

TEAM COOPERHEAT-MQS, INC.

CERTIFIED RADIOGRAPHIC INSPECTION REPORT

FORM 6061-RT- 002 Rev.2

5512 W. State St. Milwaukee, WI 53208 Tel:(414)771-3060 Fax:(414)771-9481 (800)818-6403 www.cooperheat-mqs.com

CUSTOMER		DATE	WORK ORDER NO.
NAME METAL TEK INTERNATIONAL		8/31/2005	361-02500-1
ADDRESS 8600 COMMERCIAL BLVD		P.O. NUMBER	XRAY X
CITY PEVELY STATE MO ZIP 63070		21818	GAMMA
PROCEDURE SPECIFICATION	ACCEPTANCE CRITERIA	SHEET ____ OF ____	
ASTM E94-93	MSS-SP-54-1999		

PART NUMBER	Serial No	View	No Apparent Indications		Dross		Incomplete Penetration		Shrinkage		Film Artifacts		REMARKS
			Accept- table	Reje- cted	Inclu- sion	or Slag	Por- osity	Lack of Fusion	Gas Cracks	Hot Tears	Under cut	Sur- face	
MCWF-C-5		1-2			R					4-5			
		2-3	✓							2-3			
E.I.O. C040851		3-4	✓							2			
		4-5			R					4-5			
MS172810		5-6			R					4			
		7-8	✓									✓	
		8-9	✓							1-2			
		9-10	✓									✓	
		11-12	✓										
		12-13	✓										
		13-14	✓			2							
		15-16	✓							3			
		16-17	✓							2			
		18-19	✓										
		19-20	✓										
		20-21	✓							1-2			
		21-22			R					4			
		23-24	✓										
		24-25	✓							3			
		26-27	✓										
		27-28	✓										
		29-30	✓									✓	
		30-31	✓									✓	
		32-33	✓							2			
		33-34	✓							1		✓	

NO. ACCEPTED	NO. REJECTED	MQS TECH. NO.	SHT.	REV. 1
0	1	12970		
COMMENTS		CUST. RSS NO.	SHT.	REV.
		REVIEWER		
		CERTIFIED NDT LEVEL (RT)		
		John Petroske RT II Exp. 01/08		

TEAM COOPERHEAT-MQS, INC.

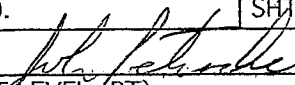
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NAME METAL TEK INTERNATIONAL		8/31/2005	361-02500-1
ADDRESS 8600 COMMERCIAL BLVD		P.O. NUMBER	XRAY X
CITY PEVELY STATE MO ZIP 63070		21818	GAMMA
PROCEDURE SPECIFICATION	ACCEPTANCE CRITERIA	SHEET ____ OF ____	
ASTM E94-93	MSS-SP-54-1999		

PART NUMBER	Serial No	View	No Apparent Indications		Dross		Incomplete Penetration		Shrinkage		Film Artifacts		REMARKS
			Acceptable	Rejection	Inclusion	or Porosity	Lack of Fusion	Gas	Cracks	Hot Tears	Under cut	Surface	
MCWF-C-5		35-36	✓									✓	
		36-37		R	5				R				
E.I.O. C040851		38-39	✓									✓	
		39-40	✓					1				✓	✓
MS172810		41-42		R				3-4		R		✓	
		42-43		R						R		✓	
		44-45		R				3					
		45-46	✓		1							✓	
		47-48		R				3-4		R		✓	
		48-49		R				4		R		✓	
	49	50-51		R				3-4		R		✓	
		52-53		R						4			
		53-54	✓										
		54-55	✓										
		55-56	✓										
		56-57	✓										
		57-58	✓										
		58-59	✓		1								
		59-60	✓		1			2				✓	
		60-61	✓					2				✓	
		62-63	✓					2					
		63-64	✓										
		65-66	✓										
		67-68	✓							2			
		68-69	✓							3			

NO. ACCEPTED	NO. REJECTED	MQS TECH. NO.	12970	SHT.	REV. 1
COMMENTS		CUST. RSS NO.		SHT.	REV.
V64 not included. This view was only shot for a dig out in this Area on Previous Castings.		REVIEWER	 CERTIFIED NDT LEVEL (RT) John Petroske RT II Exp. 01/08		

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NAME METAL TEK INTERNATIONAL		8/31/2005	361-02500-1
ADDRESS 8600 COMMERCIAL BLVD		P.O. NUMBER	XRAY X
CITY PEVELY STATE MO ZIP 63070		21818	GAMMA
PROCEDURE SPECIFICATION	ACCEPTANCE CRITERIA	SHEET ____ OF ____	
ASTM E94-93	MSS-SP-54-1999		

PART NUMBER	Serial No	View	No Apparent Indications		Dross		Incomplete Penetration		Shrinkage		Film Artifacts		REMARKS
			Accept- table	Reje- cted	Inclu- sion	or Slag	Por- osity	Lack of Fusion	Gas Cracks	Hot Tears	Under cut	Sur- face	
MCWF-C-5		69-70	✓									✓	
		71-72	✓						2-3				
E.I.O. C040851		72-73	✓						2				
		73-74	✓									✓	✓
MS172810		74-75	✓										
		75-76	✓									✓	
		76-77	✓						1			✓	
		78-79	✓						2				
		79-80	✓									✓	
		80-81	✓						3			✓	
		81-82			R				3-4		R		
		83-84			R				3			✓	
		85-86			R				3-4				
		86-87	✓										✓
		87-88			R				2		R	✓	
		88-89			R						R		
		90-91			R				5			✓	
		92-93			R				5			✓	
		94-95	✓									✓	
		96-97	✓										✓
		96-97			R	R						✓	
		97-98			R						R		
		98-99	✓										✓
		100-101	✓									✓	
		101-102	✓										

NO. ACCEPTED	NO. REJECTED	MQS TECH. NO.	SHT.	REV. 1
1	1	12970		
COMMENTS		CUST. RSS NO.	SHT.	REV.
		REVIEWER		
		CERTIFIED NDT LEVEL (RT)		
		John Petroske RT II Exp. 01/08		

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CUSTOMER		DATE	WORK ORDER NO.
NAME <u>METAL TEK INTERNATIONAL</u>		<u>8/31/2005</u>	<u>361-02500-1</u>
ADDRESS <u>8600 COMMERCIAL BLVD</u>		P.O. NUMBER	XRAY X
CITY <u>PEVELY</u> STATE <u>MO</u> ZIP <u>63070</u>		<u>21818</u>	GAMMA
PROCEDURE SPECIFICATION ASTM E94-93	ACCEPTANCE CRITERIA MSS-SP-54-1999	SHEET _____ OF _____	

[illegible]

NO. ACCEPTED	0	NO. REJECTED	1	MQS TECH. NO.	12970	SHT.	REV. 1
COMMENTS				CUST. RSS NO.		SHT.	REV.
				REVIEWER	<i>John Petroske</i>		
				CERTIFIED NDT LEVEL (RT)			
				John Petroske RT II Exp. 01/08			

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CUSTOMER

NAME METAL TEK INTERNATIONAL
 ADDRESS 8600 COMMERCIAL BLVD
 CITY PEVELY STATE MO ZIP 63070

DATE

8/31/2005

WORK ORDER NO.

361-02500-1

P.O. NUMBER

21818

XRAY

X

GAMMA

PROCEDURE SPECIFICATION
 ASTM E94-93

ACCEPTANCE CRITERIA
 MSS-SP-54-1999

SHEET OF

PART NUMBER	Serial No	View	No Apparent Indications		Dross		Incomplete Penetration		Shrinkage		Film Artifacts		REMARKS
			Accep- table	Reje- cted	Inclu- sion	or Por- osity	Lack of Fusion	Gas	Cracks	Hot Tears	Under cut	Sur- face	
MCWF-C-5		A-B			R				5				
		B-C			R				5				
E.I.O. C040851		C-D			R				5				
		D-E	✓						2				
MS172810		E-F	✓									✓	
		F-G	✓						3				
		G-H			R				5				
		H-I			R				5				
		I-J			R				5				
		J-K	✓						3				
		K-L			R				3		R		
		L-M			R				3		R		
		M-N			R				5				
		N-O	✓						3				
		O-P	✓						2				
		P-Q	✓						2				
		Q-R	✓						3				
		R-S	✓						1				
		S-T	✓										
		T-U	✓										
		U-V	✓						2-3				
		V-W			R				5				
		W-X			R				5				
		X-Y			R				5				
		Y-Z			R				4-5			✓	

NO. ACCEPTED

0

NO. REJECTED

1

MQS TECH. NO.

12970

SHT.

REV. 1

COMMENTS

CUST. RSS NO.

SHT.

REV.

REVIEWER

CERTIFIED NDT LEVEL (RT)

John Petroske RT II Exp. 01/08

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CUSTOMER		DATE	WORK ORDER NO.
NAME METAL TEK INTERNATIONAL		8/31/2005	361-02500-1
ADDRESS 8600 COMMERCIAL BLVD		P.O. NUMBER 21818	XRAY X
CITY PEVELY STATE MO ZIP 63070			GAMMA
PROCEDURE SPECIFICATION ASTM E94-93	ACCEPTANCE CRITERIA MSS-SP-54-1999	SHEET ____ OF ____	

[illegible]

NO. ACCEPTED	NO. REJECTED	MQS TECH. NO.	12970	SHT.	REV. 1
COMMENTS		CUST. RSS NO.		SHT.	REV.
		REVIEWER	<i>John Petroske</i>		
		CERTIFIED NDT LEVEL (RT)			
		John Petroske	RT II Exp. 01/08		

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CUSTOMER		DATE	WORK ORDER NO.
NAME METAL TEK INTERNATIONAL		10/13/2005	361-02646
ADDRESS 8600 COMMERCIAL BLVD		P.O. NUMBER	XRAY X
CITY PEVELY STATE MO ZIP 63070			GAMMA
PROCEDURE SPECIFICATION ASTM E94-93	ACCEPTANCE CRITERIA MSS-SP-54-1999	SHEET ____ OF ____	

PART NUMBER	Serial No	View	No Apparent Indications		Reje- Incl- cted sion		Dross or Por- Slag osity		Incomplete Penetration		Shrinkage		Hot Under Sur- Tears cut face		Film Artifacts	REMARKS
			Accep- table						Lack of Fusion	Gas	Cracks					
MCWF-C5	5	1-2	✓			1-2					1-2					
	21	4-5	✓												✓	
E.I.O. C040851		5-6	✓								2					
		21-22	✓													
M172810		36-37	✓													
		41-42	✓								1-2			✓		
		42-43	✓											✓		
		44-45	✓								2			✓	✓	
		47-48	✓								1			✓	✓	
		48-49	✓													
	49	50-51	✓								2					
		52-53	✓											✓	✓	
		81-82	✓			1-2								✓	✓	
		83-84			R						4					
		85-86	✓			1-2								✓	✓	
		87-88	✓											✓		
		88-89	✓								1					
		90-91	✓											✓		
		92-93	✓								1-2			✓		
		96-97	✓													
		97-98	✓			1-2										
	103-104				R								1R			
	104-105				R								R	✓		
	106-107	✓														
	108-109	✓													✓	

NO. ACCEPTED	Φ	NO. REJECTED	1	MQS TECH. NO.	12970	SHT.	REV.
COMMENTS				CUST. RSS NO.		SHT.	REV.
				REVIEWER	<i>John Petroske</i>		
				CERTIFIED NOT LEVEL (RT)			
				John Petroske RT II Exp. 01/08			

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NAME METAL TEK INTERNATIONAL		10/13/2005	361-02646
ADDRESS 8600 COMMERCIAL BLVD		P.O. NUMBER	XRAY X
CITY PEVELY STATE MO ZIP 63070			GAMMA
PROCEDURE SPECIFICATION ASTM E94-93	ACCEPTANCE CRITERIA MSS-SP-54-1999	SHEET OF	

[illegible]

NO. ACCEPTED	0	NO. REJECTED	1	MQS TECH. NO.	12970	SHT.	REV.
COMMENTS				CUST. RSS NO.		SHT.	REV.
				REVIEWER	<i>John Petroske</i>		
				CERTIFIED NOT LEVEL (RT)			
				John Petroske	RT II Exp. 01/08		

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CUSTOMER

NAME METAL TEK INTERNATIONAL
 ADDRESS 8600 COMMERCIAL BLVD
 CITY PEVELY STATE MO ZIP 63070

DATE 10/13/2005

WORK ORDER NO.
361-02646

P.O. NUMBER

XRAY X

GAMMA

PROCEDURE SPECIFICATION
 ASTM E94-93

ACCEPTANCE CRITERIA
 MSS-SP-54-1999

SHEET OF

PART NUMBER	Serial No	View	No Apparent Indications		Dross		Incomplete Penetration		Shrinkage		Film Artifacts		REMARKS
			Accep- table	Reje- cted	Inclu- sion	or Por- Slag	osity	Lack of Fusion	Gas	Cracks	Hot Under Tears cut	Sur- face	
MCWF-C5	5	A-B	✓							2			
	RI	B-C	✓										
E.I.O. C040851		C-D	✓							2-3			
		G-H	✓										
M172810		H-I								4-5		✓	Sec 83-84
		I-J	✓							3			
		K-L	✓							2-3			
		L-M	✓							1-2			
		M-N	✓							1			
		V-W	✓							2			
		W-X	✓							2			
		Y-Z	✓										
		X-Y								4-5		✓	
		Z-AA	✓										
		BB	✓										
		CC-DD	✓							1		✓	
		DD-A	✓							1			

NO. ACCEPTED

0

NO. REJECTED 1

MQS TECH. NO. 12970

SHT.

REV.

COMMENTS

CUST. RSS NO.

SHT.

REV.

REVIEWER

CERTIFIED NOT LEVEL (RT)

John Petroske RT II Exp. 01/08

V-W, WX There is Room for only 1 12apene
 in these views

MetalTek

INTERNATIONAL

RADIOGRAPHIC INTERPRETATION REPORT

CUSTOMER		PURCHASE ORDER NUMBER				DATE		CONTROL NO.		PAGE		
PART NO.		SPECIFICATION		CLASS		TOTAL PIECES		PIECES ACCEPTED				
E.I.O.		PPPI - FP - LTS - 2				11-7-05		40851		1061		
MCWFC-5		E44/E186		see spec		1		1				
RADIOGRAPHED BY:				INTERPRETED BY:				ASNT LEVEL				
Midgett / Kelley				A. Kelley				II				
FILM TYPE		MATERIAL		ISOTOPE						CODE		
29/59/80		CF8MNMN MOD		IRIDIUM 192 COBALT 60 V						ASTM E94 V ASME MIL-STD-453		
		V I E W	P E N E	A C C E P T	R E J E C T	S H R I N K	I N C L U S I O N	P O R O S I T Y	L I N E A R	S U R F A C E	L O F / L O P	COMMENTS
M172810												
R2		83-84	30/60	/				2				
		103-104	50	/			1	1		/		
		104-105	1	/		1	1			/		
		109-110	6		X						X	
		H-I	60/120	/		2	1					
		X-Y	6		X	X						
R3		109-110	50	/			1	1		/		
		X-Y	60/120	/			1	1		/		

MetalTek

INTERNATIONAL

RADIOGRAPHIC INTERPRETATION REPORT

[illegible]



RADIOGRAPHIC STANDARD SHOOTING SKETCH

Customer <u>E. I. O.</u>	Pattern Number <u>MCWF-C5</u>
Material <u>CF8MNMN MOD</u>	Traceability Number
Film Manufacturer <u>FUJI</u>	Source Number <u>E060 22.7 CI</u>
IQI LEVEL <u>2-2T</u> From CQP 401 <input checked="" type="checkbox"/> Other (Specify, E.G. 2-4T, 2-1T) <u>N/A</u>	

Exposures (views)	<u>83-84</u>	<u>103-104</u>	<u>104-105</u>	<u>109-110</u>	<u>H-I</u>	<u>X-Y</u>						
Thickness (IN.)	<u>1 1/2" → 3"</u>	<u>2 3/4"</u>			<u>3" → 6"</u>							
S/F Distance (IN.)	<u>20"</u>											
Penetrator	<u>3060</u>	<u>50 x 2</u>			<u>60x2</u>	<u>120x2</u>						
Time (MIN.)	<u>15min</u>	<u>8min 30sec</u>	<u>→</u>	<u>16min</u>	<u>1hr</u>	<u>45min</u>						
Focal Spot (IN.)	<u>.125</u>											
Film Size (IN.)	<u>14x17</u>											
Screen Size (Pb)	<u>.01</u>											
Front/Back												
S.W.E./D.W.E.	<u>SWE</u>											
S.W.V/D.W.V.	<u>SWV</u>											
Film Type	<u>29 80</u>	<u>80x2</u>	<u>→</u>	<u>59 80</u>	<u>29x2</u>	<u>59 80</u>						
Acceptance Standard	<u>MSS-SP-54</u>											
Severity Level	<u>See SPEC.</u>											

Shooting Sketch (Use Additional Pages as Needed)

Technique Prepared By: Ron Kelley Level: II Date: 11-7-05
 Technique Approved By: _____ Level: _____ Date: _____

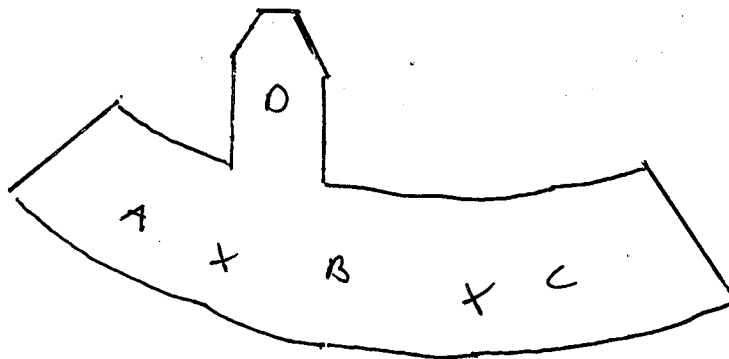
RADIOGRAPHIC STANDARD SHOOTING SKETCH

Customer <u>Energy Industries of Ohio</u>	Pattern Number <u>SE-141-073 C-shim</u>
Material <u>CF8MNMN-MOD</u>	Traceability Number
Film Manufacturer <u>Fuji</u>	Source Number <u>C060 24.7 ci</u>
IQI LEVEL <u>2-2T</u> From CQP 401 <input checked="" type="checkbox"/> Other (Specify, E.G. 2-4T, 2-1T) <u>N/A</u>	

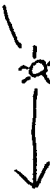
Exposures (views)	A	B	C	D									
Thickness (IN.)	<u>3 7/8"</u>												
S/F Distance (IN.)	<u>24"</u>												
Penetrameter	<u>50</u>												
Time (MIN.)	<u>22 min</u>												
Focal Spot (IN.)	<u>.1</u>												
Film Size (IN.)	<u>14X17</u>												
Screen Size (Pb)	<u>.01</u>												
Front/Back	<u>SWE</u>												
S.W.E./D.W.E.	<u>SWE</u>												
S.W.V./D.W.V.	<u>SWV</u>												
Film Type	<u>80</u>												
Acceptance Standard	<u>E186</u>												
Severity Level	<u>III</u>												

Shooting Sketch (Use Additional Pages as Needed)

use spec. MSS-SP-54



TYP. Source Placement



TYP. Film Placement

Technique Prepared By: RON Kelley

Level: II

Date: 9-9-05

Technique Approved By: RS

Level: III

Date: 9/10/05