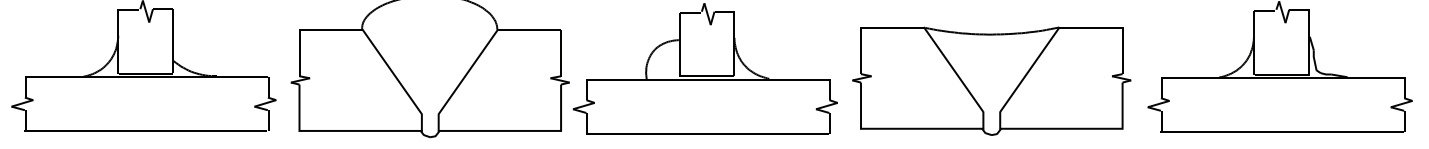
VISIT FLAWTECH WEBSITE OR CALL FOR PRICE INFORMATION



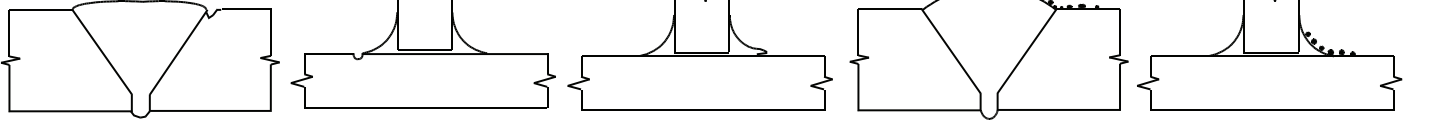
20. Crater Crack in Single Vee (surface stop-start area) MT/PT, VT
 32. Porosity in Single Vee (surface breaking) VT, MT/PT
 33. Porosity in Fillet (surface breaking) VT, MT/PT



56. Incomplete Root Penetration in Single Vee, VT, UT, RT
 59. Incomplete Groove Weld (crown area) VT, MT/PT, UT, RT
 70. Root Concavity in Single Vee VT, RT
 71. Excess Root Penetration in Single Vee VT, RT
 72. Misalignment, Root & Crown in Single Vee VT, RT



73. Uneven Leg Length in Fillet VT
 74. Excess Crown in Single Vee VT
 75. Excess Crown in Fillet VT
 76. Concave Crown in Single Vee VT
 77. Concave Crown in Fillet VT



78. Undercut in Single Vee VT
 79. Undercut in Fillet VT
 80. Overlap in Fillet VT, MT/PT
 90. Weld Spatter on Single Vee VT, RT
 91. Weld Spatter on Filler VT, RT

Shipping Weight 35lbs

ALL SPECIMENS CONTAIN "REAL FLAWS"

CONTACT YOUR LOCAL NDT SUPPLIER OR FLAWTECH FOR ORDERING DETAILS



The **NDT Demonstration Kit** contains:
 1 Pipe, 3 Plates and 1 Tee
 11 Discontinuities, "**REAL FLAWS**", randomly placed

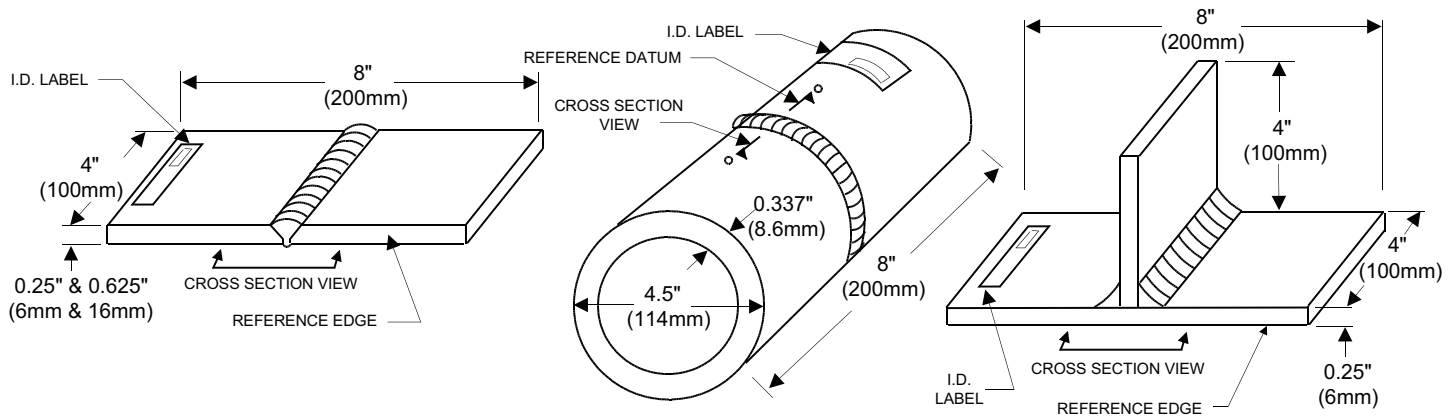
Specimens are packaged in a **FREE CARRYING CASE**. The "Flaw Truth" is documented on CAD drawings with a standard tolerance of +/- 0.150" (4mm).

This Kit contains **actual X-Ray film** for RT specimens and a "Flaw Locator" for UT specimens.

This standard **NDT Demonstration Kit** contains 11 flaws in 5 specimens. The flaws in these specimens can be examined by several different NDT methods to demonstrate the advantages and disadvantages of each NDT method. See Kit Price List for cost and listings of other flaw types available only from **FlawTech**.

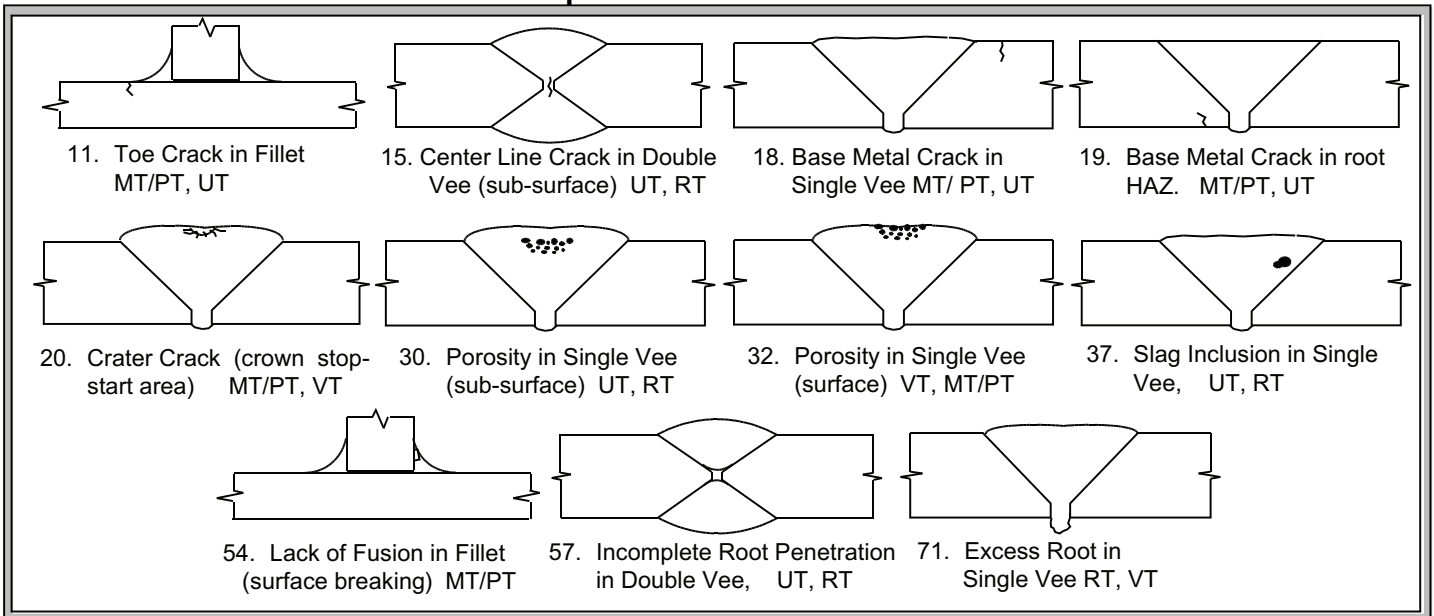
VISIT FLAWTECH WEBSITE OR CALL FOR PRICE INFORMATION

APPLICABLE NDT METHOD	UT	RT	MT	PT	VT
11 - Toe Crack (fillet)	X		X	X	
15 - Center Line Crack	X	X			
18 - Base Metal Crack	X		X	X	
19 - Base Metal Crack	X		X	X	
20 - Crater Crack			X	X	X
30 - Porosity (single vee)	X	X			
32 - Porosity (surface)			X	X	X
37 - Slag Inclusion	X	X			
54 - Lack of Fusion			X	X	
57 - Incomplete Root	X	X			
71 - Excess Root		X			X



Drawings Not to Scale

Demonstration Kit Flaw and Weld Prep Cross Sections

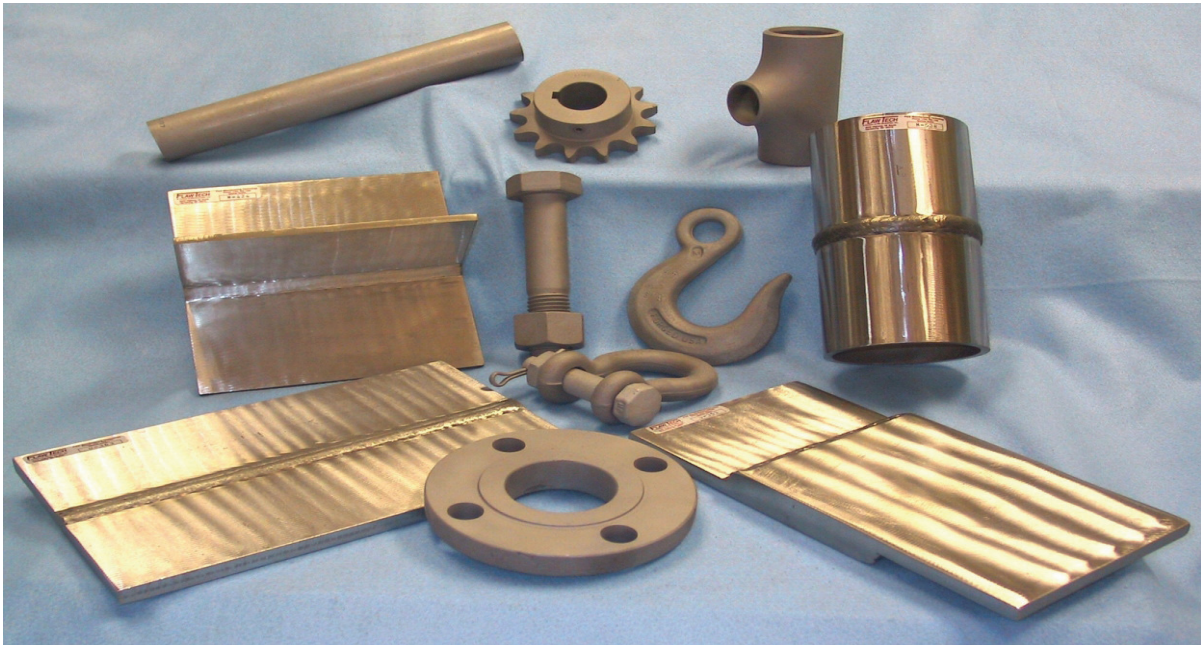




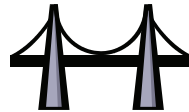
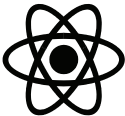
DESIGN SPECIFICATIONS

- PRACTICAL EXAM SPECIMENS ARE LARGER THAN OUR “STANDARD” KIT SPECIMENS
- 12 UT AND 12 MT/PT SPECIMENS TO CHOOSE FROM
- EACH SPECIMEN WILL CONTAIN 3 RANDOMLY PLACED “REAL” FLAWS
- DESIGNED TO ENHANCE THE TRAINING AND QUALIFICATION OF LEVEL I & II PERSONNEL WITH REGARDS TO ISO9712, EN473, PCN & TC-1A
- CUSTOMIZE YOUR SET TO MEET YOU REQUIREMENTS
- PURCHASE ANY COMBINATION OF SPECIMENS TO MAKE YOU SET
- PURCHASE 3+ SPECIMENS AND RECEIVE A 10% DISCOUNT & A “FREE” CARRYING CASE
- IF DO NOT SEE WHAT YOU NEED - CUSTOM SPECIMENS ARE AVAILABLE

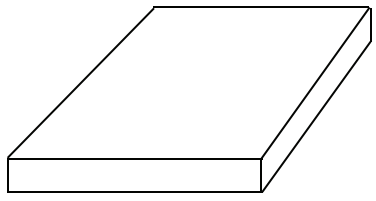
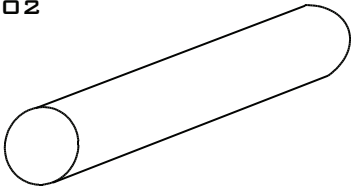
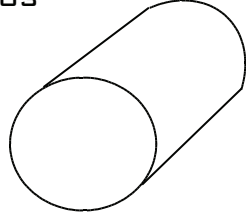
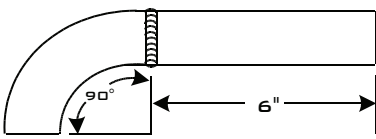
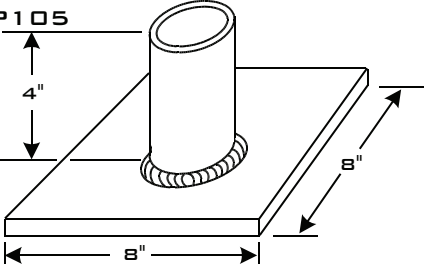
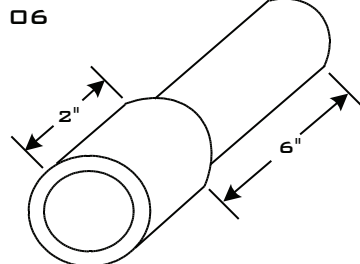
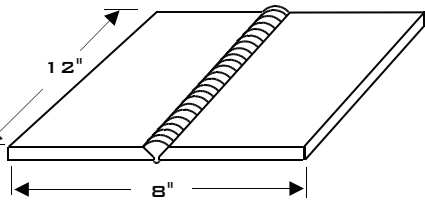
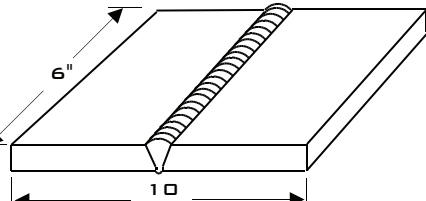
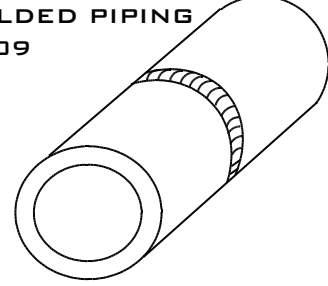
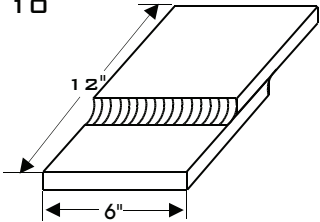
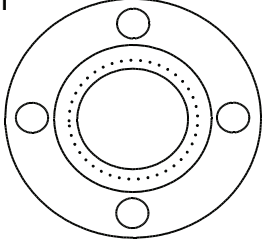
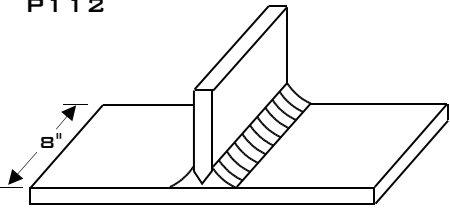
REVIEW THE FOLLOWING PAGES FOR MORE DETAILS



INDUSTRIES THAT USE FLAWTECH SPECIMENS

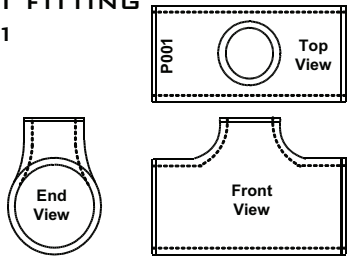
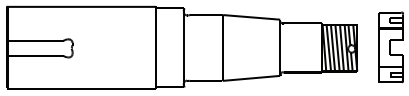
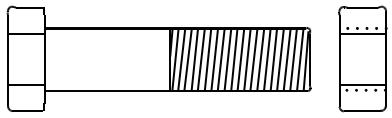

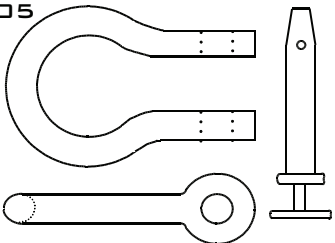
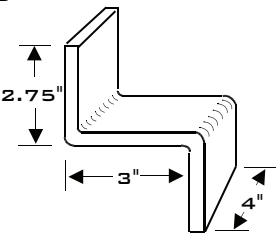
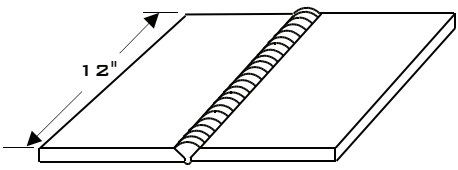
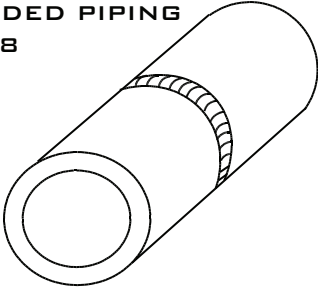
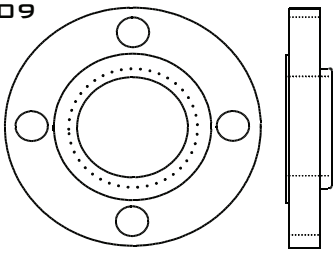
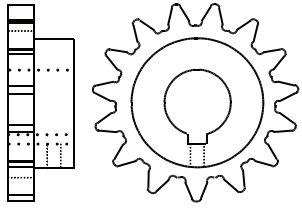
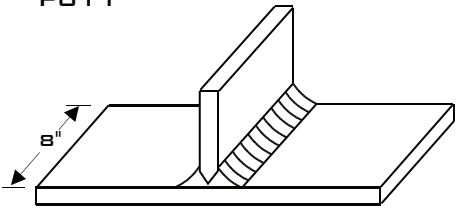
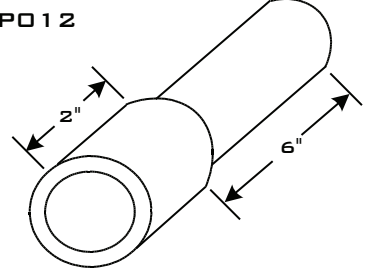




<p>PLATES & SHEETS P101</p>  <p>0.75" x 8" x 10" PLATE</p>	<p>BAR & ROD STOCK P102</p>  <p>1.5" OD x 12"</p>	<p>BAR & ROD STOCK P103</p>  <p>4" OD x 6"</p>
<p>L/R 90° ELBOW TO PIPE P104</p>  <p>2" SCH160 (.344" T)</p>	<p>NODE TO PLATE WELD P105</p>  <p>2" SCH160 TO .375" PLATE</p>	<p>PIPE TO SOCKET WELD P106</p>  <p>2" SCH160 PIPE TO COUPLING</p>
<p>WELDED PLATE P107</p>  <p>0.5" x 8" x 12"</p>	<p>WELDED PLATE P108</p>  <p>1.0" x 6" x 10"</p>	<p>WELDED PIPING P109</p>  <p>4" SCH160 (0.53" T) x 8"</p>
<p>LAP JOINT P110</p>  <p>0.5" x 12" x 6"</p>	<p>FORGED PIPE FLANGE P111</p>  <p>6" OD x 0.75" THICK</p>	<p>WELDED TEE P112</p>  <p>0.5" x 8" x 8" x 4"</p>

SPECIMEN DETAILS:

- 3 FLAWS PER SPECIMEN
- "REAL FLAWS" IN EACH SPECIMEN
- DOCUMENT PACKAGE W/ EACH SPECIMEN
- STANDARD TOLERANCE +/- 0.150" (4MM)
- BLANK SPECIMENS AVAILABLE
- SPECIMENS ARE CARBON STEEL
- CUSTOM SPECIMENS AVAILABLE
- DISCOUNT & FREE CARRYING CASE WITH PURCHASE OF 3+ SPECIMENS
- APPLICABLE FOR ISO9712, EN473, PCN AND TC-1A

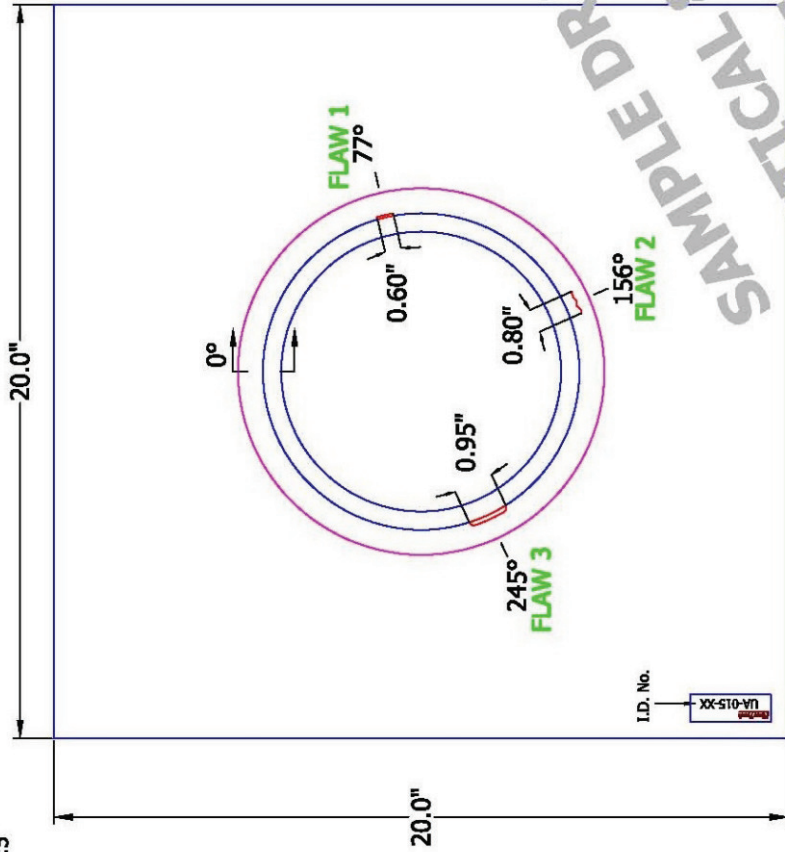
<p>CAST FITTING P001</p>  <p>2.0" TO 1.3" REDUCER, 5" LONG</p>	<p>MACHINED SPINDLE P002</p>  <p>1.75" DIAMETER X 8"</p>	<p>BOLT & NUT P003</p>  <p>1.25" OD X 6"</p>
<p>FORGED EYE HOOK P004</p>  <p>6" LONG WITH 2" EYE</p>	<p>FORGED SHACKLE & PIN P005</p>  <p>4.25" WITH 0.75" PIN</p>	<p>FORMED METAL PLATE P006</p>  <p>0.25" x 4"</p>
<p>WELDED PLATE P007</p>  <p>0.25" x 8" x 12"</p>	<p>WELDED PIPING P008</p>  <p>4" SCH40 (0.25" T) X 8"</p>	<p>FORGED PIPE FLANGE P009</p>  <p>6" OD X 0.75" THICK</p>
<p>MACHINED GEAR P010</p>  <p>4.6" DIAMETER X 1.5" BORE</p>	<p>WELDED TEE P011</p>  <p>0.25" x 8" x 8" x 4"</p>	<p>PIPE TO SOCKET WELD P012</p>  <p>2" SCH160 PIPE TO COUPLING</p>

Visio Exam MTBroc 2009

SPECIMEN DETAILS:

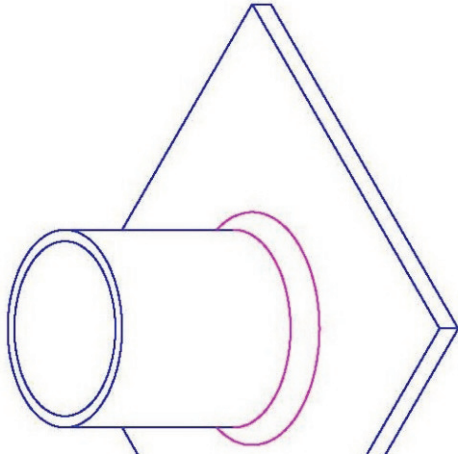
- 3 FLAWS PER SPECIMEN
- "REAL FLAWS" IN EACH SPECIMEN
- EACH SPECIMEN HAS DOCUMENT PACKAGE
- STANDARD TOLERANCE +/- 0.15" (4MM)
- BLANK SPECIMENS AVAILABLE
- SPECIMENS ARE CARBON STEEL
- CUSTOM SPECIMENS AVAILABLE
- DISCOUNT & FREE CARRYING CASE WITH PURCHASE OF 3+ SPECIMENS
- APPLICABLE FOR ISO9712, EN473, PCN AND TC-1A

TOP VIEW
SCALE - 1:5

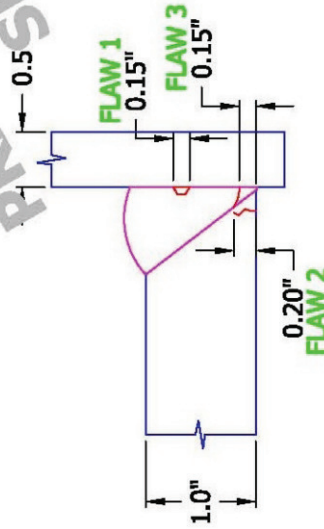


I.D. No. UA-015-XX

ISOMETRIC VIEW
SCALE - 1:8



FLAW VIEW
SCALE - .6:1



FLAW	FLAW TYPE	FLAW LENGTH	FLAW HEIGHT	FLAW DEPTH (below surface)	DEGREE LOCATION
1	LACK OF FUSION	0.60"(15mm)	0.15"(4mm)	0.25"(6mm)	77°
2	HAZ CRACK	0.80"(20mm)	0.20"(5mm)	0.80"(20mm)	156°
3	INCOMPLETE PEN.	0.95"(24mm)	0.15"(4mm)	0.85"(21mm)	245°

NOTES:

1. Flaw Location Tolerance is $\pm 0.080"$
2. Flaw Dimensional Tolerance is $\pm 0.080"$
3. Crown is As-Welded

FlawTech
Flaw Manufacturing Technology

SPECIMEN NUMBER: UA-015-XX

TITLE: UA-015/UT ADVANCED SPECIMEN

DESCRIPTION: 8" Sch80 Nozzle to 20" x 20" x 1" Carrier, CS

DRAWING BY: A. CAULDER DATE: 10/18/07 APPROVED BY: J. TURNER DATE: 10/18/07

SCALE: SEE VIEW SIZE: A SHEET: 1 OF 1

PLATES • PIPES • TEES • Y's • NODES • NOZZLES

	PART NUMBER	SPECIMEN TYPE	DIMENSIONS (INCHES)
DESIGNED FOR SHEAR WAVE UT UT UT UT UT UT UT	UA-001	PLATE W/SV	0.5 X 12 X 12
	UA-002	PLATE W/SV	0.75 X 12 X 12
	UA-003	PLATE W/SV	1.0 X 12 X 16
	UA-004	PLATE W/DV	1.25 X 12 X 17
	UA-005	PIPE W/SV	6 SCH120 X 12
	UA-006	PIPE W/SV	6 SCHXXH X 12
	UA-007	PIPE W/SV	8 SCH80 X 12
	UA-008	PIPE W/SV	12 SCH80s X 12
	UA-009	PIPE W/SV	12 SCH120 X 12
	UA-010	TEE W/SV	1.0 X 8 X 8 X 12
	UA-011	TEE W/DV	1.0 X 8 X 8 X 12
	UA-012	TEE W/DV	1.25 X 9 X 9 X 12
	UA-013	Y-JOINT (45°)	1.25 X 9 X 9 X 12
	UA-014	NODE & CARRIER (STUB ON)	10 SCH120 X 10 1.0 X 20 X 20
	UA-015	NOZZLE & CARRIER (STUB IN)	8 SCH80 X 10 1.0 X 20 X 20
RT RT RT	RA-001	PLATE W/SV	0.375 X 12 X 12
	RA-002	PLATE W/DV	0.625 X 12 X 12
	RA-003	PLATE W/SV	0.75 X 12 X 12
	RA-004	PLATE W/SV	1.0 X 12 X 16
	RA-005	PLATE W/DV	1.0 X 12 X 16
	RA-006	PIPE W/SV	2 SCH80 X 12
	RA-007	PIPE W/SV	6 SCH120 X 12
	RA-008	PIPE W/SV	12 SCH80 X 12
MT/PT & VT	MA-001	PLATE W/SV	0.375 X 12 X 12
	MA-002	PIPE W/SV	6 SCH80 X 12
	MA-003	PIPE W/SV	12 SCH40 X 12
	MA-004	TEE W/SV	0.375 X 6 X 6 X 12
	MA-005	Y-JOINT (45°)	0.375 X 6 X 6 X 12
	MA-006	NODE & CARRIER (STUB ON)	10 SCH40 X 10 0.5 X 16 X 16
	MA-007	NOZZLE & CARRIER (STUB IN)	8 SCH60 X 10 0.5 X 16 X 16
ET	ET-001	PLATE(ND WELD)	0.25 X 4 X 12
	ET-002	PLATE W/SV	0.25 X 4 X 12 (4 FLAWS)

LARGER THAN OUR PRACTICAL EXAM SPECIMENS

ADVANCED SPECIMENS TOLERANCE +/- 0.080"

COMPLETE DOCUMENT PACKAGE INCLUDED

3 REAL FLAWS PER SPECIMEN RANDOMLY PLACED

MATERIAL CARBON STEEL CUSTOM ALLOYS AVAILABLE

CUSTOM SPECIMENS AVAILABLE CONTACT US FOR DETAILS



THESE SPECIMENS ARE DESIGNED FOR:
 • TRAINING & QUALIFICATION OF LEVEL I & II PERSONNEL WITH REGARDS TO SNT-TC-1A, EN473 & PCN
 • FLAW DETECTION, SIZING & INTERPRETATION USING COMMON WELD GEOMETRIES AND FLAW TYPES.

INDUSTRIES THAT USE FLAWTECH SPECIMENS





FOR UT EXAMINATION OF FERRITIC WELDS

API-UT-1 KIT CONTAINS:

**TOTAL OF
 4
 SPECIMENS**

- 1 - 1.0" THICK PLATE W/ DOUBLE VEE (1" X 12" X 15")
- 1 - 0.5" THICK PLATE W/ SINGLE VEE (0.5" X 10" X 12")
- 1 - 8" SCH 80 PIPE (0.5" WALL X 12", 360°)
- 1 - 12" SCH 80 PIPE (0.688" WALL X 12", 180° SEG.)

**API KIT
 STANDARD
 FEATURES**

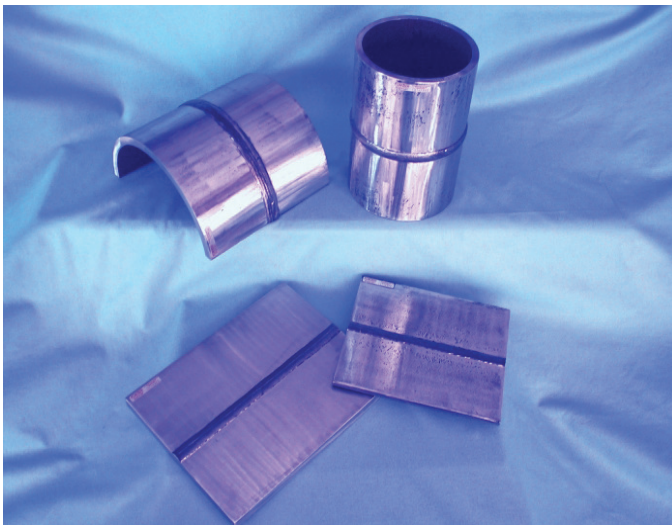
- COMPLETE DOCUMENT PACKAGE W/ CAD DRAWINGS
- 3 "REAL" FLAWS PER SPECIMEN
- FLAWTECH ADVANCED TOLERANCE +/- 0.080"
- SPECIMENS ARE CARBON STEEL

FOR UT EXAMINATION OF FERRITIC WELDS



**API KIT
 CUSTOM
 OPTIONS**

- 10% ID / OD CALIBRATION NOTCHES
- 0.75" X 4.5" X 6" ASME SEC. V BASIC CALIBRATION BLOCK
- 8" SCH 80 (0.5" WALL) X 8" PIPE ASME SEC. V ANGLE BEAM CALIBRATION BLOCK
- LOCKING STORAGE CONTAINER
- RADIOGRAPHS



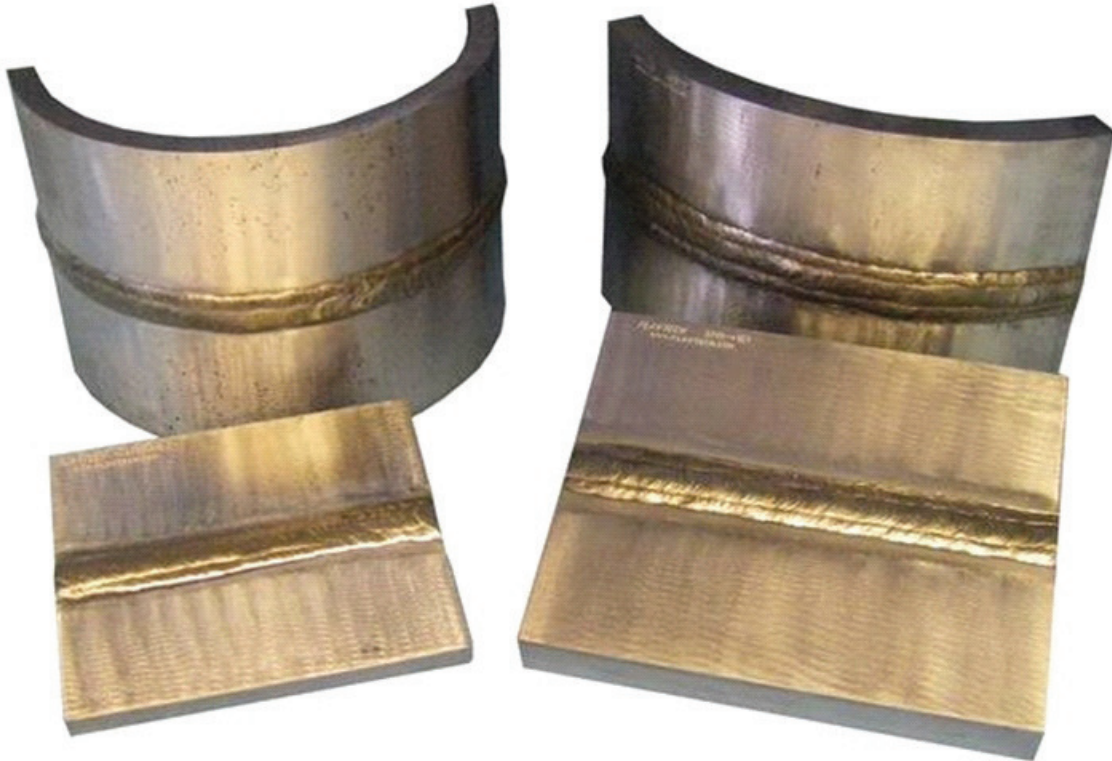
**"REAL FLAWS"
 USED IN KIT SPECIMENS**

- LACK OF PENETRATION
- CENTER LINE CRACK
- SLAG INCLUSION
- LACK OF FUSION
- ROOT CRACK
- POROSITY





COMPACT VERSION OF OUR API-UT-1 KIT



SPECIMENS AND FLAWS ARE HALF SIZE



API-UT-1 MINI KIT CONTAINS:

**TOTAL OF
 4
 SPECIMENS**

- 1 - 1.0" THICK PLATE W/ DOUBLE VEE (1" X 7.5" X 6")
- 1 - 0.5" THICK PLATE W/ SINGLE VEE (0.5" X 6" X 5")
- 1 - 8" SCH 80 PIPE (0.5" WALL X 6", 180°)
- 1 - 12" SCH 80 PIPE (0.688" WALL X 6", 90° SEG.)

NOTE: SPECIMENS MAY BE TOO SMALL FOR SOME UT SEARCH UNITS. IF THIS IS A CONCERN PLEASE CONSIDER OUR STANDARD API-UT-1 KIT.

**API MINI KIT
 STANDARD
 FEATURES**

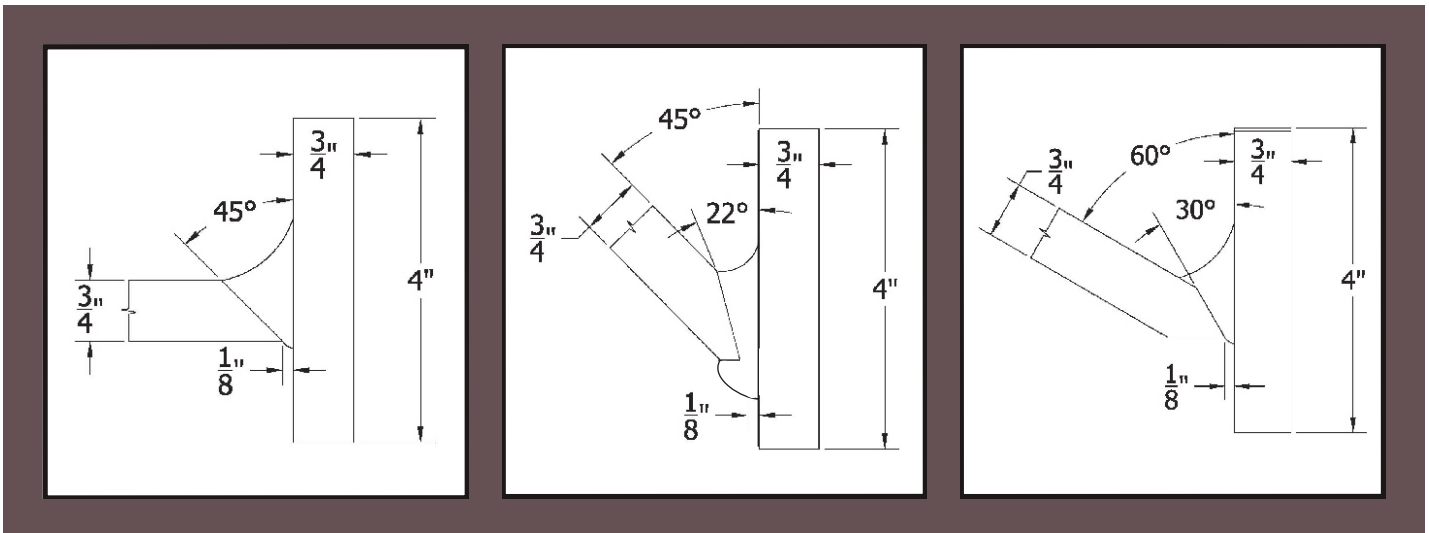
- COMPLETE DOCUMENT PACKAGE W/ CAD DRAWINGS
- 3 "REAL" FLAWS PER SPECIMEN
- FLAWTECH ADVANCED TOLERANCE +/- 0.080"
- SPECIMENS ARE CARBON STEEL
- DESIGNED FOR EASE OF HANDLING AND TRANSPORT
- CARRYING CASE 15" X 13" X 10"
- TOTAL WEIGHT 50LBS



API RP-2X PRACTICE SPECIMENS KIT

SET OF 3 SPECIMENS

- 90° "T" CONNECTION
0.75" (T) x 20" (WELD LENGTH) x 4" x 8" LEG
- 45° CONNECTION
0.75" (T) x 20" (WELD LENGTH) x 4" x 8" LEG
- 60° CONNECTION
0.75" (T) x 20" (WELD LENGTH) x 4" x 8" LEG



SPECIMEN DETAILS

- EACH SPECIMEN CONTAINS 4 FLAWS / 12 TOTAL
- API LEVEL "C" CRITERIA USED FOR FLAW DESIGN
- FLAW ACCEPT / REJECT BASED ON API RP-2X, FIG. 45 & 48
- UT SPECIMENS CAN BE USED FOR TECHNICIAN PRACTICE FOR OFFSHORE STRUCTURES
- FLAW ACCEPTABILITY IS NOT DETERMINED BY ULTRASONICS



CUSTOM OPTIONS AVAILABLE



DESIGN SPECIFICATIONS BASED ON AWS D1.1

**KIT CONTAINS
10 SPECIMENS**

- 4 - TEES 4" X 6" X 2" X 0.25"
- 4 - PLATES 4" X 6" 0.25"
- 2 - EDGE & LAP JOINTS
4" X 6" X 0.3125"

**AWS/CWI KIT
DESIGN
FEATURES**



- 2 FLAWS PER SPECIMEN
- FLAW'S ARE RANDOMLY PLACED
- FLAW'S ARE "BORDER LINE" ACCEPTABLE OR REJECTABLE
- CARBON STEEL SPECIMENS
- WELDING PROCESS - SMAW
- DOCUMENT PACKAGE W/ CAD DRAWINGS
- "FREE" CARRYING CASE
- DESIGNED SPECIFICALLY FOR VISUAL WELD INSPECTION TRAINING

AWS / CWI KIT FLAWS

- UNDERCUT
- CRATER CRACK
- EXCESSIVE CONVEXITY
- UNDERSIZE LEG
- CLUSTER POROSITY
- ARC STRIKE
- OVERLAP
- LONGITUDINAL CRACK
- ALIGNED POROSITY
- INCOMPLETE PENETRATION
- EXCESSIVE REINFORCEMENT
- UNDERFILL
- CONCAVITY
- TRANSVERSE CRACK
- OVERSIZE LEG

AWS / CWI KIT FLAWS

REAL FLAWS

REAL FLAWS



DESIGN SPECIFICATIONS BASED ON AWS D1.1

**KIT CONTAINS
 10 SPECIMENS**

- 2 - PLATES 4" X 6" X 0.25"
- 1 - PIPE 4" SCH80 X 6"
- 1 - TEE 4" X 6" X 2" X 0.25"
- 1 - SOCKET WELD 2" SCH80 X 6"
- 5 - PLATES 1" X 4" X 0.25"

**AWS/CWI PLUS
 KIT DESIGN
 FEATURES**



- 2+ FLAWS PER SPECIMEN
- KIT CONTAINS A TOTAL OF 25 SURFACE BREAKING FLAWS
- CARBON STEEL SPECIMENS
- WELDING PROCESS - SMAW
- "FREE" CARRYING CASE
- DOCUMENT PACKAGE CONTAINS "AS BUILT" CAD DRAWINGS

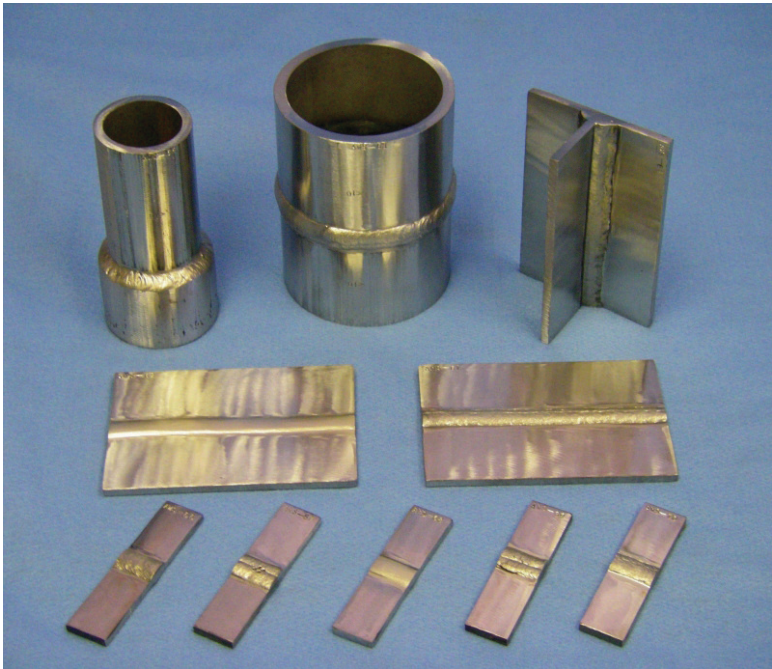
AWS/CWI CERTIFIED KIT

REAL FLAWS

- FLAWTECH WORKED IN CONJUNCTION WITH AWS AND EPRI IN THE DEVELOPMENT OF THIS KIT.
- THE KIT HAS BEEN DESIGNED TO INCORPORATE BOTH BASIC PENETRANT TRAINING AND TESTING OF THE CWI.

REAL FLAWS

AWS/CWI CERTIFIED KIT





BASED ON AWS D1.8 ANNEX E FOR STRUCTURAL WELDS



AWS SEISMIC SUPPLEMENT FOR UT TESTING



AWS SEISMIC KIT CONTAINS:

**TOTAL OF
8 CARBON
STEEL
SPECIMENS**

- 2 - BUTT WELDS w/ V GROOVE (1) @ 0.375" T & (1) @ 0.75" T X 6" (WELD) X 8"
- 2 - BUTT WELDS w/ V GROOVE & BACKING BAR (1) @ 0.375" T & (1) @ 0.75" T X 6" (WELD) X 8"
- 2 - TEE WELDS w/ SINGLE GROOVE, (1) @ 0.375" T & (1) @ 0.75" T X 6" (WELD) X 4" (MAIN) X 7" (BRANCH)
- 2 - TEE WELDS w/ SINGLE GROOVE w/ BACKING BAR, (1) @ 0.375" T & (1) @ 0.75" T X 6" (WELD) X 4" (MAIN) X 7" (BRANCH)

**KIT
STANDARD
FEATURES**

- COMPLETE DOCUMENT PACKAGE W/ CAD DRAWINGS
- ~2-3 "REAL" FLAWS PER SPECIMEN
- FLAWTECH ADVANCED TOLERANCE +/- 0.080"
- AS WELDED CROWNS AND ROOTS
- CARRYING CASE 24" X 16" X 10", ~110LBS



PIPE TO FITTING & PIPE TO VESSEL SPECIMENS

SET OF 6 SOCKET WELD SPECIMENS

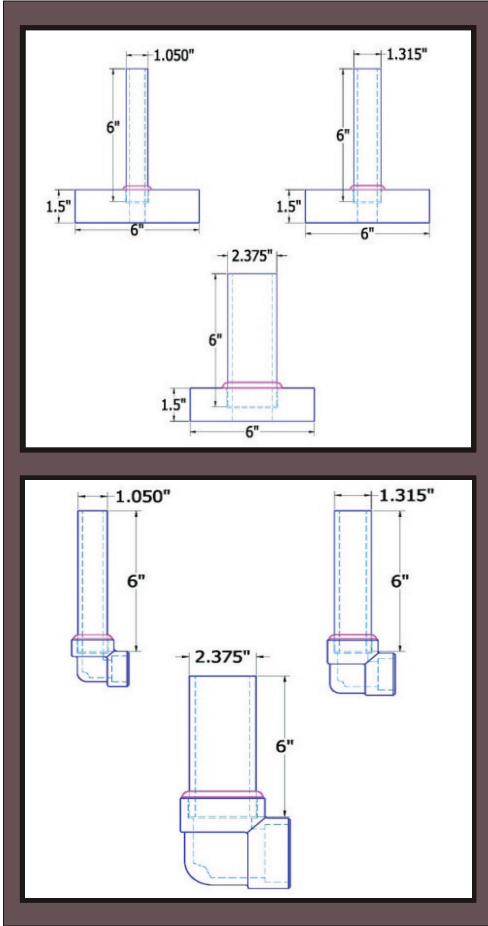
**SPECIMENS ARE DESIGNED FOR
 ULTRASONIC PRACTICE INSPECTION
 OF PIPE TO FITTING AND PIPE TO VESSEL WELDS**

**3 ALLOY
 OPTIONS**

- 304 S/S
- 316 S/S
- 106 C/S

**2 SPECIMENS
 PER PIPE SIZE**

- (1) PIPE TO SOCKET COUPLING
- (1) PIPE TO 1.5"x6"x6" PLATE W/ MACHINED SOCKET



**PIPE
 DIMENSIONS**

- 0.75" SCH 80
- 1.0" SCH 80
- 2.0" SCH 80

**FLAW
 SPECIFICATIONS**

- 2 FLAWS EACH SPECIMEN
- TOTAL OF 12 REAL FLAWS
- FATIGUE & HAZ CRACKS AND LACKS OF FUSION

PURCHASE OPTIONS

- KIT / SET CONTAINS 6 SPECIMENS
- INDIVIDUALLY / PURCHASE 1 OR MORE
- CUSTOMIZE YOUR SET / MIX DIFFERENT ALLOYS





**OFFICIALLY
LICENSED BY**

EPRI

**ELECTRIC POWER
RESEARCH INSTITUTE**

KIT CONTAINS

■ 19 BOILER TUBES:

REPRESENTING A COMPLETE RANGE OF FOSSIL- FIRED BOILER TUBE FAILURE MECHANISMS
STEAM AND WATER TOUCHED

■ TUBE SPECIFICATIONS:

18 TUBES AT 2.5"OD X 0.25" WALL X 8" LONG
1 TUBE AT 1.5" X 0.25" WALL X 8" LONG

■ MATERIAL:

17 TUBES ARE SA513 T5 GR1020/1026 C/S
1 TUBE IS 304/304L
1 DISSIMILAR METAL WELD

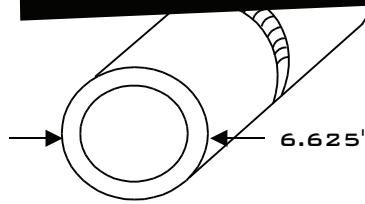
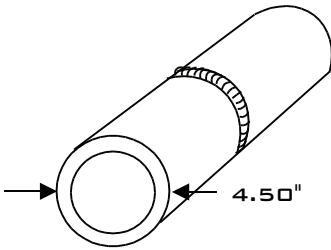
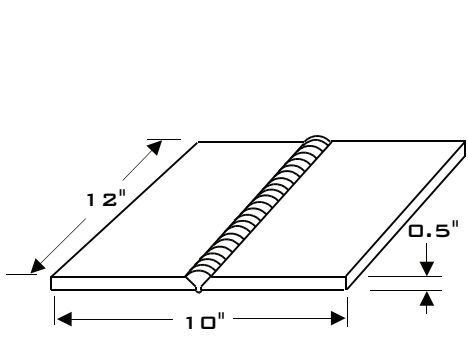
■ FLAWS / INDICATIONS

- LONG TERM OVERHEATING/CREEP
- FIRE SIDE CORROSION (COAL)
- TOE CRACK, STRESS CORROSION (STAINLESS)
- SOOT BLOWER EROSION
- FATIGUE CRACK (TOE)
- MAINTENANCE DAMAGE
- PITTING
- RUBBING/FRETTING
- CHEMICAL CLEANING DAMAGE (THINNING & PITTING)
- MATERIAL FLAW (FORGING LAP)
- CORROSION FATIGUE CRACK
- FLY ASH EROSION, HYDROGEN DAMAGE
- ACID PHOSPHATE CORROSION
- CAUSTIC GOUGING
- SUPERCRITICAL WATERWALL CRACKING (1.5" OD TUBE)
- WELD DEFECTS (LACK OF FUSION & POROSITY)
- GRAPHITIZATION



■ EPRI PROGRAM 63 MEMBERS RECEIVE A SPECIAL DISCOUNT.

■ USE THIS KIT TO ASSIST IN THE TRAINING AND QUALIFYING OF NDE TECHNICIANS
TO ACCURATELY IDENTIFY SPECIFIC BOILER TUBE DAMAGE FOUND IN FOSSIL PLANTS.





**ASME BOILER & PRESSURE VESSEL CODE, SECTION XI,
 APPENDIX VIII, SUPPLEMENTS 2, 3 & 10 KITS**

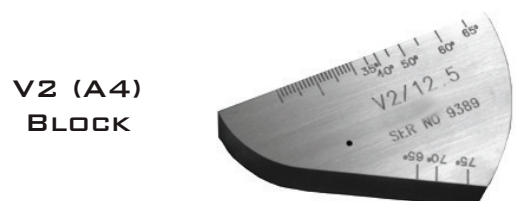
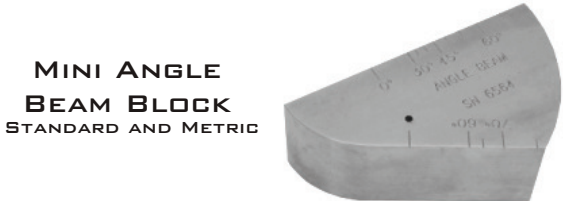
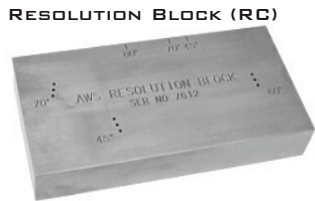
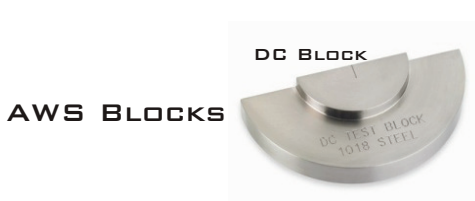
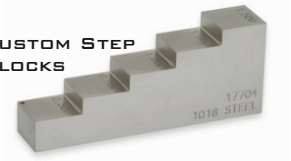
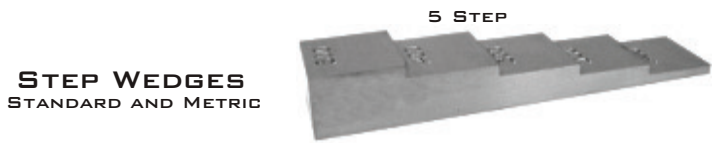
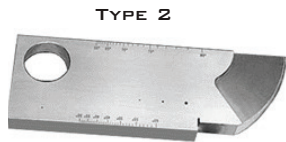
	PIPE SPECIMEN DIMENSIONS	UNFLAWED UNITS	FLAWED UNITS
SUPPLEMENT 2 KIT FOR AUSTENITIC PIPING	2" SCH80 X 24" 360°	1	1
	4" SCH80 X 24" 360°	3	1
	6" SCH160 X 24" 360°	4	2
	12" SCH80s X 24" 360°	9	3
	24" SCH80s X 24" 120°	5	3
	KIT TOTAL - 5 SPECIMENS	22	10
SUPPLEMENT 3 KIT FOR FERRITIC PIPING	2" SCH80 X 24" 360°	1	1
	4" SCH80 X 24" 360°	3	1
	6" SCH160 X 24" 360°	4	2
	12" SCH80s X 24" 360°	9	3
	24" SCH80s X 24" 120°	5	3
	KIT TOTAL - 5 SPECIMENS	22	10
SUPPLEMENT 10 KIT FOR DISSIMILAR METAL WELDS	4" SCH80 X 24" 360°	3	2
	6" SCH160 X 24" 360°	4	2
	8" SCH80 X 24" 360°	6	3
	12" SCH80s X 24" 180°	4	4
	24" SCH80s X 24" 90°	4	4
	KIT TOTAL - 5 SPECIMENS	21	15

KIT AND FLAW DETAILS:

- THE KITS ARE MANUFACTURED TO MEET THE MINIMUM REQUIREMENTS OF ASME, BOILER & PRESSURE VESSEL CODE, SECTION XI, APPENDIX VIII, OF SUPPLEMENTS 2, 3 & 10.
- AT LEAST 50% OF THE CRACKS WILL BE COINCIDENT WITH FABRICATED CONDITIONS, SUCH AS: GROUND & AS-WELDED CROWNS, COUNTERBORES & WELD ROOT CONDITIONS.
- FLAW DEPTHS WILL RANGE FROM THE 10 - 30% THROUGH THE 61 - 100% DEPTH RANGES AS SPECIFIED IN ASME SECTION XI, APPENDIX VIII.
- ALL FLAWS WILL BE MECHANICAL FATIGUE OR THERMAL FATIGUE CRACKS, WITH AT LEAST 75% OF THE CRACKS BEING THERMAL FATIGUE.
- KITS MADE TO OUR CRITICAL TOLERANCE +/- 0.040" (1MM).
- CUSTOM APPENDIX VIII SPECIMENS ARE AVAILABLE - CONTACT FLAWTECH FOR DETAILS.



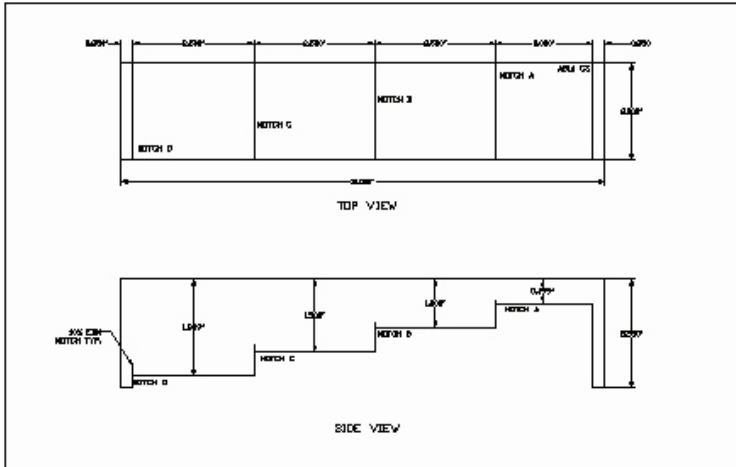
ULTRASONIC CALIBRATION BLOCKS



**CONTACT FLAWTECH FOR ALL YOUR STANDARD AND
 CUSTOM CALIBRATION BLOCK NEEDS**
 ALL MATERIALS AVAILABLE UPON REQUEST



PDI ALTERNATIVE ASME CALIBRATION BLOCKS



The PDI Alternative ASME blocks meet the requirements of the Performance Demonstration Initiative (PDI) Procedure No. PDI-UT-1, Rev. C, Fig. 4(Ferritic) and PDI-UT-2, Rev. C, Fig.4(Austenitic).

These blocks cover the generic procedures for the ultrasonic examination of both ferritic and austenitic pipe welds.

The blocks offer users an economical alternative to fabricating multiple curved cal blocks (pipe sections) in many diameters and wall thicknesses.

The blocks are normally supplied in sets of 3 individual blocks; A516 Grade 70 Carbon Steel, Type 304/304L Stainless Steel, and also in Type 316/316L Stainless Steel. Individual blocks of any one alloy may also be purchased. The blocks are made from ultrasonically inspected, heat number-traceable material.

The block design consists of four (4) steps (representing wall thicknesses) measuring 0.5", 1.0", 1.5", and 2.0". Each step contains an EDM notch machined to a depth of 10% of wall x .010" wide x 2.0" long. Overall block size is 2.00" wide x 2.25" tall x 10.00" long.

The scanning and reflecting surfaces are intentionally machined to simulate pipe and plate surfaces of 250 Ra maximum finish. Each block is permanently machine-engraved on one edge to include the block description, serial number, alloy, and heat number.

**CONTACT FLAWTECH FOR ALL YOUR STANDARD AND
 CUSTOM CALIBRATION BLOCK NEEDS
 *ALL MATERIALS AVAILABLE UPON REQUEST***



ULTRASONIC CALIBRATION STANDARDS

ASME SEC. V ANGLE BEAM CALIBRATION BLOCKS

The basic calibration block for weldments shall be a section of pipe of the same nominal size, schedule, heat treatment and material specification as the material being examined. Standard will contain four (4) notches, two (2) longitudinal and two (2) circumferential on both the OD and ID at a target depth of 9.5% of nominal wall thickness and a minimum of 1" long. FlawTech can provide the material or use customer furnished material. In accordance with ASME Sec. V, Article 4, Figure T-434.3 (Calibration Block for Pipe).



ASME SEC. V BASIC CALIBRATION BLOCKS

This block is used for establishment of primary reference responses for UT examination of welds. Block contains three (3) DAC side drilled holes at 1.5" deep minimum at diameters between 0.0937" and 0.25" depending on the block thickness (T). Hole locations through the thickness are 1/4, 1/2 and 3/4 T. The block will also contain two (2) notches measuring 2% (T) deep x 1.0" long minimum. Specification: ASME Section V, Article 4, Figure T-434.2.1. Dimensions: T x 6.25" x 3(T) minimum. Block is available in nominal thicknesses of 0.5", 0.75", 1.5", 3" and 5".



THOSE LISTED ARE JUST A FEW OF THE MANY ASME
CALIBRATION STANDARDS AVAILABLE.
CONTACT FLAWTECH FOR MORE INFORMATION.



PDI CONTOURED CALIBRATION BLOCKS



PDI CONTOURED CALIBRATION BLOCKS FOR DISSIMILAR METAL (DM) WELDS

Contoured calibration blocks are used in the manual examination of dissimilar metal (DM) welds and base materials including piping susceptible to Stress Corrosion Cracking (SCC). The blocks are used to establish a reference sensitivity level from which subsequent exams may be compared. The blocks are precisely machined to fit contoured search units for axial and circumferential scanning directions. Customer specifies block contour radius based on diameter of material being inspected. Blocks are manufactured in Type 304 or Type 316 Stainless Steel and are certified to meet Performance Demonstration Initiative PDI-UT-10 and PDI-UT-8.

**CONTACT FLAWTECH FOR ALL YOUR STANDARD AND
CUSTOM CALIBRATION BLOCK NEEDS
*ALL MATERIALS AVAILABLE UPON REQUEST***



STANDARD FLAWED SPECIMEN KITS



Radiographic Testing Kit (RT Kit) - Part # RK-1
 2 Each - Plates (0.625"T x 4"W x 8"L)
 6 Each - Plates (0.375"T x 4"W x 8"L)
 1 Each - Pipe (4" Dia. x 0.337" wall x 8" Long)
 1 Each - Tee (0.375"T x 4"W x 4"H x 8"L)
 65 Lbs



Ultrasonic Testing Kit (UT Kit) - Part # UK-1
 4 Each - Plates (0.625"T x 4"W x 8"L)
 4 Each - Plates (0.375"T x 4"W x 8"L)
 1 Each - Pipe (4" Dia. x 0.337" wall x 8" Long)
 1 Each - Tee (0.375"T x 4"W x 4"H x 8"L)
 65 Lbs



Magnetic Particle / Liquid Penetrant Testing Kit (MT/PT Kit)- Part # MK-1
 8 Each - Plates (0.250"T x 4"W x 8"L)
 2 Each - Tee (0.250"T x 4"W x 4"H x 8"L)
 35 Lbs

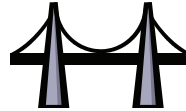
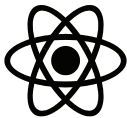


Visual Testing Kit (VT Kit) - Part # VK-1
 7 Each - Plates (0.250"T x 4"W x 8"L)
 3 Each - Tee (0.250"T x 4"W x 4"H x 8"L)
 35 Lbs



NDT Demonstration Kit (Demo Kit) - Part # DK-1
 (Contains 11 Flaws in 5 Specimens)
 2 Each - Plates (0.625"T x 4"W x 8"L)
 1 Each - Plates (0.375"T x 4"W x 8"L)
 1 Each - Pipe (4" Dia. x 0.337" wall x 8" Long)
 1 Each - Tee (0.375"T x 4"W x 4"H x 8"L)
 35 Lbs

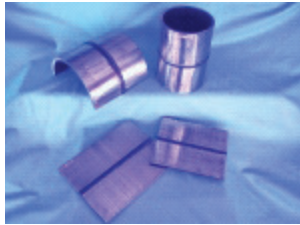
INDUSTRIES THAT USE FLAWTECH SPECIMENS





ADVANCED FLAWED SPECIMEN KITS FOR RENT

API-UT-1 Qualification Kit - Part # API-K1



4 Specimen Set
 - 3 Real Flaws in each Specimen
 - Advanced Flaw Tolerance
 - Flaws include: LOF, Cracks, LOP, Porosity, etc.
 Plate with Double Vee (1.0" T x 12"W x 15"L) 50 Lbs
 Plate with Single Vee (0.5" T x 10"W x 12"L) 17 Lbs
 Pipe with Single Vee (8" Sch 80 x 12"L) 44 Lbs
 Pipe with Single Vee (12" Sch 80 x 12"L) 89 Lbs
 Optional: 10% Notches, Sec.V Cal Blocks, X-rays, Storage Box
 Total 200 Lbs

AWS / CWI Training Kit - Part # AWS-K1



10 Specimen Set
 - Designed in accordance with AWS D1.1
 - 2 Flaws in each specimen
 - Free Carrying Case
 - Document Package with CAD Drawings
 - Flaws are designed to be "borderline" acceptable
 4 Each - Welded Tee (0.25" T x 2"H x 4"W x 6"L) 2 Lbs Ea.
 4 Each - Welded Plates (0.25" T x 4"W x 6"L) 2 Lbs Ea.
 2 Each - Welded Edge Lap Joint (0.312" T x 4"W x 6"L) 2 Lbs Ea.
 Total 35 Lbs

ASME Appendix VII Kit - Part # A7-K1



8 Specimen Set
 - Designed in accordance with ASME Section XI, Appendix VII
 - Each specimens contains between 2 and 4 real flaws
 - All flaw locations are unique
 - Document Package with CAD Drawings
 A7-SS-005 Stainless Steel Welded Plate (0.5" T x 10"W x 12"L) 15 Lbs
 A7-CS-005 Carbon Steel Welded Plate (0.5" T x 10"W x 12"L) 15 Lbs
 A7-SS-010 Stainless Steel Welded Plate (1.0" T x 10"W x 12"L) 29 Lbs
 A7-CS-010 Carbon Steel Welded Plate (1.0" T x 10"W x 12"L) 29 Lbs
 A7-SS-020 Stainless Steel Welded Pipe (2" Sch 160 x 12"L) 8 Lbs
 A7-CS-040 Carbon Steel Welded Pipe (4" Sch 160 x 12"L) 23 Lbs
 A7-SS-060 Stainless Steel Welded Pipe (6" Sch 160 x 12"L) 44 Lbs
 A7-CS-100 Carbon Steel Welded Pipe (10" Sch 160 x 12"L x 180° Seg) 116 Lbs
 Total 300 Lbs

INDUSTRIES THAT USE FLAWTECH SPECIMENS

