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AMETEK
SPECIALTY METAL PRODUCTS

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QUALITY ASSURANCE MANUAL

Approved by: _____ (Director - Operations) 30th MAY 19. Date

Approved by: _____ Director Q.A. & Technical 30th May 2019 Date

Prepared by: _____ (Manager – Q.A. & Compliance) 31/5/19. Date

Signed on original

QUALITY ASSURANCE MANUAL

Contents Page

QUALITY ASSURANCE MANUAL

1. AMENDMENTS TO FINE TUBES QUALITY ASSURANCE MANUAL

Issue 1	First Issue	August 1975
Issue 2	Complete re-issue	June 1977
Issue 2 Rev1	Complete review-	September 1978
Issue 3	Complete re-issue	September 1979
Issue 3	Complete review - No change	September 1980
Issue 3 Rev. 1	Partial revision	September 1981
Issue 4	Complete re-issue	December 1982
Issue 4 Rev. 1	Partial Revision	January 1983
Issue 4 Rev. 1	Complete review - No change	February 1984
Issue 4 Rev. 2	Partial Revision	March 1985
Issue 5	Complete reissue	July 1986
Issue 6	Complete re-issue	March 1988
Issue 6 Rev. 1	Partial revision	August 1988
Issue 7	Complete re-issue	December 1989
Issue 8	Complete re-issue	December 1990
Issue 8 Rev. 1	Partial Revision	January 1992
Issue 8 Rev. 2	Partial Revision	August 1992
Issue 9	Complete re-issue	May 1993
Issue 10	Complete re-issue	February 1995
Issue 10 Rev. 1	Partial revision	July 1995
Issue 10 Rev. 2	Partial revision	January 1997

Issue 10 Rev. 3	Partial revision	January 1998
Issue 10 Rev. 4	Partial revision	June 1999
Issue 10 Rev. 5	Complete revision	January 2003
Issue 11 Rev. 0	Revised for AS9100/ISO9001:2000	September 2003
Issue 11 Rev. 1	Partial revision	Jan 2005
Issue 11 Rev. 2	Partial revision (deletion of CAA references)	April 2006
Issue 11 Rev. 3	Minor revision - update to Organisation Chart	May 2007
Issue K4	Update for ISO9001: 2008, Reformatted.	August 2009
Issue L0	Updated for AS9100 Rev. C	August 2011
Issue L1	Reviewed and revised - ownership change and general update	December 2014
Issue L2	Reviewed and revised for update to Process description and Ownership change	July 2015
Issue L3	Updated for organisational changes	Jan 2016
Issue L4	Updated organisational chart and process map.	April 2016
Revision M0	Updated for AS9100 Revision D:2016	March 2018
Revision M1	Update document matrix & organisational chart	May 2019

2. ISSUE OF THE QUALITY MANUAL

The internal distribution of the Quality Manual is carried out by insertion on the Fine Tubes Intranet system in a section entitled Technical Manuals.

Fine Tubes website: www.finetubes.com is updated with the latest issue of the quality manual.

3. AMENDMENT TO THE QUALITY MANUAL

The Quality Manual is reviewed periodically, and any amendments are published in accordance with the Control of Documents procedures.

Summary details of each revision are identified on the document change page at the front of this manual.

4. REFERENCES:

ISO 9001 - Quality Management Systems - Fundamentals and Vocabulary.

AS/EN 9100 - Quality Management Systems - Aerospace - Requirements.

5. FINE TUBES - AN INTRODUCTION

Fine Tubes Limited was registered in 1943 as a subsidiary of Moray Engineering Company limited, and situated at Surbiton, Surrey. The main product at this time was Cathodes from Nickel Alloys for the electronics Industries.

In 1953, the Company increased its manufacturing capabilities to encompass tube drawing, using mainly Nickel materials.

Also, at this time, Superior Tube Company of Norristown, Pennsylvania, USA acquired a major interest in Fine Tubes who, in turn, became the parent company to Moray Engineering Company Limited. Ownership migrated to Superior Group Inc. with Superior Tube Co and Fine Tubes remaining as sister companies.

During 1957, Fine Tubes commenced processing tubing in the Stainless-Steel grades from material supplied from Superior Tube Company and entered the field of Aircraft Hydraulic tubing. The resulting business acquired a steady increase in capacity from 1958 to 1959 culminating in the decision to build a new modern tube mill in Plymouth, Devon UK, where production commenced in 1962.

In 2015 Ametek Inc. acquired Fine Tubes and Superior Tubes to enhance the Precision Tube and Strip sector of the Speciality Metals Group within the Ametek Electromechanical Group and

The Plymouth site now has 20 000 m^2 of production facilities on a total area of 65000m^2.

Tube is produced by two methods, cold-drawn seamless or longitudinally welded. For seamless tube raw material is purchased as extruded hollows or bored out bars in a range of sizes. This material is then progressively cold reduced by pilgering and drawing to final size. Welded tube is produced from flat strip, formed and longitudinally welded. Longer lengths can be produced by orbital welding coils of tube together. Additional processes available are heat treatment, pickling, polishing, chemical milling, and cutting, cleaning and printing

The Quality Management System was introduced into Fine Tubes in 1975 and is regularly audited, internally according to the Internal Audit programmes, and externally by Customers and Approval/Regulatory bodies, including BSI, TUV, P.R.I. and a number of significant customers.

Fine Tubes Limited's special processes are regularly reviewed and approved by the Performance Review Institute in accordance with the requirements of the relevant Nadcap checklists.

Process control systems and full test facilities are available to ensure that material meets required specifications.

Today Fine Tubes Limited is one of the major manufacturers of precision tubing in stainless steel, nickel alloys and titanium alloys.

This tubing is supplied to meet a range of specialist markets including:

Nuclear fuel cladding,

Aircraft hydraulic tubing for both engine and airframe use.

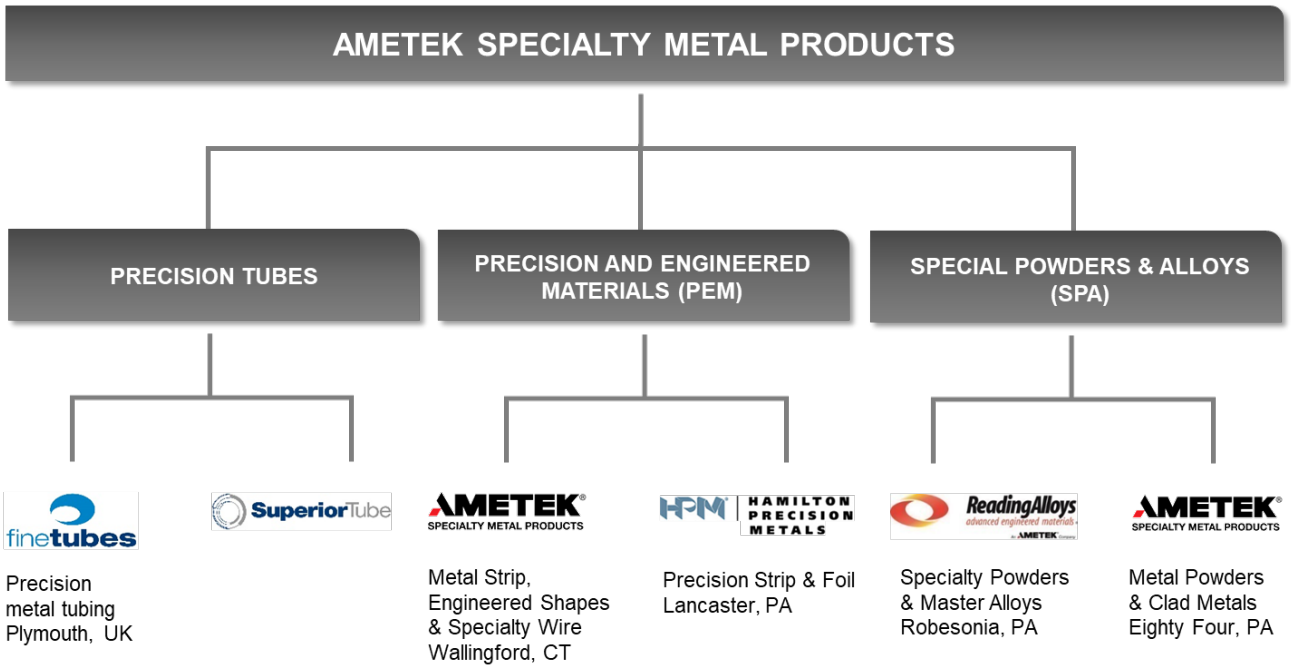
Oil field installations of both control line and instrumentation tubing.

Medical device raw material, both general medical and implant type.

Clean bore tubing used for semiconductor manufacturing plant installations and HPLC applications.

General commercial and equipment tubing.

6. FINE TUBES LIMITED - OWNERSHIP STRUCTURE



7. FINE TUBES LIMITED - OUR CORE VALUES

A global tubing supplier dedicated to the advancement of our customers, we demonstrate:

Quality and Excellence - Touching the lives of people around the world.

Honesty and Integrity - Fostering trust and inspiring confidence in what we say and in what we do.

Customer and Service Focus - Strong external and internal relationships.

Innovation - In all aspects of our business.

8. FINE TUBES BASIC BELIEFS

Quality is the foundation of our operation. We aspire to get it right first time in all aspects of our business.

We take pride in developing committed relationships with customers and suppliers with whom we can develop partnerships for mutual advantage. We believe in providing technical solutions to our customers by understanding their needs. We will seek to demonstrate our integrity, professionalism and a continuous commitment to efficient service.

We will value and respect all our employees by demonstrating our commitment to creating a safe and enjoyable working environment, which encourages personal fulfilment and empowers teamwork. We will openly communicate with all our employees and, within a climate of trust, actively encourage a decisive, pro-active organisation, focused on its goals.

We will be a profitable and cost-effective producer of quality tubing for specialist applications and will seek to define ourselves in our chosen markets by providing products, which by need will differentiate us from commodity suppliers. We will aim to identify and exploit opportunities for specialist tubing applications early in their life cycle.

We will endeavour to seek our stakeholder's confidence, loyalty and respect by meeting their expectations for short and long-term financial and strategic objectives. We aim to benefit from and support synergies with other business stakeholders.

We value our status as an International player in our chosen market sectors and understand the need to enhance that status.

We value our openness, honesty, and fairness in all our business dealings and accept our ethical and moral responsibility to society.

We value an innovative approach in every aspect of our business and will measure our success as an innovative company.

8.1. Understanding the Organization and Its Context

Fine Tubes has reviewed and analysed key aspects of itself and its stakeholders to determine the strategic direction of the company. This requires understanding internal and external issues that are of concern to Fine Tubes and its interested parties (per 8.2 below); the interested parties are identified per the document Context of the Organisation Procedure QSP 47. Such issues are monitored and updated as appropriate and discussed as part of management reviews.

8.2. Understanding the Needs and Expectations of Interested Parties

The issues determined per 8.1 above are identified through an analysis of risks facing Fine Tubes and its interested parties. "Interested parties" are those stakeholders who receive our Products, or who may be impacted by them, or those parties who may otherwise have a significant interest in our company. These parties are identified per the document Context of the Organisation Procedure QSP 47. This information is then used by senior management to determine the company's strategic direction. This is defined in records of management review, and periodically updated as conditions and situations change.

8.3. Determining the Scope of the Quality Management System

Based on an analysis of the above issues of concern, interests of stakeholders, and in consideration of its products and services, Fine Tubes Ltd has determined the scope of the management system as follows:

The manufacturing and inhouse testing of cold finished precision tubes in Stainless Steel, Nickel and Titanium alloys for critical applications in Aerospace, Nuclear, Oil & Gas, Chemical and Medical industries. The system has been developed to meet AS9100, ISO 9001: and Customer requirements.

9. FINE TUBES QUALITY MANAGEMENT SYSTEM

Fine Tubes ensures that all its products are manufactured to fully meet the requirements of its customer's orders, specifications, and or documented instructions.

A quality management system has been developed within Fine Tubes to ensure that its manufacturing activities and documented procedures fully comply with this aim.

The purpose of this quality manual is to describe the Quality Management System of Fine Tubes Limited.

This ensures compliance with all orders placed on the Company and with the terms of approvals granted by Authorities and approving companies. The system has been developed to meet AS9100, ISO 9001: and Customer requirements.

Customers and Regulatory Authority representatives are permitted access to the Fine Tubes Quality Management System documentation.

Fine Tubes manufactures tubing to customers' specifications and does not design products. However, we develop the manufacturing processes to achieve customers' product requirements.

Post-delivery activities are limited to resolving issues with nonconforming material.

Product Inspectors at Fine Tubes report into the Operations function of the business to ensure that customer requirements are met as effectively as possible. Independence and objectivity are maintained through a defined line of authority to the QA / Technical department

Management of Risk to the achievement of applicable requirements is controlled through the Contract review processes, Product reviews, Technical Reviews, Control of Change and Risk Management processes. Business level risk is addressed by using QSP47. Operational risk uses PFMEA and similar risk management tools as appropriate.

Configuration management Clause 8.1.2 is addressed at Fine Tubes through the strict use of product identity & traceability systems, internal production specifications, part number control systems and PWS revision controls.

Although Fine Tubes Limited is a process-based organisation, key projects are defined and managed using a project management process (QSP 8).

A variety of statistical and analytical techniques are employed where applicable, to monitor and control processes.

Management Review (Clause 9.3) is a continual process at Fine Tubes.

Performance against the Fine Tubes Quality Objectives is regularly reviewed by the Management Team internally using QD112 (it is a live document on spread sheet/QA Dashboard).

10. MANAGEMENT COMMITMENT

The senior management team at Fine Tubes demonstrates its commitment to the importance of quality issues to fulfil customer requirements, across the organisation.

To achieve this, they will show their commitment by ensuring the availability of necessary resources, performing Management Reviews and communication of the Quality Policy and Objectives throughout the organisation.

Fine Tubes is committed to the concept of continual quality improvement through the constant refinement and improvement of the Quality Management System and the progressive elimination of weaknesses.

Tools used to realise this aim are detailed but not limited to the list below:

Control of Non-Conforming Product.

Measurement of Customer Satisfaction.

Internal Auditing.

Corrective / Preventive Action.

Management Review.

Data Collection and Analysis.

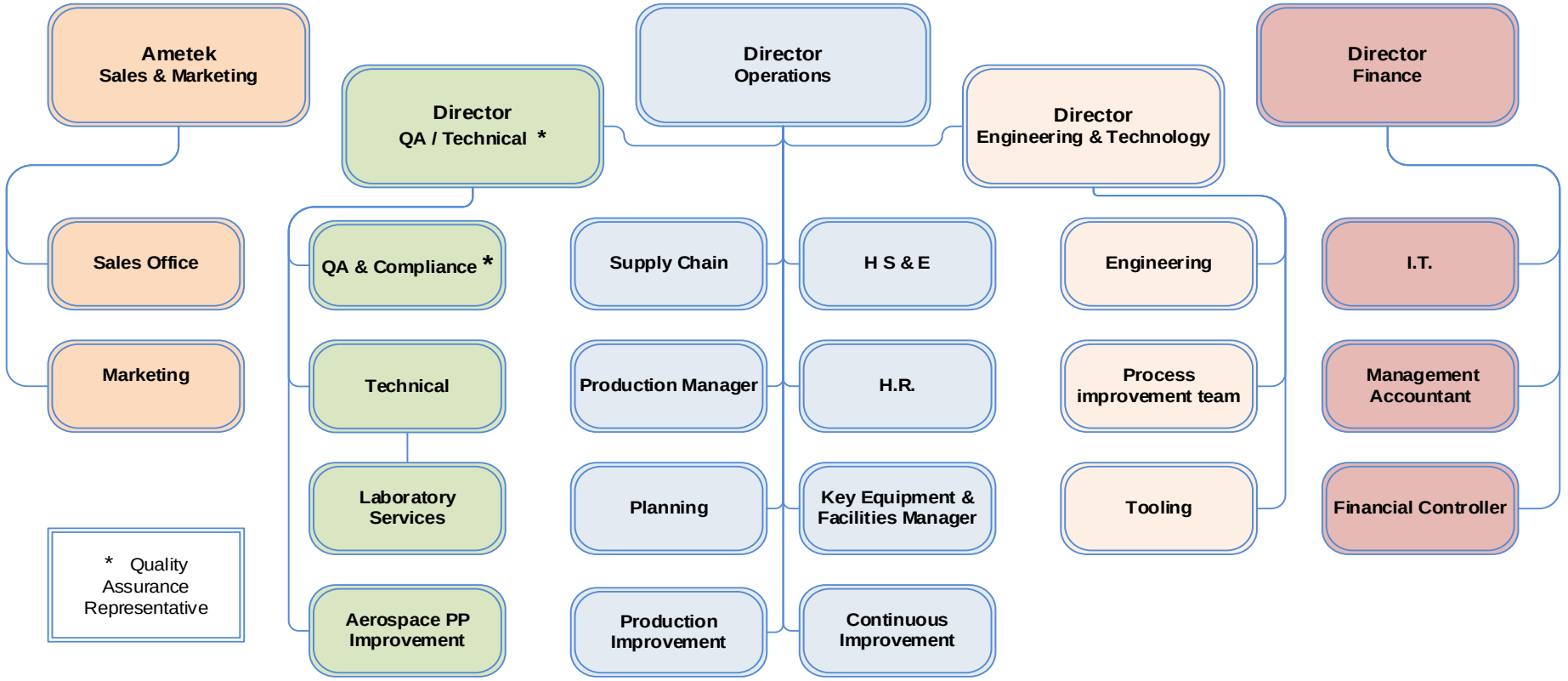
Risk Management tools.

Interested Parties.

Internal/External Issues.

Resource requirements.

11. FINE TUBES LIMITED ORGANISATION STRUCTURE



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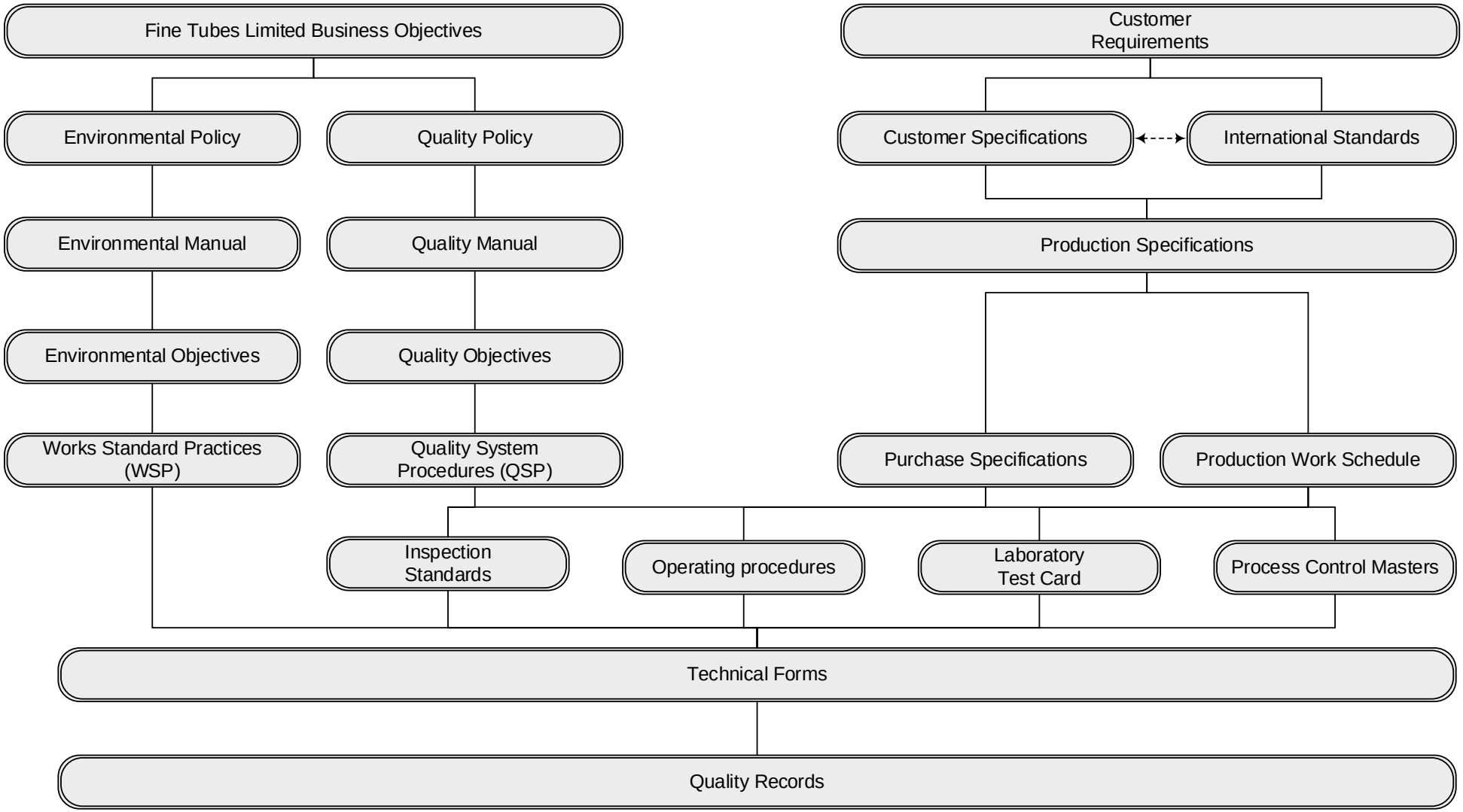
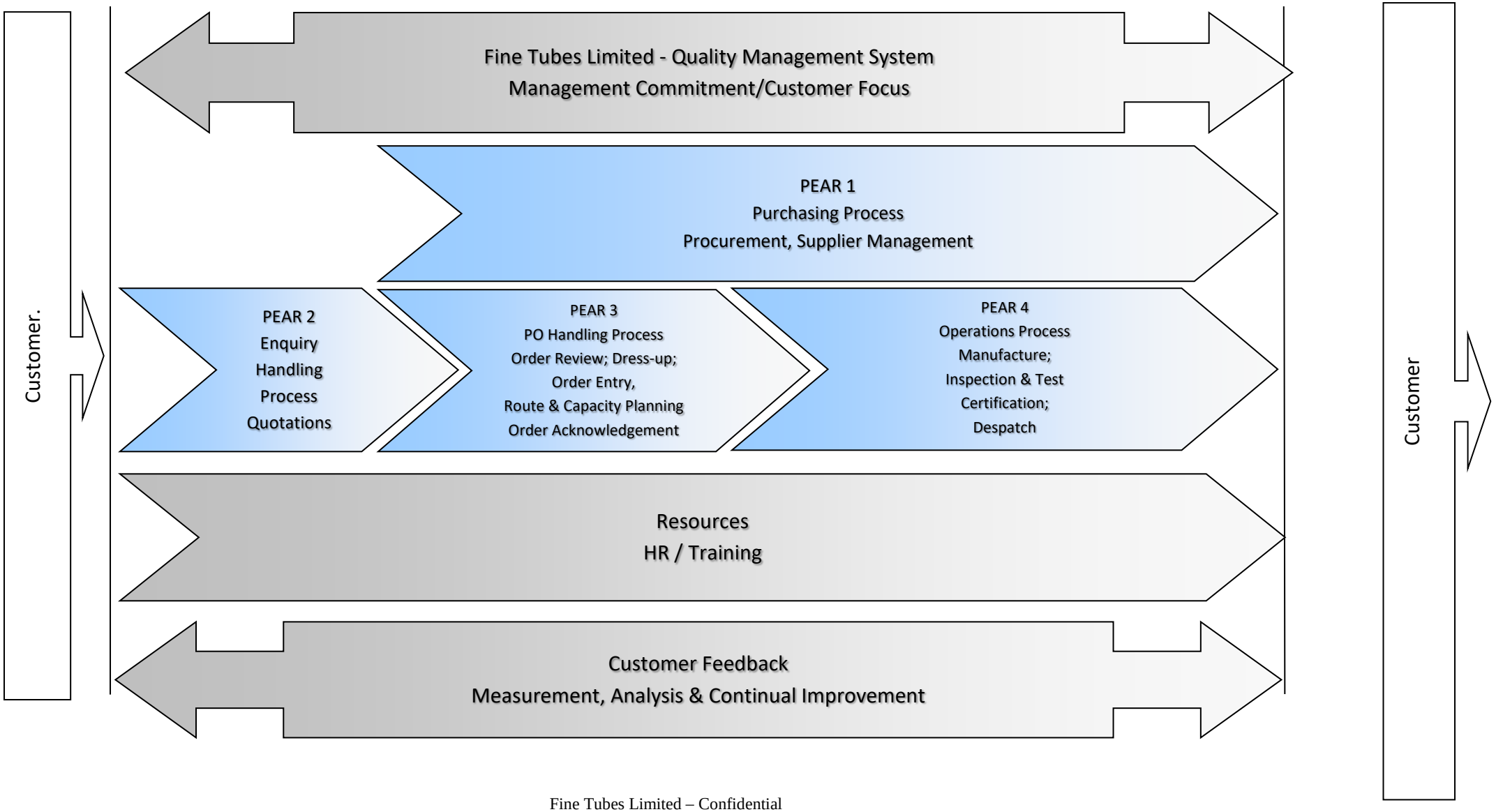
12. DOCUMENTATION HIERARCHY



13. BUSINESS PROCESS FLOW



14. QUALITY MANAGEMENT SYSTEM DOCUMENTATION MATRIX

Fine Tubes has a comprehensive system of procedures, work instructions and standard practices. These are available on the Fine Tubes for on-site review.

AS9100 Reference				Title	Fine Tubes Document Identity	Owner
4				**CONTEXT OF THE ORGANISATION**		
4	1			Understanding the Organisation & its Context	QSP47	Leadership Team
4	2			Understanding the Needs and Expectations of Interested Parties	QSP47	Leadership Team
4	3			Determining the Scope of the Quality Management System	QSP1	Leadership Team
4	4			Quality Management System and its Processes	QSP1	QA & Technical
5				**LEADERSHIP**		
5	1			Leadership and Commitment	QSP1	Leadership Team
5	1	2		Customer Focus	QSP1	Leadership Team
5	2			Policy	QD175	Leadership Team
5	2	1		Establishing the Quality Policy	QD175	Leadership Team
5	2	2		Communicating the Quality Policy	QD175	Leadership Team
5	3			Organizational Roles, Responsibilities & Authorities	QSP25	Leadership Team
6				**PLANNING**		
6	1			Actions to Address Risks & Opportunities	QD197	Leadership Team
6	2			Quality Objectives & Planning to Achieve Them	QD112	Leadership Team
6	3			Planning of Changes	QSP46	Leadership Team
7				**SUPPORT**		
7	1			Resources	QSP46	Leadership Team
7	1	2		People	QSP40	Leadership Team
7	1	3		Infrastructure	QSP33 QSP129	Leadership Team
7	1	4		Environment for the Operation of Processes	Various QMS procedures	Operations
7	1	5		Monitoring and Measuring Resources	QSP34	QA & Technical
7	1	5	2	Measurement Traceability	QSP34	QA & Technical
7	1	6		Organizational Knowledge	QSP49	Leadership Team

AS9100 Reference				Title	Fine Tubes Document Identity	Owner
7	2			Competence	QSP40	HR
7	3			Awareness	QSP40	HR
7	4			Communication	QSP1	Leadership Team
7	5			Documented Information	QSP1	QA & Technical
7	5	2		Creating and updating	QSP2 & QSP3	QA & Technical
7	5	3		Control of Documented Information		QA & Technical
8				**OPERATION**		
8	1			Operational Planning and Control	QSP7	Leadership Team
8	1	1		Operation Risk Management	QSP44	QA & Technical
8	1	2		Configuration Management	QSP18	QA & Technical
8	1	3		Product Safety	QSP19 & QSP27	Operations
8	1	4		Prevention of Counterfeit Products	QSP48	QA & Technical
8	2			Requirements for Products and Services	QSP6	Sales & Marketing
8	2	1		Customer Communication	QSP6	Sales & Marketing
8	2	2		Determining the Requirements for Products and Services		
8	2	3		Review the Requirements for Products and Services	QSP7	Customer Services, Technical & Planning
8	2	4		Changes to Requirements for Products and Services		
8	3			Design and Development of Products and Services	QSP8	Planning
8	4			Control of Externally Provided Processes, Products and Services	QSP13 & QSP14	Purchasing
8	4	2		Type and Extent of Control	QSP15	QC
8	4	3		Information for External Provider	QSP14 & FT Purchase Specs	QC
8	5			Production and Service Provision	FT Specifications	Operations
8	5	1		Control of Production and Service Provision	QSP7 & QSP17	Operations
8	5	1	1	Control of Equipment, Tools and Software Programs	QSP127	Maintenance
8	5	1	2	Validation and Control of Special Processes	QSP12	Operations
8	5	1	3	Production Process Verification	QSP11	Operations

AS9100 Reference				Title	Fine Tubes Document Identity	Owner
8	5	2		Identification and Traceability	QSP18	Operations
8	5	3		Property Belonging to Customers or External Providers	QSP7	Operations
8	5	4		Preservation	QSP19 & QSP27	Operations
8	5	5		Post-delivery Activities	QSP21	QA & Technical
8	5	6		Control of Changes	QSP7	Operations
8	6			Release of Products and Services	QSP15 & QSP28	QA & Technical
8	7			Control of Nonconforming Outputs	QSP21	QA & Technical
9				**PERFORMANCE EVALUATION**		
9	1			Monitoring, Measurement, Analysis and Evaluation	Management Reviews	Leadership Team
9	1	2		Customer Satisfaction	QSP45	Sales & Marketing
9	1	3		Analysis and Evaluation	Management Reviews	Leadership Team
9	2			Internal Audit	QSP43	QA & Technical
9	3			Management Review	QSP46	Leadership Team
10				**IMPROVEMENT**		
10	1			General	QSP46 & QSP44	Leadership Team
10	2			Nonconformity and Corrective Action	QSP44	QA & Technical
10	3			Continual Improvement	Management Reviews	Leadership Team

15. FINE TUBES NEW & OLD DOCUMENT No MATRIX 1

Serial No	Previous Doc No	Document Title	New Doc No	Comments
1	QA MAN 01	Quality Management System Manual	QSP 1	
2	QSP 4.2.3	Control of Documents	QSP 2	These three procedures have been merged into one.
3	QAP 16	Drawing Control		
4	QAP 65	Control of External Specifications		
5	QSP 4.2.4	Control of Records	QSP 3	
6	QAP 64	Scanning Procedure for Electronic Archiving of Quality Records	QSP 4	
7	QSP 7.5.1.2	Management of Change	QSP 5	
8	QSP 7.2.1	Sales Enquiry Handling System	QSP 6	
9	QSP 7.0	Product Realisation	QSP 7	
10	QSP 7.3	New Product Development and Business Critical Projects	QSP 8	
11	QSP 7.1.2	Risk Management (Process/business oriented)	QSP 9	
12	QAP 22	Control of Quality Plans	QSP 10	
13	QSP 8.2.4.2	First Article Inspection Procedure	QSP 11	
14	QSP 7.5.2	Validation of Processes for Production and Service Provision	QSP 12	
15	QAP 25	Purchase of Raw Materials & Contact Materials	QSP 13	
16	QAP 68	Supplier Requirements Manual	QSP 14	
17	QSP 7.4.3.1	Verification of Purchased Product - Logistics/Goods Receipt	QSP 15	
18	QAP 63	Supplier First Article Inspection	QSP 16	
19	PS 16	Production Work Schedules (PWS)	QSP 17	
20	QAP 09	Material Identification from Receipt of Material to Job Completion	QSP 18	These both procedures have been merged into one.
21	WSP 67	Identification of Test Specimens B.S. T100		
22	QAP 73	Material Preservation	QSP 19	
23	QAP 75	WIP Preview Process	QSP 20	

Serial No	Previous Doc No	Document Title	New Doc No	Comments
24	QSP 8.3	Control of Non-Conforming Product	QSP 21	
25	QAP 62	Material Scrap Reporting	QSP 22	
26	PS 52	Disposal Instructions for Surplus or Rejected Tubing replacing WSP 1	QSP 23	
27	QAP 60	Approved Persons for Disposition of Non-Conforming Material	QSP 24	
28	QSP 5.5	Responsibility, Authority and Communication	QSP 25	
29	QAP 71	Finished Goods / Stock Procedure	QSP 26	
30	QAP 32	Packing for Despatch	QSP 27	
31	QAP 39	Certification and Release of Product	QSP 28	
32	QAP 74	Rounding Procedure.	QSP 29	
33	WSP 72	Hardness conv. Values S/S tubing Rockwell B & Vickers Test Methods	QSP 30	
34	QAP 37	Internationally Agreed System of Units (SI).	QSP 31	
35	QAP 40	Glossary of Terms Used in Tube Processing	QSP 32	
36	QAP 58	Fine Tubes Facilities	QSP 33	
37	QSP 7.6	Fine Tubes Ltd Calibration System	QSP 34	
38	QAP 77	Issue of Metrology Equipment	QSP 35	
39	WSP 07	N.D.T. Setup and Calibration Procedures.	QSP 36	
40	WSP 08	Instrument Check & Calibration Procedure.	QSP 37	
41	WSP 17	Personnel Qualification & Approval in ET & RT	QSP 38	
42	WSP 18	Company Policy/Control Documentation for Qualification/Approval in UTS	QSP 39	
43	QSP 6.2	Employee Training Programme	QSP 40	
44	QSP 7.5.3	Use and Control of Acceptance Authority Media	QSP 41	
45	QAP 56	List of Approved Signatories.	QSP 42	
46	QSP 8.2.2	Internal Audit.	QSP 43	

Serial No	Previous Doc No	Document Title	New Doc No	Comments
47	QSP 8.5.2	Corrective Action	QSP 44	These three procedures have been merged into one.
48	QSP 8.5.3	Preventive Action		
49	QAP 59	C.A.P.A. Investigation, Implementation and Document Completion		
50	QSP 8.2.1	Customer Satisfaction	QSP 45	
51	QSP 5.6	Management Review	QSP 46	
52	-	Organisation Context	QSP 47	New document
53	-	Procedure for Counterfeit Products	QSP 48	New document
54	-	Knowledge Transfer	QSP 49	New document
55	QAP 50	AGR Despatch Document Procedure.	QSP 50	
56	PS 02	Approved Metal Processing Lubricants and Fluids	QSP 51	
57	QAP 81	Chemistry Lab Facilities	QSP 52	
58	QAP 10	Laboratory Control of Processes	QSP 53	
59	LS 14	Control of Process Acid Baths	QSP 54	
60	LS 25	Monitoring of Gas Scrubbing Liquors	QSP 55	
61	LS 09	Determination of Boiler Waters Contamination Levels.	QSP 56	
62	LS 10	Determination of Solids in Plastic Solutions	QSP 57	
63	LS 12	Monitoring of Cooling Waters	QSP 58	
64	LS 15	Alkaline Cleaning Bath (caustic potash)	QSP 59	
65	LS 16	Alkaline Permanganate Baths	QSP 60	
66	LS 23	Procedure for the determination of Hydrogen in Titanium	QSP 61	
67	LS 31	Analysis of Neutralised Waste Acid for Disposal	QSP 62	
68	LS 33	Monitoring of Nitrous and Hydrogen Fluoride Fumes Emitted to Atmosphere	QSP 63	
69	LS 34	Procedure for Testing Working Fluids	QSP 64	

Serial No	Previous Doc No	Document Title	New Doc No	Comments
70	LS 38	Determination of Contamination Present on Tubing	QSP 65	
71	LS 40	Analysis of Tube Surface Residues	QSP 66	
72	LS 45	Determination of ID contamination using FTIR	QSP 67	
73	LS 48	(Reliance Industries Ltd) Cleanliness Verification of Coil for Oxygen Service	QSP 68	
74	LS 49	FT-IR Analysis of Process Fluids	QSP 69	
75	LS 50	Laboratory Verification of Water Purity	QSP 70	
76	PS 26	General Requirements for Degreasing of Material	QSP 71	
77	PS 38	Pickle Shop Operations	QSP 72	
78	PS 47	Cleaning of Small Bore Coil ID	QSP 73	
79	PS 51	Chemical Milling	QSP 74	
80	LS 07	Measurement of Chlorides On Tube Walls	QSP 75	
81	LS 08	Effluent Treatment	QSP 76	
82	PS 14	Cleaning of Tubing for Special Applications	QSP 77	
83	LS 02	Intercrystalline Corrosion test for S/S Cu Sulphate Acid test solutions	QSP 78	
84	LS 39	Carbon Level Determination of Tubing Following Degreasing / Annealing Ops	QSP 79	
85	LS 20	Carbon Determination on AGR Cans	QSP 80	
86	QAP 70	100% Carburisation Checks on AGR Product.	QSP 81	
87	LS 36	Metallographic Preparation & Examination	QSP 82	
88	QAP 02	Collection & Review of Aerospace Mechanical Property Data	QSP 83	
89	LS 01	Room Temperature Tensile Testing.	QSP 84	
90	LS 26	Hardness Testing - Vickers Test Method	QSP 85	
91	LS 03	Method for Determining Delta Ferrite in Tubing	QSP 86	
92	LS 04	Product Check Analysis for Stainless Steel	QSP 87	

Serial No	Previous Doc No	Document Title	New Doc No	Comments
93	LS 05	Testing of Work Centre 321 (No.1 Process Degreaser) Thermocouple and Gauge	QSP 88	
94	LS 06	Surface Roughness Measurement	QSP 89	
95	LS 11	Control of Product Testing	QSP 90	
96	LS 13	Bend Testing of Tubing	QSP 91	
97	LS 21	Radiographic Inspection of Butt Welds	QSP 92	
98	LS 22	Contractile Strain Ratio (CSR) Determination	QSP 93	
99	LS 24	Monitoring of Sealed X-RAY Equipment for Radiation Leakage	QSP 94	
100	LS 41	Round Robin Testing Programme Procedure	QSP 95	
101	LS 44	Flare Test Procedure	QSP 96	
102	QAP 29	Inter-stage and Final Bore Assessment of Aircraft	QSP 97	
103	QAP 66	Waters Corporation's Sample Review Procedure	QSP 98	
104	QAP 78	Airbus POA edit 3	QSP 99	
105	QAP 79	Airbus POA Compliance Table	QSP 100	
106	QAP 80	Level 1 Critical Application Material	QSP 101	
107	PS 03	Tube Fabrication by Fusion Welding	QSP 102	
108	PS 08	Rotary Swaging (Tagging) Safe Usage	QSP 103	
109	PS 13	Orbital Welding of Coils	QSP 104	
110	PS 15	Pressure Testing	QSP 105	
111	PS 27	OD Polishing of Tubing	QSP 106	
112	PS 55	Tube Printing	QSP 107	
113	PS 58	Manufacture of Sheathed Cable	QSP 108	
114	QAP 69	Material Stock Audit Procedure	QSP 109	
115	WSP 94	Furnace Operator Training and Approval.	QSP 110	

Serial No	Previous Doc No	Document Title	New Doc No	Comments
116	PS 01	Heat Treatment - Standard Processing	QSP 111	
117	PS 50	Heat Treatment of Titanium Tubing	QSP 112	
118	PS 43	Heat Treatment of Coiled Tubing	QSP 113	
119	PS 09	Checking of Furnace Control	QSP 114	
123	WSP 97	Furnace Hydrogen Flow Check	QSP 115	
124	QAP 01	Control of Thermocouples for Aerospace Approved Furnaces.	QSP 116	
125	LS 46	Deviation Alarm Procedure, Assets 474, 481, 482, 301, 305 & 307	QSP 117	
126	LS 47	Leak Test, Assets 474, 481 & 482	QSP 118	
127	LS 27	System Accuracy Test	QSP 119	
128	LS 28	Temperature Uniformity Survey (TUS)	QSP 120	
129	LS 29	Measurement of Quenching Gas Dewpoints on Vacuum Annealing Furnaces	QSP 121	
130	LS 30	Control of IMT Equipment: Thermocouples	QSP 122	
131	LS 42	Norsok Temperature Uniformity Surveys UNS31254 (TUS)	QSP 123	
132	LS 43	Norsok TUS for Superduplex	QSP 124	
133	PS 57	Surface Treatment and Coating of Metal Working Tools	QSP 125	
134	QAP 72	Tooling Design Process.	QSP 126	
135	QSP 7.5.1.3	Control of Tooling, Cleaning & Polishing of Dies, Plugs & Rods	QSP 127	
136	QAP 76	Maintenance Store Procedure.	QSP 128	
137	WSP 75	Maintenance Computer System Procedures	QSP 129	
145	QA MAN 02	Environmental Management System Manual	QSP 130	
146	QAP 54	Environmental Audit Procedure	QSP 131	

16. FINE TUBES NEW & OLD DOCUMENT No MATRIX 2

Serial No	Previous Doc No	Document Title	New Doc No	Comments
1	QA MAN 01	Quality Management System Manual	QSP 1	
2	QA MAN 02	Environmental Management System Manual	QSP 130	
3	QSP 4.2.3	Control of Documents	QSP 2	
4	QSP 4.2.4	Control of Records	QSP 3	
5	QSP 5.5	Responsibility, Authority and Communication	QSP 25	
6	QSP 5.6	Management Review	QSP 46	
7	QSP 6.2	Employee Training Programme	QSP 40	
8	QSP 7.0	Product Realisation	QSP 7	
9	QSP 7.1.2	Risk Management (Process/business oriented)	QSP 9	
10	QSP 7.2.1	Sales Enquiry Handling System	QSP 6	
11	QSP 7.3	New Product Development and Business Critical Projects	QSP 8	
12	QSP 7.4.3.1	Verification of Purchased Product - Logistics/Goods Receipt	QSP 15	
13	QSP 7.5.1.2	Management of Change	QSP 5	
14	QSP 7.5.1.3	Control of Tooling, Cleaning & Polishing of Dies , Plugs & Rods	QSP 127	
15	QSP 7.5.2	Validation of Processes for Production and Service Provision	QSP 12	
16	QSP 7.5.3	Use and Control of Acceptance Authority Media	QSP 41	
17	QSP 7.6	Fine Tubes Ltd Calibration System	QSP 34	
18	QSP 8.2.1	Customer Satisfaction	QSP 45	
19	QSP 8.2.2	Internal Audit.	QSP 43	
20	QSP 8.2.4.2	First Article Inspection Procedure	QSP 11	
21	QSP 8.3	Control of Non Conforming Product	QSP 21	
22	QSP 8.5.2	Corrective Action	QSP 44	

Serial No	Previous Doc No	Document Title	New Doc No	Comments
23	QSP 8.5.3	Preventive Action	QSP 44	
24	QAP 01	Control of Thermocouples for Aerospace Approved Furnaces.	QSP 116	
25	QAP 02	Collection & Review of Aerospace Mechanical Property Data	QSP 83	
26	QAP 09	Material Identification from Receipt of Material to Job Completion	QSP 18	
27	QAP 10	Laboratory Control of Processes	QSP 53	
28	QAP 16	Drawing Control	QSP 2	
29	QAP 22	Control of Quality Plans	QSP 10	
30	QAP 25	Purchase of Raw Materials & Contact Materials	QSP 13	
31	QAP 29	Interstage and Final Bore Assessment of Aircraft	QSP 97	
32	QAP 32	Packing for Despatch	QSP 27	
33	QAP 37	Internationally Agreed System of Units (SI).	QSP 31	
34	QAP 39	Certification and Release of Product	QSP 28	
35	QAP 40	Glossary of Terms Used in Tube Processing	QSP 32	
36	QAP 50	AGR Despatch Document Procedure.	QSP 50	
37	QAP 54	Environmental Audit Procedure	QSP 131	
38	QAP 56	List of Approved Signatories.	QSP 42	
39	QAP 58	Fine Tubes Facilities	QSP 33	
40	QAP 59	C.A.P.A. Investigation, Implementation and Document Completion	QSP 44	
41	QAP 60	Approved Persons for Disposition of Non-conforming Material	QSP 24	
42	QAP 62	Material Scrap Reporting	QSP 22	
43	QAP 63	Supplier First Article Inspection	QSP 16	
44	QAP 64	Scanning Procedure for Electronic Archiving of Quality Records	QSP 4	
45	QAP 65	Control of External Specifications	QSP 2	

Serial No	Previous Doc No	Document Title	New Doc No	Comments
46	QAP 66	Waters Corporation's Sample Review Procedure	QSP 98	
47	QAP 68	Supplier Requirements Manual	QSP 14	
48	QAP 69	Material Stock Audit Procedure	QSP 109	
49	QAP 70	100% Carburisation Checks on AGR Product.	QSP 81	
50	QAP 71	Finished Goods / Stock Procedure	QSP 26	
51	QAP 72	Tooling Design Process.	QSP 126	
52	QAP 73	Material Preservation	QSP 19	
53	QAP 74	Rounding Procedure.	QSP 29	
54	QAP 75	WIP Preview Process	QSP 20	
55	QAP 76	Maintenance Store Procedure.	QSP 128	
56	QAP 77	Issue of Metrology Equipment	QSP 35	
57	QAP 78	Airbus POA edit 3	QSP 99	
58	QAP 79	Airbus POA Compliance Table	QSP 100	
59	QAP 80	Level 1 Critical Application Material	QSP 101	
60	QAP 81	Chemistry Lab Facilities	QSP 52	
61	PS 01	Heat Treatment - Standard Processing	QSP 111	
62	PS 02	Approved Metal Processing Lubricants and Fluids	QSP 51	
63	PS 03	Tube Fabrication by Fusion Welding	QSP 102	
64	PS 08	Rotary Swaging (Tagging) Safe Usage	QSP 103	
65	PS 09	Checking of Furnace Control	QSP 114	
66	PS 13	Orbital Welding of Coils	QSP 104	
67	PS 14	Cleaning of Tubing for Special Applications	QSP 77	
68	PS 15	Pressure Testing	QSP 105	

Serial No	Previous Doc No	Document Title	New Doc No	Comments
69	PS 16	Production Work Schedules (PWS)	QSP 17	
70	PS 26	General Requirements for Degreasing of Material	QSP 71	
71	PS 27	OD Polishing of Tubing	QSP 106	
72	PS 38	Pickle Shop Operations	QSP 72	
73	PS 43	Heat Treatment of Coiled Tubing	QSP 113	
74	PS 47	Cleaning of Small Bore Coil ID	QSP 73	
75	PS 50	Heat Treatment of Titanium Tubing	QSP 112	
76	PS 51	Chemical Milling	QSP 74	
77	PS 52	Disposal Instructions for Surplus or Rejected Tubing replacing WSP 1	QSP 23	
78	PS 55	Tube Printing	QSP 107	
79	PS 57	Surface Treatment and Coating of Metal Working Tools	QSP 125	
80	PS 58	Manufacture of Sheathed Cable	QSP 108	
81	LS 01	Room Temperature Tensile Testing.	QSP 84	
82	LS 02	Intercrystalline Corrosion test for S/S Cu Sulphate Acid test solutions	QSP 78	
83	LS 03	Method for Determining Delta Ferrite in Tubing	QSP 86	
84	LS 04	Product Check Analysis for Stainless Steel	QSP 87	
85	LS 05	Testing of Work Centre 321 (No.1 Process Degreaser) Thermocouple and Gauge	QSP 88	
86	LS 06	Surface Roughness Measurement	QSP 89	
87	LS 07	Measurement of Chlorides On Tube Walls	QSP 75	
88	LS 08	Effluent Treatment	QSP 76	
89	LS 09	Determination of Boiler Waters Contamination Levels.	QSP 56	
90	LS 10	Determination of Solids in Plastic Solutions	QSP 57	
91	LS 11	Control of Product Testing	QSP 90	

Serial No	Previous Doc No	Document Title	New Doc No	Comments
92	LS 12	Monitoring of Cooling Waters	QSP 58	
93	LS 13	Bend Testing of Tubing	QSP 91	
94	LS 14	Control of Process Acid Baths	QSP 54	
95	LS 15	Alkaline Cleaning Bath (caustic potash)	QSP 59	
96	LS 16	Alkaline Permanganate Baths	QSP 60	
97	LS 20	Carbon Determination on AGR Cans	QSP 80	
98	LS 21	Radiographic Inspection of Butt Welds	QSP 92	
99	LS 22	Contractile Strain Ratio (CSR) Determination	QSP 93	
100	LS 23	Procedure for the determination of Hydrogen in Titanium	QSP 61	
101	LS 24	Monitoring of Sealed X-RAY Equipment for Radiation Leakage	QSP 94	
102	LS 25	Monitoring of Gas Scrubbing Liquors	QSP 55	
103	LS 26	Hardness Testing - Vickers Test Method	QSP 85	
104	LS 27	System Accuracy Test	QSP 119	
105	LS 28	Temperature Uniformity Survey (TUS)	QSP 120	
106	LS 29	Measurement of Quenching Gas Dewpoints on Vacuum Annealing Furnaces	QSP 121	
107	LS 30	Control of IMT Equipment : Thermocouples	QSP 122	
108	LS 31	Analysis of Neutralised Waste Acid for Disposal	QSP 62	
109	LS 33	Monitoring of Nitrous and Hydrogen Fluoride Fumes Emitted to Atmosphere	QSP 63	
110	LS 34	Procedure For Testing Working Fluids	QSP 64	
111	LS 36	Metallographic Preparation & Examination	QSP 82	
112	LS 38	Determination of Contamination Present on Tubing	QSP 65	
113	LS 39	Carbon Level Determination of Tubing Following Degreasing / Annealing Ops	QSP 79	
114	LS 40	Analysis of Tube Surface Residues	QSP 66	

Serial No	Previous Doc No	Document Title	New Doc No	Comments
115	LS 41	Round Robin Testing Programme Procedure	QSP 95	
116	LS 42	Norsok Temperature Uniformity Surveys UNS31254 (TUS)	QSP 123	
117	LS 43	Norsok TUS for Superduplex	QSP 124	
118	LS 44	Flare Test Procedure	QSP 96	
119	LS 45	Determination of ID contamination using FTIR	QSP 67	
120	LS 46	Deviation Alarm Procedure, Assets 474, 481, 482, 301, 305 & 307	QSP 117	
121	LS 47	Leak Test, Assets 474, 481 & 482	QSP 118	
122	LS 48	(Reliance Industries Ltd) Cleanliness Verification of Coil for Oxygen Service	QSP 68	
123	LS 49	FT-IR Analysis of Process Fluids	QSP 69	
124	LS 50	Laboratory Verification of Water Purity	QSP 70	
129	WSP 07	N.D.T. Setup and Calibration Procedures.	QSP 36	
130	WSP 08	Instrument Check & Calibration Procedure.	QSP 37	
132	WSP 17	Personnel Qualification & Approval in ET & RT	QSP 38	
133	WSP 18	Company Policy/Control Documentation for Qualification/Approval in UTS	QSP 39	
145	WSP 67	Identification of Test Specimens B.S. T100	QSP 18	
147	WSP 72	Hardness conv. Values S/S tubing Rockwell B & Vickers Test Methods	QSP 30	
149	WSP 75	Maintenance Computer System Procedures	QSP 129	
163	WSP 94	Furnace Operator Training and Approval.	QSP 110	
166	WSP 97	Furnace Hydrogen Flow Check	QSP 115	
168	-	Organisation Context	QSP 47	New document
169	-	Procedure for Counterfeit Products	QSP 48	New document
170	-	Knowledge Transfer	QSP 49	New document