Ameritube LLC	Revision Level:	Procedure No. SOP 804	
1000 N. Hwy 77, Hillsboro TX 76645	Revision Date: 10/1/2015	Page No. 1 of 5	
Furnace Operator Training	This Document expires one day after printing Last Printed: October 29, 2015		
Date 10/1/15 Description Of Change New		Signature Rev. Level Joseph A Ravitsky	

Procedure Approval: Company Title: Date:

President 6/20/2012

Revision Level:	Procedure No.
Α	SOP 804
Revision Date:	
10/1/2015	Page No. 2 of 5

Furnace Operator Training

This Document expires one day after printing Last Printed: October 29, 2015

1. Scope and Objectives

- 1.1. This procedure defines the activities required for establishing and maintaining the training process for the QMS and additionally identified training requirements
- 1.2. The objective of the training procedure shall be to ensure that all Ameritube LLC personnel receive adequate training that enables them to use the QMS or other training objective effectively.
- 1.3. The result of the training process shall be informed Ameritube LLC personnel capable of selecting and following appropriate procedures that allow them to improve product quality and improve the overall effectiveness of the QMS.

2. Applicability

- 2.1. This procedure applies internally to:
 - 2.1.1. all Ameritube LLC personnel
- 2.2. This procedure applies externally to:
 - 2.2.1. suppliers providing special processes to Ameritube LLC

3. Related Documents

- 3.1. QM-001, Quality Manual, Section 6.2.2, Competence, Awareness and Training
- 3.2. SOP 300 Furnace and Exothermic Generator Process and Procedures
- 3.3. SOP 800 General Training, SOP 801 Traveler Training, SOP 802 Tag Training
- 3.4. All appropriate Ameritube LLC documentation
- 3.5. All appropriate Ameritube LLC Work Instructions
- 3.6. All appropriate machine and software supplier documentation
- 3.7. Training Documentation Form
- 3.8. Annual Review form
- 3.9. Certificates of Completion

Revision Level:	Procedure No.
A	SOP 804
Revision Date:	
10/1/2015	Page No. 3 of 5

Furnace Operator Training

This Document expires one day after printing Last Printed: October 29, 2015

4. Procedure

Prior Mandatory General Training

- 1. New employees are trained on SOP 800, SOP 801, and SOP 802 prior to any further training.
- 2. Ameritube operators must understand that it is their responsibility to bring any issues or problems to management attention. First to their Senior Furnace Operator and subsequently to higher level of management if necessary. Mixed grade bundles, mixed wall thicknesses, tubes separated from their tags, and other mistakes that may result from carelessness in the plant must be caught by the operator. This issue must be made clear to every operator.

Furnace Operator Training:

These issues must be covered in the training of the furnace operator before he is authorized to operate the equipment.

- 1. Operator must receive training from a trained Sr. furnace operator with at least 3 months experience.
- 2. Please use SOP 300 Furnace and Exothermic Generator Process and Procedures to train the Senior Furnace Operator. The processes described in SOP 300 represent the entire required knowledge to start and stop the furnace. A Junior Furnace Operator does not require training on SOP 300, but his training and that of the Senior Furnace Operator continues below.
- 3. Operator must be trained on the mechanical aspects of the furnace including the rollers. The operator must be able to spot potential problems and hazards with mechanical aspects of the equipment and be able to take those problems to the Senior Furnace Operator.
- 4. Operator must have a full understanding and information on the hazards and care for the grease or oil used to lubricate the roller for preventative maintenance. He must know where it is stored, how to label it if a label falls off, where the MSDS sheets are and all information with the proper and safe handling of any oils or grease or other hazardous chemicals that may be used in the annealing process.
- 5. Operator must be instructed on how to load the furnace, how many tubes can be loaded at a time, where the tubes can be stored before and after loading and how to use the booms to lift the tubes onto the rollers
- 6. Annealing Work Order

Revision Level:	Procedure No.
Α	SOP 804
Revision Date:	
10/1/2015	Page No. 4 of 5

Furnace Operator Training

This Document expires one day after printing Last Printed: October 29, 2015

							Work C	order Date	10/14	/2015	
Final A	nnealin	g	5220-	3656	3		F	PO#	L256-	5903	
							Custor	ner Name			
Metal Type	е		Suggested	Siz	e				Energy &	Process	
Material	C70600		Temperature	OD	Wall		dLength				
Standard	SB-111		1400	0.750	0.049		40				
					Ratio	Speed	Temp IN	Temp OUT	Heat up T	ime Total	
1 Dianas m	alia auna ta	fill aut this	aboot couractly	and in full	9.2:1	1.8ft/min					
			s sheet correctly a is properly adjuste		9.4:1	air 000 gas	Popord gos u	sage, total time for	hoot up timo ti	o motorial in	
			ing a 1" sample f					zone and total time			
J. Opciator	із гезропзіі	oic for cati	ing a 1 Sample i	or riarariess test	3 Delore and	arter arrical.					
DATE	TIME IN	TIME OUT	Sales Order #/ Bundle #	Annealing Batch #	Heat #	Convayor Speed	Ratio	QTY In/Out	Ledger Entry ID	Estimated Finished Tube QTY	Operator ID
		7						/		1	
								/		7.	
		_ 8						/		1	
								/		. 1	
								1			
								/			
								/			
								/			
								/			
								/			
								/			
SAFETY FIRST											
		CO	GNED THIS WORK NFIRM THAT YOU ND MACHINE	U UNDERS TAND	ALL THE REC	UIREMENTS	PROCEDURE	S AND SAFETY	RULES.		

- a. Explain the heading and all customer and job data at the top of the work order
- b. Explain instructions, procedures
- 7. Operator must be educated on the standard temperatures and how to read the temperature gauges; he must be able to adjust the temperature if necessary with the authorization of the Senior Furnace Operator.
- 8. Operator must be trained to count tubing when the tube enters and exits the annealing furnace and recorded appropriately.
- 9. New operator must be trained on the upkeep and maintenance of the station. The cleanliness of the station must be stressed by the Senior Furnace Operator and experienced operator.

Revision Level:	Procedure No. SOP 804
A	SUP 604
Revision Date:	
10/1/2015	Page No. 5 of 5

Furnace Operator Training

This Document expires one day after printing Last Printed: October 29, 2015

Operator must learn to remove and notice any obstacles, improperly placed items, and misplaced tubing around his area.

Furnace operator shadow training:

- 1. Junior Furnace Operator must go through one week of shadowing an Senior Furnace Operator before he may work on the furnace alone. The Senior Furnace Operator may choose to have the new operator shadow an experienced operator for longer. It is crucial that the new operator work with and find a mentor in an existing experienced operator. This mentor will be and someone who can be a source of information and advice.
- 2. New Junior Furnace Operator must be randomly checked periodically and tested on the things that he learned in the training both by the operator and Senior Furnace Operator.

Comments, Suggestions, Changes:

The procedure detailed here has been approved by the plant manager and personnel. For any future changes, comments, or other suggestions, please see plant manager so that the procedure may be updated if necessary.