Magee Plastics Company
303 Brush Creek Road
Warrendale, PA 15086-7595
Phone (724) 776-2220 • Fax (724) 776-9696
SITA: PITMPXD • Supplier Code: 64235

QUALITY MANUAL

MAGEE MANUAL NO. 1001

Revision – AL Dated 2013 APR 12
Revision – AM Dated 2013 AUG 26
Revision – AN Dated 2014 JAN 10
Revision – AP Dated 2014 APR 15
Revision – AQ, Dated 2015 DEC 15
Revision – AR, Dated 2016 FEB 19

MANAGEMENT REVIEW TEAM APPROVAL

The following Management Review Team members from Magee Plastics Company have approved Revision AR of Magee Plastics Company Manual No. 1001.

Approved By: Original Signed By:
Glen H Maus
President

Approved By: Original Signed By:
Séan P. Magee
Chief Operating Officer

Approved By: Original Signed By:
Charles W.C. Story
Vice President Engineering / Quality Assurance

Approved By: Original Signed By:
Sheridan L. Kelly
Vice President Sales & Marketing

Approved By: Original Signed By:
Jeffrey D. Hughes
Vice President Production

Approved By: Original Signed By:
Todd A. Fritz
Quality Assurance Manager

LIST OF EFFECTIVE PAGES

PAGE No.	REV.	PAGE No.	REV.	PAGE No.	REV.	PAGE No.	REV.	PAGE No.	REV.
Title	AR	23	AK						
i	AR	24	AK						
ii	AK	25	AK						
iii	AK	26	AK						
iv	AN	27	AN						
v	AR	28	AK						
vi	AP	29	AK						
vii	AP	30	AK						
1	AR	31	AQ						
2	AM	32	AQ						
3	AN	33	AK						
4	AK	33	AK						
5	AK	34	AN						
6	AK	35	AM						
7	AR	36	AK						
8	AM	37	AN						
9	AN	38	AK						
10	AN	39	AM						
11	AK	40	AK						
12	AM	41	AK						
13	AK	42	AK						
14	AP	43	AK						
15	AK	44	AN						
16	AK	45	AK						
17	AQ	46	AN						
18	AK								
19	AK								
20	AK								
21	AK								
22	AK								

SITA:PITMPXD SUPPLIER CODE: 64235

Magee Plastics Company • 303 Brush Creek Road • Warrendale, PA 15086-7595 • Phone (724) 776-2220 • Fax (724) 776-9696

REVISION HISTORY (PAGE 1)

REV	DESCRIPTION	DATE	APPROVAL
A	Issue date on all sheets	Jun 6, 1973	T.E.B
B	P.M.A. Kit identification label altered to include part number airplane model efficiency and aircraft incorporating S.T.C. SA4-1100 (580).	Jun 6, 1973	T.E.B
C	Reissued manual format; assignment of Manual No. 1001; reorganization of index adding sections: 4.0 organizational chart, 5.1 inspection stamp control, 5.2 tool and gage control, 5.3.1 supplier control, 5.3.4 storage control-materials and supplied parts, 7.0 manufacturing processes, 10.0 inspection stations, 11.0 nondestructive testing, 12.0 testing, 13.1 material review board, 14.0 airworthiness certification, 15.0 storage control - finished good, 18.0 service difficulties; notification of change of address; 19.0 manual review.	Aug 14, 1975	R.A.W.
D	Added Rejected Items Storage Area (Number Code 6)	Mar 3, 1976	R.A.W.
E	Included clause concerning the reassignment of inspection stamps	Mar 3, 1976	R.A.W.
F	Added Clause explaining the utilization of rejected items stowage area (Number Code 6)	Mar 3, 1976	R.A.W.
G	Added Page 3-A (Manual Revision Rec.) And 14-1 (Inspection Stations)	May 6, 1976	R.A.W.
H	Organizational Chart 4.0 (Added Names)	Jul 15, 1976	R.A.W.
I	Manual Revision	Dec 13, 1976	G.D.M
J	Personal Revision and Correction of Error	Jun 2, 1977	G.D.M.
K	Added Page 3-B Corrected Statement from Referencing Manual 1004 to Ref. 1002	Aug 10, 1977	G.D.M.
L	Revised Organization Chart, added MRB Approval Stamp, and replaced W.O. Form	Dec 22, 1977	G.D.M.
M	Personnel and Floor Plan Revised	May 2, 1978	G.D.M.
N	Personnel Revision	Feb 20, 1980	G.H.M.
O	Personnel Revision	Aug 21, 1980	G.H.M.
P	Personnel Revision	Feb 9, 1981	G.H.M.
Q	Changed Address, Revised Floor Plan, Changed W.O. Form, P/N Label, Packing Slip	Aug 12, 1981	G.H.M.
R	Personnel Revision	Mar 28, 1983	G.H.M.
S	Title Page Revision, Scope Revision, Changed W.O. Form, Personnel Revision	Jan 4, 1984	G.H.M.
T	Manual Revision	Jun 8, 1984	G.H.M.
U	Personnel Revision	Dec 5, 1991	G.H.M.
V	Manual Revision	Jul 27, 1992	G.H.M.
W	Manual Revision	Oct 5, 1993	G.H.M.
X	This revision is a complete reissue of the manual. The manual has been converted to an electronic word processor format. The typed revision W will be on file at Magee for historical purposes. The manual has been updated to the ISO 9002 format.	Mar 26, 1996	S.P. Magee G. H. Maus

SITA:PITMPXD SUPPLIER CODE: 64235

Magee Plastics Company • 303 Brush Creek Road • Warrendale, PA 15086-7595 • Phone (724) 776-2220 • Fax (724) 776-9696

REVISION HISTORY (PAGE 2)

REV	DESCRIPTION	DATE	APPROVAL
Y	This revision corrects typographical errors, adds a new organizational chart, adds the Director of Engineering and QA to the approval list, changes the date in the header to the original issue date and makes changes suggested by the FAA and DAC. (Memo from S. Ratliff to J. Hughes, dated 7/02/96 and memo from J. Hughes to T. Allchin, dated 3/14/97, JDH-97-024). A bar in the left margin indicates all changes. This revision covers all pages.	Dec 26, 1996	S.P. Magee G.H. Maus C.W.C. Story
Z	This revision makes changes to the manual due to the elimination of the Chief Inspectors position, the new final inspection method (section 9.3 & 9.4), the new procedures for customer rejected material, see new section 15.4 and changes in the titles of management personnel.	Jan 8, 1998	S.P. Magee G.H. Maus C.W.C. Story
AA	This revision makes changes to the manual due to the new business computer system, our efforts to go to a paperless system and the management changes that have taken place due to the new system. Various typos have also been corrected and a new floor plan has been added. The Organizational Chart and the building floor plan have been removed from this document and are now referred to as second tier documents.	Sep 14, 1999	S.P. Magee G.H. Maus C.W.C. Story
AB	This revision is a total rewrite of the Quality Manual in accordance with AS9100 Revision A (ISO9001:2000). Since this is a total rewrite changes will not be shown in red or by a line in the left-hand margin.	Jan 21, 2002	See Management Team Approval, Page iii
AC	This revision changes titles of several individuals in response to management changes per the Board of Directors at the annual meeting of October 13, 2004. Corrects typographical error on page 7, section 5.3, added pages ix & x to the List of Effective Pages, deletes electronic file location, adds revision level and title to the Title Page.	Nov. 3 2004	See Management Team Approval, Page iii
AD	This revision changes items due to AS9100 Rev. B, corrects typographical errors and adds new reference standards, defines warranty and lists section 7.5.1.5 as an exclusion. The revised Quality Policy has been added and the members of the Management Team have changed.	Mar. 26, 2007	See Management Team Approval, Page iii
AE	This revision adds a flow chart after section 4.1 which shows the process needed for the quality management system and the sequence and interaction of them. References to paper copies of this manual and the procedures associated with them have also been removed. Reference to Manual 1024 has been added to section 7.3. A link to section 1.2 has been added to section 7.5.1.5. Reference to MPS 2002-02-04 has been added to section 7.5.5.	Oct. 17, 2007	See Management Team Approval, Page iii
AF	Revised Quality Policy, ISO Management Representative, overall review and revision of verbiage by the Management Review Team. Removed reference to ISO9001:2000. Added MPS 2009-04-01 to Section 7.4.3 and MPS 2008-07-02 to Section.7.5.1.	2009 MAY 15	Management Team Approval (Page iii)

SITA:PITMPXD SUPPLIER CODE: 64235

Magee Plastics Company • 303 Brush Creek Road • Warrendale, PA 15086-7595 • Phone (724) 776-2220 • Fax (724) 776-9696

REVISION HISTORY (PAGE 3)

AG	Revised Section 7.4.3 from "may" to "shall" as correction from AS9100 audit (2009 DEC 16 reference: CAR 1876) and included reference to MPS 2009-12-02 Verification of Purchased Product. Revision AG corrects typographical errors on pages 16, 25 and 29.	2009 DEC 22	Management Team Approval (Page iii)
AH	Revised Section 1.0 Scope to eliminate 1.2 exclusion of "servicing" per CAR 1897, as PRI Registrar Auditor determined that the FAA Repair Station was part of "servicing". Edited "Scope" to reflect the Registrar's wording on the ISO9001 / AS9100 Certificate. Relocated Management Team Approval Signatures to Title Page with Proprietary statement. Removed Manual Control Record section. Added additional references and definitions which included the relationship of part and article. Provided additional details regarding Management Commitment, Planning, Control of Monitoring and Measuring Devices and QMS Requirements.	2010 JUL 30	See Management Team Approval on Title Page
AJ	Correction to Section 3.15 per Part 21.1 definition of an appliance is now an article; inclusion of Magee Form ENGR-009 Risk Assessment Worksheet; inclusion of MPS 2010-11-01 Customer Focus: Tracking On Time Shipments; refinement of verbiage regarding supplier control, in-service feedback and quality escapes; correction of minor typographic errors and numbering revisions.	2010 DEC 03	See Management Team Approval on Title Page.
AK	General review and update to reflect the changes required for AS9100 Revision C upgrade.	2011 OCT 21	See Title Page
AL	Revised Section 1.2 Application/Exclusions to exclude post delivery support per clause 7.5.1.4 (a) and (e) per CAR 2000. Changed the Director of Quality Assurance and Safety to the Quality Assurance Manager.	2013 APR 12	See Title Page
AM	Revised Section 2.0 Reference Documents; removed Forms QA-015 A and QA-002 Internal Audit Checklist as obsolete. Added Form QA-051 Internal Audit Report. Revised Section 4.2.1.1; removed "as presented in MPC Manual No. 1001, Quality Manual". Revised Section 5.3.1 Quality Policy; removed actual policy from manual to apply separate revision control from manual. Revised Section 5.3.3 to add Quality Policy with form number. Revised Section 7.6.2 to remove obsolete Form QA-015A. Revised Section 8.2.2.8 to replace obsolete Form QA-002 with Form QA-051.	2013 AUG 26	See Title Page
AN	Removed 2002-05-03 MRB from Sections 2.0, 8.1.1.3, 8.3.10, and 8.5.2.5 as Obsolete. Revised MPS 2008-01-01 from 'Document Retention Procedure' to 'Record Control Procedure' in Sections 2.0, 4.2.3.2, 4.2.4.2, and 4.2.4.1. Revised Manual #1009 from 'Document/Record Control' to 'Document Control' in Sections 2.0, 4.2.3.1, and 4.2.3.2. Revised title of Form QA-019 in Section 7.4.1.4. Added MPS 2012-11-01 as Reference Document in Section 7.5.5.4.	2014 JAN 10	See Title Page

SITA:PITMPXD SUPPLIER CODE: 64235

Magee Plastics Company • 303 Brush Creek Road • Warrendale, PA 15086-7595 • Phone (724) 776-2220 • Fax (724) 776-9696

REVISION HISTORY (PAGE 4)

AP	Ref. CAR 2062: Added exclusion justification to Section 7.5.1.4 a) and revised Section 7.5.1.4 e) and 7.5.1.6 a). Ref. CAR 2063: Revised process interaction flow chart in Section 4.1.4 to reflect established Process Effectiveness Assessment Reports (PEARs). Per Internal Audit of Management process, added Manual # 1019 to Ref. Documents, Section 5.5.1 c).	2014 APR 15	See Title Page
AQ	Ref. PRI Surveillance Audit # 13-1930-4: Revised exclusions from scope in Sections 1.2.1 and 7.5.1.4 c) and d). Additionally, added MPS 2009-07-01 Data Backup Procedure to Section 6.3 d).	2015 DEC 15	See Title Page
AR	Ref. PRI Witness Audit 2016 FEB 18: Corrected error in Section 4.1.4, Process Interaction Chart. Removed the word 'interior' from Section 1.1.2, re: scope.	2016 FEB 19	See Title Page

SITA:PITMPXD SUPPLIER CODE: 64235

Magee Plastics Company • 303 Brush Creek Road • Warrendale, PA 15086-7595 • Phone (724) 776-2220 • Fax (724) 776-9696

TABLE OF CONTENTS

SITA:PITMPXD SUPPLIER CODE: 64235

Magee Plastics Company • 303 Brush Creek Road • Warrendale, PA 15086-7595 • Phone (724) 776-2220 • Fax (724) 776-9696

1.0 SCOPE

1.1 GENERAL

1.1.1 This MPC Quality Manual specifies the requirements for Magee Plastics Company's quality management system:

a) demonstrates its ability to provide consistent product that meets customer and applicable statutory and regulatory requirements;
b) addresses and augments customer satisfaction through the effective application of the quality management system;
c) provides the structure of processes for continual improvement and the prevention of nonconformity;
d) establishes systems to disposition nonconformances;
e) establishes programs to train its employees to ensure their competence
f) promotes value added growth based on objective measurements;
g) institutes systems to ensure the conformity to customer, statutory and regulatory requirements.

1.1.2 The scope of registration at Magee Plastics Company:

The design and manufacture of plastic and composite systems for the Aerospace, Locomotive and Ground Transportation industries to include the services of an authorized FAA Repair Station as specified in the FAA Repair Station Capabilities List Magee Manual No. 1015.

1.2 APPLICATION / EXCLUSIONS

1.2.1 Exclusions from the scope are post delivery support per clause 7.5.1.4 (a), (c), (d), and (e).

1.2.2 Per FAA requirements contained in our Operations Specifications for our Repair Station No. GR1R176K, MPC is not permitted to work at any other site except at our primary location, 303 Brush Creek Road, Warrendale, PA 15086 on FAA Repair Station parts. For all other parts, MPC does not carry the required insurance to allow MPC employees to travel to another facility to rework/repair any of our parts, thus it is prohibited.

1.2.3 Servicing of articles on site is permitted as documented in FAA Repair Station Capabilities List Magee Manual No. 1015.

1.2.4 Reference Documents:

- Magee Manual No. 1007 FAA Repair Station
- Magee Manual No. 1015 FAA Repair Station Capabilities

2.0 REFERENCE DOCUMENTS

ISO 9001 / AS9100 (Latest Rev.) Society of Automobile Engineers Quality Management Systems Aerospace requirements.
ISO10007 Quality management systems- Guidelines for configuration management
D6-82479 Boeing Quality Management System Requirements for Suppliers, latest revision.
14 CFR Part 21 Certification Procedures for Products and Parts, U.S. Dept. of Transportation, FAA, Washington, D.C.
14 CFR Part 25 Airworthiness Standards: Transport Category Airplanes U.S. Dept. of Transportation, FAA, Washington, D.C.
14 CFR Part 121 Certification and Operations: Domestic, Flag and Supplemental Air Carriers and Commercial Operators of Large Aircraft. U.S. Department of Transportation, FAA, Washington, D.C.
14 CFR Part 145 Repair Station, U.S. Department of Transportation, FAA, Washington, D.C.
AC 25-17 Advisory Circular: Transport Airplane Cabin Interiors Crashworthiness Handbook, Dated 15 June 1991.
AC 145-9 Advisory Circular: Guide for Developing and Evaluating Repair Station and Quality Control Manuals, Dated 03 July 2003.C.A.S.E. (Coordinating Agencies for Supplier Evaluation) Audits
Magee Form ENGR-006 Test Data
Magee Form ENGR-008 Design and Development Stages
Magee Form ENGR-009 Risk Assessment Worksheet
Magee Form ORG-001 Organizational Chart
Magee Form PUR-001 Purchase Order JD Edwards Form
Magee Form PUR-003 Magee Terms and Conditions
Magee Form QA-001 QMS Supplier Audit Survey
Magee Form QA-003 Approved Supplier and Contractor List
Magee Form QA-004 Schedule Internal Audit
Magee Form QA-024 Quality Assurance Purchase Order Requirement Quality Clauses
Magee Form QA-051 Internal Audit Report
Magee Form Sales-004 First Article Sample – Drawing Approval
Magee Form Sales-008 Magee Satisfaction Survey
Magee Form Sales-011 Order Acknowledgment Form
Magee Form Tool-001 Tool and Gauge Data
Magee Form Training-001 Training Matrix
Magee Form Training-003 Job Description
Magee Form Training-003 Job Description: Quality Assurance Manager
Magee Form Training-003 Job Description: Product Quality Coordinator
Magee Form WO-004 Work Order
MPS 2002-02-03 Purchasing
MPS 2002-02-03 Purchase Order Procedure
MPS 2002-02-04 Identification, Traceability and Positive Recall
MPS 2002-02-05 General Inspection
MPS 2002-02-06 Control of Nonconforming Products
MPS 2002-02-07 Corrective Action
MPS 2002-02-08 Handling, Storage, Packaging & Delivery
MPS 2002-02-08 Review of Product Requirements
MPS 2002-02-11 Visual Inspection
MPS 2002-03-01 Receiving Inspection Procedure

2.0 **REFERENCE DOCUMENTS** continued

MPS 2002-03-01 Configuration Management
MPS 2002-03-01 Receiving Inspection
MPS 2002-03-02 In-Line Inspection Procedures
MPS 2002-03-03 Final Inspection
MPS 2002-03-04 General Production
MPS 2002-03-05 Production Supervisors
MPS 2002-03-06 Contract Review
MPS 2002-03-07 First Article Inspection
MPS 2002-03-08 Internal Audit
MPS 2002-03-09 Statistical Techniques
MPS 2002-03-10 Personnel Training Procedures
MPS 2002-03-11 Visual Inspection Procedures
MPS 2002-03-12 FAA Reporting Requirement Procedures
MPS 2002-03-13 Preventive Action
MPS 2002-03-14 Quality System Procedures
MPS 2002-03-15 Testing Procedures
MPS 2002-03-16 Management Review
MPS 2002-03-17 Dimensional Tolerances
MPS 2002-03-18 Review of Product Requirements
MPS 2002-05-02 Repair Station Receiving Inspection Procedure
MPS 2002-09-03 CNC Procedure
MPS 2003-08-01 Configuration Management
MPS 2008-01-01 Record Control Procedure
MPS 2008-07-02 Equipment Maintenance,
MPS 2009-04-01 Supplier-Vendor Approval
MPS 2009-05-02 FARO Laser Arm Scan
MPC 2009-07-02 Change Management Plan
MPS 2009-12-02 Verification of Purchased Product
MPS 2010-11-01 Customer Focus Tracking On Time Shipments
Magee Manual No. 1003 Tool and Gauge Control Manual
Magee Manual No. 1007 Repair Station Manual
Magee Manual No. 1009 Document Control Manual
Magee Manual No. 1019 Management Duties and Responsibilities
Magee Manual No. 1020 Employee Guidelines
Magee Manual No. 1023 Training Program
Magee Manual No. 1024 Design
Magee Manual No. 1026 Safety Manual
Magee Manual No. 1028 Export Compliance Manual
Magee Plastics Company Course Attendance Rosters
Magee Plastics Company Employee Competency Validation Records
Magee Plastics Company Personnel Files
Magee Plastics Company Quality Policy
R&D Project Status Reports

3.0 TERMS AND DEFINITIONS

3.1 THE FOLLOWING ARE TERMS AND DEFINITIONS USED IN THIS MANUAL AND ARE PRESENTED HERE FOR REFERENCE.

3.1.1 AC: Advisory Circular, FAA documentation.

3.1.2 AD: Airworthiness Directive. Airworthiness Directives are issued to correct unsafe conditions in a product. A product is an aircraft, aircraft engine or propeller.

3.1.3 FAA: The Federal Aviation Administration

3.1.4 Key Characteristics: The features of a material, process, or part whose variation has a significant influence on product fit, performance, service life, or manufacturability.

3.1.5 KPI: Key performance indicator refers to a metric or measurement used to quantify and evaluate organizational success. They measure how much success you've had and how much progress you've made relative to the objectives you wish to achieve. KPIs are also used to set measurable objectives, evaluate progress, monitor trends, make improvements, and support decision making. KPIs should be quantifiable and appropriate and should collect information that is useful to your organization and relevant to the needs and expectations of interested parties.

3.1.6 MPC: Magee Plastics Company

3.1.7 Part: For the purpose of this procedure this term means an article which may be a material, component, process, or appliance.

3.1.8 Product: Applies only to the product / service intended for, or required by, a customer.

3.1.9 QMS: Quality Management System

3.1.10 Quality Objective: A quality oriented goal that a company shall attempt to achieve. These are generally based on or derived from the quality policy and should be formulated at all relevant levels within the organization and for all relevant functions.

3.1.11 Quality Plan: A document specifying the processes of the QMS and the resources to be applied to a specific product, project or contract.

3.1.12 Risk: An undesirable situation or circumstance that has both a likelihood of occurring and a potentially negative consequence.

3.1.13 Service: Service provided to support Magee Plastics Company own products (e.g. warranty service) or products supplied by a customer (e.g. a repair service). Magee Plastics Company is not authorized to perform any servicing outside of the Warrendale location.

3.1.14 Turtle Diagram: A tool used for analyzing a process. It usually consists of identifying the process & owner (body), asks four questions about that process (the legs), incorporates a question for input (head) and a question for output (tail). The "legs" ask (1) what information is utilized; (2) Who participates in the process; (3) What tools are required; and (4) What metrics are maintained to evaluate the process.

3.1.15 Vendor / Supplier: Used interchangeably for the services and goods rendered by a source outside Magee Plastics Company

3.1.16 Warranty: Magee will repair or replace defective parts returned to our facility as required or requested by the customer.

3.2 SPECIAL REQUIREMENTS

3.2.1 Magee Plastics Company (MPC) shall ensure that special requirements which have high risks to being achieved are identified and addressed through the various risk management processes

3.2.2 Factors used in the determination of special requirements shall include but are not limited to:

- Product or process complexity
- Past experience
- Product or process maturity

3.3 CRITICAL ITEMS

3.3.1 Magee Plastics Company (MPC) shall ensure that those items which have significant effect on the product realization and use of the product shall be identified and adequately managed

3.3.2 Factors used in the determination of critical items shall include but are not limited to:

- Safety
- Performance
- Form
- Fit
- Function
- Producibility
- Service life

3.4 KEY CHARACTERISTICS

3.4.1 Magee Plastics Company (MPC) shall identify key characteristics of articles produced and ensure actions are taken to ensure the control of variation to said key characteristics.

3.4.2 Key Characteristics for the purpose of Magee Plastics Company articles are currently defined as flammability and color.

SITA:PITMPXD SUPPLIER CODE: 64235

Magee Plastics Company • 303 Brush Creek Road • Warrendale, PA 15086-7595 • Phone (724) 776-2220 • Fax (724) 776-9696

4.0 QUALITY MANAGEMENT SYSTEM

4.1 GENERAL QMS REQUIREMENTS

4.1.1 Magee Plastics Company (MPC) has established, implemented and maintained a documented quality management system (QMS) and shall continually improve its effectiveness in accordance with the requirements of the AS9100 standard (latest revisions) and applicable regulatory requirements.

- Utilizing this QMS, its associated documents, processes and requirements, MPC has instituted programs which also enable this company to continually improve its products and processes.
- The MPC Quality Management System also addresses customer, statutory and regulatory requirements as applicable.

4.1.2 To implement and maintain the quality management system, MPC has committed to:

a) Identifying the processes needed for the quality management system and their purpose through Magee Plastics Company;
b) Determining the sequence and interaction of these processes;
c) Determining the criteria and methods required to ensure the effective operation and control of these processes;
d) Providing the information, tools and resources to support the QMS;
e) Measuring, monitoring and analyzing these processes, and
f) Implementing actions necessary to achieve planned results and continual improvement.

4.1.3 When MPC chooses to outsource any process that affects product conformity to requirements, MPC shall ensure control over such processes.

a) Control of specific outsource processes shall be identified within the quality management system.
b) Outsourced processes shall include those required for the MPC quality management system and those performed by external parties.
c) Outsourced processes affecting specific product quality and design shall be regulated by Engineering Drawings
d) MPC shall ensure that outsourced processes conform to the applicable customer, statutory and regulatory requirements.

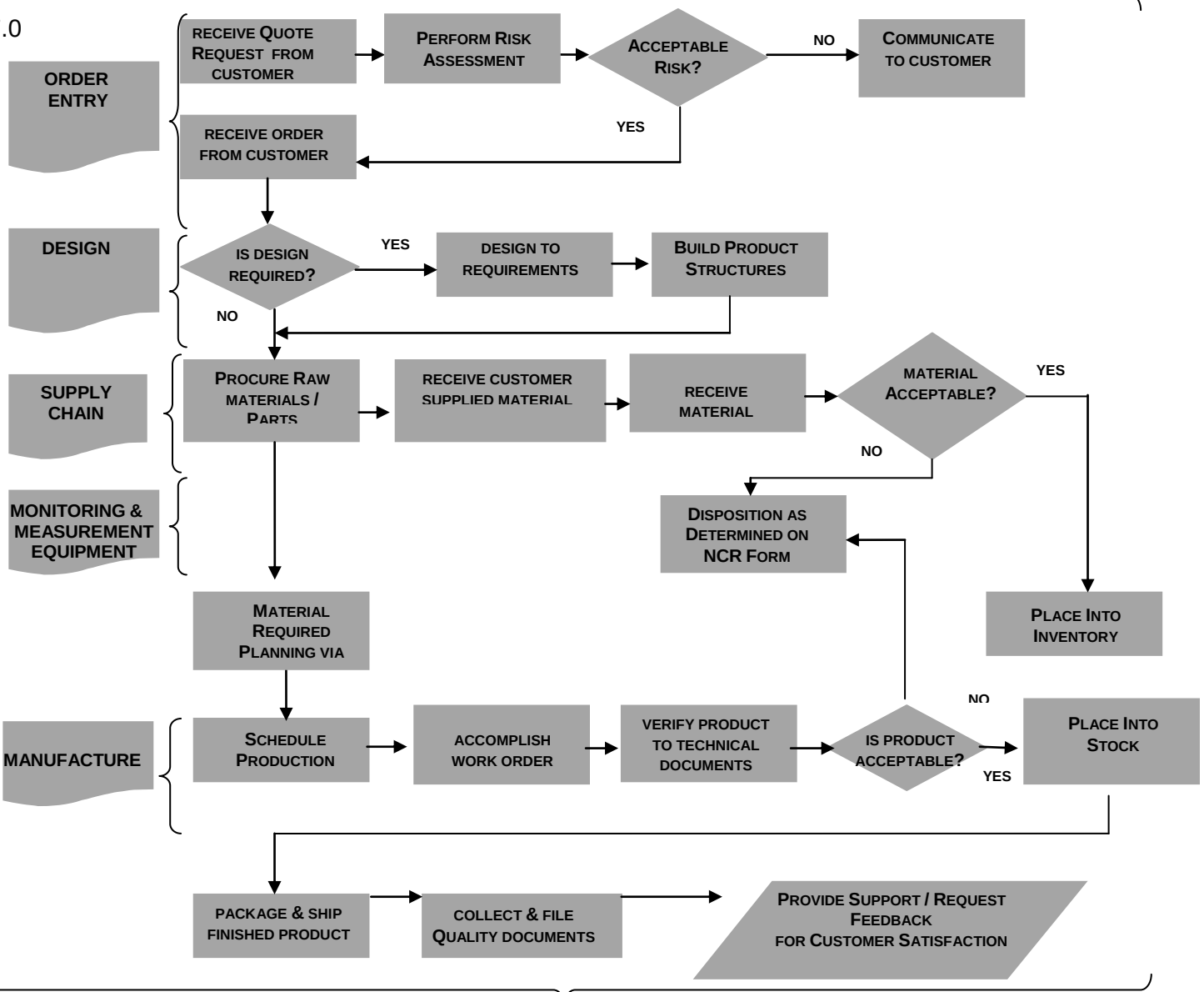
4.1.4 The general sequence of the Magee Plastics Company is included in the flow chart as pictured below:

PRODUCT REALIZATION

4.0
5.0
6.0

QUALITY MANAGEMENT SYSTEM REQUIREMENTS
MANAGEMENT COMMITMENT AND RESPONSIBILITY
RESOURCE MANAGEMENT

7.0



8.0

IMPROVEMENT PROCESS:
INTERNAL AUDITS
CORRECTIVE ACTIONS
PREVENTIVE ACTIONS

4.2 DOCUMENTATION REQUIREMENTS

4.2.1 The Magee Plastics Company Quality Management System documentation includes the following:

4.2.1.1 The Magee Plastics Company Quality Policy with its associated quality objectives.

4.2.1.2 The Magee Plastics Company Manual No. 1001 Quality Manual and its supporting MPC documents such as Engineering Drawings;

4.2.1.3 Controlled procedures, work instructions and forms as required by AS9100 (latest revision) and the MPC Quality Management System;

4.2.1.4 Documents necessary for MPC to promote effective planning, operation and control of its processes

4.2.1.5 Associated records to support the requirements of the AS9100 standard and to act as evidence for verification purposes;

4.2.1.6 Quality system requirements imposed by the applicable regulatory authorities such as the FAA, International Traffic in Arms Regulations (ITAR) and Export Administration Regulations (EAR);

4.2.1.7 Documents required by MPC to ensure the quality of product to meet and / or exceed customer requirements.

4.2.1.8 It should be noted that the extent of the quality management system documentation is dependent on the following:

- the type of activity being accomplished,
- the complexity of processes and their interaction,
- the competence of personnel, and
- applicable requirements to satisfy regulatory authorities.

4.2.1.9 Access to Quality Management System Documentation

- All personnel have access to applicable quality management system documentation through the Magee intranet electronic files as well as hard copy postings and documents.
- Personnel are made aware of relevant procedures via orientation training, recurrent training and support documents such as work orders and Engineering drawings.
- Customer and regulatory authority representatives have access to quality management system documentation upon request, as required.

4.2.1.10 Documentation may be in either hard copy or electronic form.

4.2.2 Quality Manual**:** MPC has established and shall continue to maintain this Magee Manual No. 1001 Quality Manual to include the following:

4.2.2.1 The scope of the Magee Plastics Company Quality Management System as issued on the ISO9001 / AS9100 certificate which includes the details of and justification for any exclusions;

4.2.2.2 The documentation established for the MPS Quality Management System, or reference to the procedures, work instructions and forms;

4.2.2.3 The relationship between the requirements of the AS9100 standard and the documented procedures when referencing said documented procedures;

4.2.2.4 A description of the interaction between the processes of the quality management system.

4.2.3 Control of Documents**:** Documents required by the Magee Plastics Company Quality Management System are controlled and its associated records are maintained as detailed in the specifics given in 4.2.4.

4.2.3.1 Magee Plastics Company Manual No. 1009 Document Control has been established to define the controls needed which include:

- to approve documents for adequacy prior to issue;
- to review and update as necessary and re-approve documents;
- to ensure that changes and the current revision status of documents are identified;
- to ensure that relevant versions of applicable documents are available at points of use;
- to ensure that documents remain legible and readily identifiable;
- to ensure that documents of external origin are identified and their distribution controlled;
- to prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any purpose;
- to coordinate document changes with customer and/or regulatory authorities in accordance with contract or regulatory requirements.

4.2.3.2 Reference Documents:

- Magee Manual No. 1009 Document Control
- Magee Manual No. 1028 Export Compliance Manual
- MPS 2002-05-04 Production Documentation
- MPS 2008-01-01 Record Control Procedure

4.2.4 Control of Records: Records have been established and shall be maintained to provide evidence of conformity to requirements and of the effective operation of the QMS. Records are legible, readily identifiable and retrievable.

4.2.4.1 Magee Plastics Company Process Specification MPS 2008-01-01 Record Control Procedure has been established to define the controls needed for the identification, storage, protection, retrieval, retention time and disposition of records.

- MPC MPS 2008-01-01 is applicable to in-house records and when applicable, those records created by and / or retained by suppliers.
- Records are available for review by customers and regulatory authorities in accordance with contract or regulatory requirements.

4.2.4.2 Reference Documents:

- MPS 2008-01-01 Record Control Procedure

SITA:PITMPXD SUPPLIER CODE: 64235

Magee Plastics Company • 303 Brush Creek Road • Warrendale, PA 15086-7595 • Phone (724) 776-2220 • Fax (724) 776-9696

5.0 MANAGEMENT RESPONSIBILITY

5.1 MANAGEMENT COMMITMENT: MPC Management is committed to the development and maintenance of the Quality Management System and demonstrates this commitment by the following methodologies:

a) Communicating to MPC employees the importance of meeting customer, regulatory and legal requirements through various vehicles which may include but are not limited to employee meetings, training sessions, company memos, company goals and objectives.

b) Establishing and communicating the quality policy and its associated quality objectives via tools such as QMS specific training, newsletters, company memos key performance indicators (KPIs) and performance reviews.

c) Conducting management reviews per MPS 2002-03-16 Management Review;

d) Identifying and providing the necessary resources to the Magee Plastics Company employees to support the continuous improvement programs and initiatives. Many agents shall be utilized to identify needs which include but are not limited to: employee feedback (i.e., suggestion box, surveys, interviews, training assessments); management studies (i.e., Design Reviews, Change Management Plans and Third Party Assessments) and customer / regulatory requirements (i.e., Engineering drawings, standards).

5.2 CUSTOMER FOCUS

5.2.1 MPC Management determines customer requirements with the goal of meeting or exceeding customer expectations.

5.2.2 MPC Management ensures that product conformity and on-time delivery performance are measured.

5.2.3 When product conformity or on time delivery performance negatively impacts customer satisfaction, MPC Management shall take actions when these planned results are not achieved.

5.2.4 MPC Management recognizes that customer satisfaction is a perception. Customers may not be satisfied even when contractual requirements have been met. To monitor and measure customer satisfaction, MPC Management utilizes a number of tools for this process which may include but are not limited to

a) Customer satisfaction surveys and user opinion surveys.
b) Customer visits and customer feedback to include compliments.
c) Contract reviews and warranty claims.
d) Customer audits.
e) Customer informational input such as customer supplied drawings; data and sample parts; customer data on delivered product quality and on time delivery performance.
f) Customer complaints, customer initiated corrective actions and nonconformances.
g) Lost business analysis.

5.2.4 Reference Documents:

- Magee Form Sales-008 Magee Satisfaction Survey
- MPS 2010-11-01 Customer Focus Tracking On Time Shipments

5.3 QUALITY POLICY

5.3.1 MPC Management has established the company Quality Policy as a controlled document with separate revision control from the Quality Manual. The Quality Policy is maintained as an electronic document with printed copies of the latest revision posted throughout the MPC facility.

5.3.2 This Magee Plastics Company Quality Policy:

a. Has been determined by MPC Management to be appropriate to the purpose of Magee Plastics Company;

b) Includes a commitment to comply with requirements and continually improve the effectiveness of the quality management system;

c) Provides a framework for defining, establishing, documenting and reviewing quality objectives;

d) Is continuously communicated and / or posted to promote the awareness of the policy through orientation and recurrent training;

e) Has been communicated in an effort to ensure that it is acknowledged and understood within MPC;

f) Is reviewed for continued suitability and effectiveness by Management through various vehicles to include an annual review during a Management Review Meeting.

5.3.3 Reference Documents

- Magee Form Training-001 Training Matrix [All Employees Tab];
- MPS 2002-03-16 Management Review.
- Manual 1023 Training Program
- Magee Form ADMIN-025, Quality Policy

5.4 PLANNING

5.4.1 Quality Objectives:

a) MPC Management ensures that quality objectives are established at relevant functions and levels with the company on at least an annual basis.

b) MPC Management ensures that objectives are created and documented to satisfy the requirements of products through the use of tools such as Engineering drawings, First Article Inspections, Design and Development reviews and Contract Reviews.

c) MPC Management ensures that quality objectives are specific, measurable, attainable, relevant, time-based or trackable.

d) MPC Management ensures that quality objectives are consistent with the Magee Plastics Company Quality Policy.

e) Reference:

- MPS 2002-03-16 Management Review
- MPS 2002-03-06 Contract Review
- MPS 2002-03-07 First Article Inspection
- Magee Manual No.1024 Design.

5.4.2 Quality Management System (QMS) Planning

a) MPC Management has created a plan for the Magee Plastics Company quality management system and executes it in order to meet the requirements

- As issued in section “GENERAL QMS REQUIREMENTS”
- As required via the MPC quality policy, goals and objectives
- As dictated via applicable customer, statutory and regulatory requirements.

b) MPC Management maintains the integrity of the quality management system when changes are planned and implemented through vehicles such as internal audits, meetings and change management reviews.

c) Reference Documents:

- MPS 2002-03-06 Contract Review
- MPS 2002-03-14 Quality System Procedures
- MPS 2002-03-18 Review of Product Requirements
- MPS 2009-07-02 Change Management.

5.5 RESPONSIBILITY, AUTHORITY AND COMMUNICATION

5.5.1 Responsibility and Authority:

a) MPC Management ensures that the responsibilities and authorities are defined and communicated within the Magee Plastics Company.

b) Vehicles used to define and communicate such responsibilities and authorities may include but are not limited to the following tools: Procedural documents such as process specifications and Magee Manuals; Job descriptions; Training; and the MPC organizational chart.

c) Reference Documents:

- Magee Form Training-003 Job Description
- Magee Form ORG-001 Organizational Chart
- Magee Manual No. 1020 Employee Guidelines
- Magee Manual No. 1007 Repair Station Manual
- Magee Manual No. 1019 Management Duties and Responsibilities

5.5.2 Management Representative: MPC management has appointed the position of Quality Assurance Manager as the company's management representative. As the management representative, this individual has the responsibility and authority that includes:

a) Ensuring that processes needed for the quality management system are established, implemented and maintained,

b) Reporting to top management on the performance of the quality management system and opportunities for improvement within said system,

c) Ensuring the promotion of awareness of customer requirements throughout the organization,

d) The organizational freedom to resolve matters pertaining to quality and

e) Acts in tandem with the Product Quality Coordinator as liaison with external parties on matters related to the quality management system as well as regulatory bodies for product quality and conformity.

f) Reference Documents:

- Training-003 Quality Assurance Manager
- Training-003 Product Quality Coordinator

5.5.3 Internal Communication

a) MPC Management has committed to an environment which promotes communication between its various levels and functions regarding the processes of the quality management system and their effectiveness.

b) Various tools are utilized to ensure this communication which may include employee meetings, training sessions, newsletters, bulletin board communications, interoffice memos and suggestion boxes.

c) Reference Documents:

- Magee Manual No. 1019 Management Duties and Responsibilities

5.6 MANAGEMENT REVIEW

5.6.1 General:

a) MPC management reviews the Magee Plastics Company Quality Management System at least annually to ensure its continued suitability, adequacy and effectiveness.

b) This review includes assessing opportunities for improvement and the need for changes to the MPC quality management system, including the quality policy and quality objectives. Records from management reviews are maintained.

5.6.2 Review Input into management review includes current performance and improvement opportunities related to the following:

a) Results of registrar, customer, regulatory and internal audits,

b) Feedback from internal and external customers and stakeholders,

c) Process performance and product conformance,

d) Status of preventive and corrective actions,

e) Follow-up actions from previous management reviews,

f) Changes that could affect the quality management system,

g) Recommendations for improvement.

5.6.3 Review Output from management review captures any decisions and actions related to the following:

a) Improvement of the effectiveness of the quality management system and its process,

b) Improvement of products related to customer or regulatory requirements,

c) Resource needs.

5.6.4 Reference Documents:

- MPS 2002-03-16 Management Review

6.0 RESOURCE MANAGEMENT

6.1 PROVISION OF RESOURCES: MPC management determines and provides the resources needed

a) to implement and maintain the quality management system and continually improve its effectiveness and
b) to enhance customer satisfaction by meeting customer requirements.

6.2 HUMAN RESOURCES

6.2.1 General

a) MPC ensures personnel performing work affecting product quality are competent on the basis of appropriate education, training, skills and experience.
b) Reference Documents:
- Magee Plastics Company Employee Competency Validation Records
- Course Attendance Rosters
- Personnel Files (i.e. certificates, degrees, etc.)

6.2.2 Competence, awareness and training.

(a) MPC Management determines the necessary competence for personnel performing work affecting product quality through the use of job descriptions, supervisory input, competence evaluations, training exercises and employee input.
(b) MPC Management provides training or takes other appropriate actions to satisfy the employees' competency needs.
(c) MPC Management evaluates the effectiveness of the actions taken through various means such as competence evaluations (i.e., quizzes, hands on demonstrations, reviews, interviews) and trends / shifts in nonconformances.
(d) MPC Management ensures that its personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives by conducting QMS training, posting bulletins, distributing memos, publishing newsletters and issuing performance reviews.
(e) MPC Management maintains appropriate records of education, training, skills and experience as part of Quality Records and in confidential personnel files.
(f) Reference Documents:

- Magee Manual No. 1023 Training Program
- MPS 2002-03-10 Personnel Training Procedures
- Magee Plastics Company Employee Competency Validation Records
- Course Attendance Rosters
- Personnel Files (i.e. certificates, degrees, etc.)

6.3 INFRASTRUCTURE: Magee Plastics Company Management determines, provides and maintains its facility required to achieve the conformity of product requirements, as applicable. The MPC infrastructure that is included:

a) MPC buildings, workspace and associated utilities,

b) MPC process equipment, tools, hardware, software and

c) MPC supporting services such as communication and business system capabilities.

d) Reference Documents:

- Magee Manual No. 1019 Management Duties and Responsibilities
- Magee Manual No. 1026 Safety Manual
- MPS 2009-07-01 Data Backup Procedure

6.4 WORK ENVIRONMENT

a) MPC determines and manages the work environment at its facility in order to achieve conformity to product requirements.

b) Such factors that are considered may include but are not limited to the following: temperature, humidity, lighting, cleanliness, and protection from electrostatic discharge.

c) Reference Documents:

- Magee Manual No. 1019 Management Duties and Responsibilities
- Magee Manual No. 1026 Safety Manual

7.0 PRODUCT REALIZATION

7.1 PLANNING OF PRODUCT REALIZATION

- Magee Plastics Company plans and develops the processes needed for product realization and determines the sequence and interaction of those processes to ensure suitable and consistent practices are in place for product conformity and customer satisfaction.
- Planning of these realization processes is consistent with the other requirements of MPC quality management system as well as regulatory bodies (as applicable).
- In planning the processes for realization of product MPC has determined the following, as appropriate:
  a) Quality objectives and requirements for the product, project or contract;
  b) The need to establish processes and documentation, and provide resources, tools and facilities specific to the product;
  c) Verification, validation, monitoring, measurement, inspection and testing activities, and the criteria for acceptability;
  d) The records that are necessary to provide confidence of conformity of the processes and resulting product;
  e) The configuration management appropriate to the products;
  f) The identification of resources to support operation and maintenance of the product.
- MPC Management considers the following aspects when determining and planning quality objectives and requirements for products:
  a) Product and personal safety;
  b) Reliability, availability and maintainability;
  c) Producibility and inspectability;
  d) Suitability of parts and materials used in the product;
  e) Recycling or final disposition of product at the end of its life.
- The output of MPC Planning of Product Realization: Quality Plans
  a) MPC's documentation describing how the processes that are applied for a specific product, project or contract is referred to as a quality plan.
  b) Quality Plans for products may include but are not limited to Engineering Drawings, Work Order Operations and Design and Development Stages / Changes Plans.
  c) Reference Documents:
     - MPS 2002-03-06 Contract Review
     - MPS 2002-03-18 Review of Product Requirements
     - Magee Form WO-004 Work Order
     - Magee Form ENGR-009 Risk Assessment Worksheet
     - ENG-008 Design and Development Stages.

7.1.1 Project Management: Magee Plastics Company plans and manages product realization in a structured and controlled manner to meet requirements at acceptable risk within resource and schedule constraints.

7.1.2 Risk Management: Magee Plastics Company establishes, implements and maintains processes for managing risk to the achievement of applicable requirements as appropriate to the company and the products. Items considered include but are not limited to the following:

a) Responsibilities of risk management
b) Risk criteria
c) Identification, assessment and communication of risks throughout product realization
d) Identification, implementation and management of actions to mitigate risks that exceed the defined risk acceptance criteria
e) Acceptance of risks remaining after implementation of mitigating actions

7.1.3 Configuration Management: Magee Plastics Company has established procedure MPS 2003-08-01 Configuration Management to implement, document and maintain a configuration management process appropriate to the products manufactured. The items considered include but are not limited to the following:

a) Configuration management planning
b) Configuration identify
c) Change control
d) Configuration status accounting
e) Configuration audit
f) Reference Documents:
   - MPS 2003-08-01 - Configuration Management

7.1.4 Control of Work Transfers

a) Magee Plastics Company has established, implemented and maintains a process to plan and control the temporary or permanent transfer of work and to verify the conformity of the work requirements.
b) External work transfers are communicated and controlled via purchase order documentation and subsequent documentation such as quality clauses and Engineering Drawings.
c) Internal work transfers shall be communicated and controlled via travelers (e.g. work orders, Engineering Drawings, etc.) and when appropriate, Shop-008 Rev New Turn Over Forms
d) Reference Documents:
   - Magee Form WO-004 Work Order
   - Magee Form Shop-008 Turn Over Form

7.2 CUSTOMER-RELATED PROCESSES

7.2.1 Magee Plastics Company determines requirements related to the product as specified by the customer through the use of vehicles such as drawings, sample parts, conferences, etc.

a) MPC considers the requirements for availability, delivery, post-delivery activities and support.

b) MPC includes product requirements not specified by the customer but necessary for intended or specified use as determined by MPC where known.

c) MPC adheres to those obligations related to product, including regulatory and legal requirements.

d) MPC includes any additional or special requirements as determined by MPC.

e) Reference Documents:

- MPS 2002-03-06 Contract Review
- MPS 2002-03-18 Review of Product Requirements
- Magee Form ENGR-008 Design and Development Stages
- Magee Form ENGR-009 Risk Assessment Worksheet

7.2.2 Review of Product Requirements: MPC reviews the identified customer requirements together with any additional requirements determined. A contract review is conducted prior to the commitment to supply a product to the customer (e.g. submission of a tender, acceptance of a contract or order) and ensures that:

a) Product requirements are defined.

b) Contract or order requirements differing from those previous expressed are resolved.

c) MPC has the ability to meet the defined requirements; maintain the quality requirements, and has the ability to ensure adequate inspection of said products.

d) Special requirements of the product are determined.

e) MPC has evaluated risks associated with new technology, short delivery times and other items that may be non-standard.

f) Records of reviews and resulting actions are maintained.

g) Where the customer provides no documented statement of requirement, the customer requirements shall be confirmed by MPC before acceptance.

h) Where product requirements are changed, MPC will ensure that appropriate documents are revised and approved and that relevant personnel are made aware of the changed requirements.

i) When formal reviews are not practical such as repeat orders, MPC part number and customer history are considered when accepting / approving the order.

j) Reference Documents:

- Magee Form ENGR-008 Design and Development Stages
- Magee Form ENGR-009 Risk Assessment Worksheet
- Magee Form Sales-004 First Article Sample – Drawing Approval
- Magee Form Sales-011 Order Acknowledgment Form
- MPC 2009-07-02 Change Management Plan
- MPS 2002-03-06 Contract Review
- MPS 2002-03-07 First Article Inspection
- MPS 2002-03-18 Review of Product Requirements

7.2.3 Customer Communication

7.2.3.1 MPC has determined and implemented effective arrangements for communication with customers in relation to:

a) product information,
b) inquires, contracts or order handling, including amendments, and
c) customer feedback, including customer complaints.

7.2.3.2 The Sales & Marketing Department personnel shall be the facilitators for communications with the customer assisted by the Engineering and QA Departments.

7.2.3.3 Reference Documents:

- Magee Manual No. 1019 Management Duties and Responsibilities

7.3 DESIGN AND DEVELOPMENT

7.3.1 Magee Plastics Company plans and controls the design and development of Magee Plastics Company articles.

7.3.1.1 Design and development planning by MPC determines:

a) The design and development stages, task sequence, mandatory steps, significant stages and method of configuration control;

b) The review, verification and validation are appropriate to each design and development stage;

c) And assigns the responsibilities and authorities for design and development.

7.3.1.2 Where appropriate, due to complexity, MPC will give consideration to the following activities:

a) Structuring the design and development effort into significant elements.

b) For each element, analyzing the task and the necessary resources for its design and development. This analysis shall consider an identified responsible person, design content, input data, output data, planning constraints, and performance conditions. The input data specific to each element shall be reviewed to ensure consistency with requirements.

c) The different design and development tasks shall be carried out based on the safety and functional objectives of the product in accordance with customer, statutory and regulatory requirements.

d) MPC's ability to produce, inspect, test and maintain the product.

7.3.1.3 MPC management manages the interfaces between different groups involved in design and development to ensure effective communication and clear assignment of responsibility.

7.3.1.4 Planning output is updated, as appropriate, as design and development progresses.

7.3.1.5 The different design and development task to be carried out are defined according to specified safety or functional objectives of the product in accordance with customer and/or regulatory authority requirements.

7.3.1.6 Design and development reviews, verifications and validations are recorded as appropriate.

7.3.1.7 Reference Documents:

- Magee Form ENG-008 Design and Development Stages
- Magee Form ENGR-009 Risk Assessment Worksheet
- Magee Form Sales-004 First Article Sample – Drawing Approval
- MPC 2009-07-02 Change Management Plan
- MPS 2002-03-06 Contract Review
- MPS 2002-03-07 First Article Inspection
- MPS 2002-03-18 Review of Product Requirements

7.3.2 Design and Development Inputs relating to product requirements are determined by MPC and records are maintained. These identified inputs will include:

a) functional and performance requirements,

b) applicable statutory and regulatory requirements,

c) where applicable, information derived from previous similar designs, and

d) other requirements deemed necessary by MPC for design and development.

e) MPC Management reviews the inputs for adequacy to ensure that requirements are complete, unambiguous and not in conflict with each other.

f) Reference Documents:

- Magee Manual No.1024 Design.
- Magee Form ENG-008 Design and Development Stages
- Magee Form ENGR-009 Risk Assessment Worksheet

7.3.3 Design and Development Outputs are established by MPC in a manner that enables verification against the design and development input and is approved prior to release by MPC management.

7.3.3.1 MPC ensures that design and development outputs:

a) Meet the input requirements for design and development,

b) Provide appropriate information for purchasing, production and for service provision,

c) Contain or reference product acceptance criteria,

d) Specify the characteristics of the product that are essential for its safe and proper use, and

e) Identify critical items to include key characteristics, when applicable, in accordance with design or contract requirements and the specific actions required by these.

7.3.3.2 All pertinent data required to allow the product to be identified, manufactured, inspected, used and maintained are defined by MPC; for example:

a) Drawings, parts lists, specifications, applicable regulatory regulations;

b) A listing of those drawings, parts lists, specifications and applicable regulatory regulations necessary to define the configuration and the design features of the product;

c) information on material, processes, types of manufacturing and assembly of the product necessary to ensure the conformity of the product.

7.3.4 Design and Development Review

7.3.4.1 At suitable stages, systematic reviews of design and development are performed in accordance with planned arrangements:

a) to evaluate the ability of the results of design and development to meet requirements,
b) to identify any problems and propose necessary actions, and
c) to authorize progression to the next stage

7.3.4.2 Participants in such reviews include representatives of functions concerned with the design and development stages being reviewed.

a) Records of the results of the reviews and any necessary actions are maintained.
b) Reference Documents
- R&D Project Status Reports
- Magee Form ENGR-008 Design and Development Stages
- Magee Form ENGR-009 Risk Assessment Worksheet

7.3.5 Design and Development Verification

7.3.5.1 Verification is performed in accordance with planned arrangements to ensure that the design and development outputs have met the design and development input requirements. Records of the results of the verification and any necessary actions shall be maintained.

7.3.5.2 Design and/or development verification may include activities such as:

a) performing alternative calculations,
b) comparing the new design with a similar proven design, if available,
c) undertaking test and demonstrations, and
d) reviewing the design stage documents before release.

7.3.6 Design and Development Validations are performed in accordance with planned arrangements to ensure that the resulting product is capable of meeting the requirements for the specified application of intended use, where known. Wherever practicable, validation is completed prior to the delivery or implementation of the product. Records of the results of validation and any necessary actions are maintained.

- Design and/or development validation follows successful design and/or development verification.
- Validation is normally performed under defined operating conditions.
- Validation is normally performed on the final product, but may be necessary in earlier stages prior to product completion.
- Multiple validations may be performed if there are different intended uses.

7.3.6.1 Where tests are necessary for verification and validation, these tests shall be planned, controlled, reviewed, and documented to ensure and prove the following:

a) Test plans or specifications identify the product being tested and the resources being used, define test objectives and conditions, parameters to be recorded, and relevant acceptance criteria;

b) Test procedures describe the method of operation, the performance of the test, and the recording of the results;

c) The correct configuration standard of the product is submitted for the test;

d) The requirements of the test plan and the test procedures are observed;

e) The acceptance criteria are met.

7.3.6.2 At the completion of design and/or development, MPC ensures that reports, calculations, test results, etc., demonstrate that the product definition meets the specifications requirements for all identified operational conditions.

7.3.7 Control of Design and Development changes:

7.3.7.1 Design and development changes are identified and records maintained.

a) The changes are reviewed, verified and validated, as appropriate, and approved before implementation.
b) The review of design and development changes include evaluation of the effect of the changes on constituent articles and product already delivered.

7.3.7.2 MPC change control process provides for customer and/or regulatory authority approved of changes, when required by contract or regulatory requirement.

7.3.7.3 Records of the results of the review of changes and any necessary actions are maintained.

7.3.7.4 Reference Documents

- Magee Manual 1024 Design Process Manual

7.4 PURCHASING

7.4.1 Purchasing Process

7.4.1.1 MPC has established purchasing processes to ensure that the purchased product conforms to designated requirements.

a) The type and extend of control applied to the supplier and the purchased products are dependent upon the effect of the purchased product on subsequent product realization or the final product.

b) MPC maintains responsible for the quality and conformity of all critical incoming products purchased from suppliers, including customer-designated sources.

7.4.1.2 MPC evaluates and selects suppliers based on their ability to supply product / services in accordance with the requirements set forth by MPC.

a) Criteria have been established for selection, evaluation and re-evaluations of suppliers. Records of the results of evaluations and any necessary actions arising from the evaluation are maintained. Criteria may include but are not limited to the following:

- External accreditation, licensing and or registration.
- On Time Delivery Performance.
- Purchase Order Conformance.
- Quality Compliance/Acceptance.
- Availability.
- Approved Distributors, Warehouses and Retail Chains:
- Auditing: May include mail audit questionnaires, on site audits / visits or third party audit certification such as ISO 9001, AS9100 and other recognized authorities / regulatory bodies such as FAA.
- Customer Supplier Dictated.

b) Those suppliers who provide calibration and testing services shall be responsible for providing appropriate documentation / validation as to the calibration criteria and measuring devices, as required.

7.4.1.3 In addition to the above criteria MPC:

a) maintains a list of approved suppliers that includes the scope of approval and the approval status,

b) periodically reviews supplier performance; records of these reviews are then utilized as a basis for establishing the level of controls to be implemented,

c) defines the necessary actions to take when dealing with suppliers that do not meet requirements,

d) ensures where required that MPC and their suppliers use customer-approved special process sources,

e) defines the process, responsibilities and authority for approval status decision, changes of the approval status and conditions for a controlled use of suppliers depending on the supplier's approval status

f) determines and manages the risk when selecting and using suppliers

g) ensures that the function having responsibility for approving supplier quality systems has the authority to reject the use of sources.

7.4.1.4 Reference Documents:

- Magee Form QA-001 QMS Supplier Audit Survey
- Magee Form QA-019 Nonconforming Material Report
- Magee Form PUR-001 Purchase Order Form
- MPS 2002-02-03 Purchasing
- MPS 2002-03-18 Review of Product Requirements
- MPS 2003-08-01 Configuration Management
- MPS 2009-04-01 Supplier-Vendor Approval

7.4.2 MPC purchasing information / documents contain information describing the product to be purchased including, when applicable the following:

a) Requirements for approval of product, procedures, processes and equipment.

b) Requirements for qualification of personnel.

c) Quality management system requirements.

d) The name or other positive identification such as manufacturer part number, and applicable issues of specifications, drawings, process requirements, inspection instructions and other relevant technical data.

e) Requirements for design, test, examination, inspection, verification, use of statistical techniques for product acceptance and related instructions for acceptance by the organization and as applicable critical items including key characteristics.

f) Requirements for test specimens (e.g. production method, number, storage conditions) for design approval, inspection, investigation or auditing.

g) Supplier control requirements:

- The supplier is required to notify MPC of nonconforming product released to MPC.

- Arrangement for MPC approval / rejection of supplier nonconforming material
- Must participate in positive recall requirements as applicable.
- Must notify MPC of changes in product and/or process definition, changes of suppliers, and or changes of manufacturing location and where required, obtain MPC approval.
- Requirements for the suppler to flow down to sub-tier suppliers the applicable requirement in the purchasing documents, including key characteristics where required.

h) Records retention requirements.

i) Right of access by MPC, their customers, and regulatory authorities to all facilities at any level of supply chain involved in the order and to all applicable records, and

j) MPC ensures the adequacy of specified purchase requirements prior to the communication to the supplier by means of an approval process.

k) Reference Documents:

- MPS 2002-02-03 Purchasing
- MPS 2002-03-09 Statistical Techniques
- MPS 2002-03-18 Review of Product Requirements
- MPS 2009-04-01 Supplier-Vendor Approval
- Magee Form PUR-003 Magee Terms and Conditions
- Magee Form QA-024 Quality Assurance Purchase Order Requirement Quality Clauses.

7.4.3 Verification of Purchased Product

7.4.3.1 MPC has established and implemented the inspections or other activities necessary for ensuring that purchased product meets specified purchase requirements. These verification activities may include, but are not limited to the following:

a) Obtaining objective evidence of the quality of the product from suppliers (e.g., accompanying documentation, certificate of conformity, certificate of analysis, test reports, statistical records, process control, part number compliance).
b) Inspection or audit at supplier's premises.
c) Review of the required documentation.
d) Inspection of products upon receipt.
e) Delegation of verification to the supplier, or supplier certification.

7.4.3.2 Purchased product is not used or processed until it has been verified as conforming to specified requirements unless it is released by an authority recognized by MPC and is identified, traceable and under positive recall procedure.

7.4.3.3 MPC accepts specified test reports to verify purchased product data and shall periodically validate test results for raw material at the discretion of the Engineering or Quality Departments.

7.4.3.4 When MPC delegates verification activities to the supplier, the requirements for delegation shall be defined and a register of delegations maintained.

7.4.3.5 Where MPC or its customer proposes to perform verification activities, MPC specifies the intended verification arrangements and method of product release in the purchasing information

7.4.3.6 Where specified in the contract, the customer or the customer's representative shall be afforded the right to verify at the supplier's premises and the organization's premises that subcontracted product conforms to specified requirements.

7.4.3.7 Verification by the customer shall not be used by MPC as sole evidence of effective control of quality by the supplier and shall not absolve MPC of the responsibility to provide acceptable product, nor shall it preclude subsequent rejection by the customer.

7.4.3.8 Reference Documents:

- Magee Form ENGR-006 Test Data
- Magee Form QA-003 Approved Supplier and Contractor List
- MPS 2002-02-03 Purchase Order Procedure
- MPS 2002-02-05 General Inspection Procedure
- MPS 2002-03-01 Receiving Inspection Procedure
- MPS 2002-03-11 Visual Inspection Procedures
- MPS 2002-03-15 Testing Procedures.
- MPS 2002-05-02 Repair Station Receiving Inspection Procedure
- MPS 2009-04-01 Supplier / Vendor Approval

7.5 PRODUCTION AND SERVICE PROVISION

7.5.1 Control of Production and Service Provision: MPC plans and carries out production and service provisions under controlled conditions. As applicable, controlled conditions include:

a) The availability of information that describes the characteristics of the product. This information includes Engineering Drawings; part lists, materials and process specifications.

b) The availability of work instructions, as necessary. Work instructions include process flow charts, production documents and inspection documents.

c) The use of suitable equipment. Suitable equipment includes product specific tools such as fixtures and molds.

d) The availability and use of monitoring and measuring devices.

e) The implementation of monitoring and measurement.

f) The implementation of release, delivery and post-delivery activities.

g) Accountability of all product during manufacture (e.g., parts quantities, split orders, nonconforming product).

h) Evidence that all manufacturing and inspection operations have been completed as planned, or as otherwise documented and authorized.

i) Provisions for the prevention, detection, and removal of foreign objects.

j) Monitoring and control of utilities and supplies such as water, compressed air, electricity and chemical products to the extent they affect product quality and conformity.

k) Criteria for workmanship, which shall be stipulated in the clearest practical manner (e.g., written standards, representative samples or illustrations).

i) When planning production and service, MPC considers, as applicable:

- The establishment of process controls and development of control plans where key characteristics have been identified.
- The design, manufacture, and use of tooling so that variable measurements can be taken, particularly for key characteristics.
- The identification of in-process verification points when adequate verification of conformance cannot be performed at a later stage of realization.
- Any special processes.

j) Reference Documents:

- Manual 1024 Design Process Manual
- MPS 2008-07-02 Equipment Maintenance

7.5.1.1 Production Process Verification: First Article Inspections (See also Section 8.2.6)

- MPC uses a representative sampling from the first production runs of new articles or assemblies to validate its capability of manufacturing the product within the designated requirements.
- First Article Inspections are also utilized when significant revisions to the Engineering Drawing, manufacturing processes or tooling changes invalidate the original results of the previous First Article Inspection.
- Reference Documents: MPS 2002-03-07 FAI

7.5.1.2 Control of Production Process Changes: MPC personnel authorized to approve changes to production processes are identified.

a) MPC identifies and obtains acceptance of changes that require customer and/or regulatory authority approval in accordance with contract or regulatory requirements.
b) Changes affecting processes, production equipment, tools and programs are documented. Procedures are available to control their implementation.
c) The results of changes to production processes are assessed to confirm that the desired effect has been achieved without adverse effects to product quality.
d) Reference Documents:
    - MPS 2002-05-04 Production Documentation Procedures

7.5.1.3 Control of Production Equipment, Tools, Numerical Control (NC) Machine and Software Programs: Production equipment, tools and software programs are validated prior to use and maintained and inspected periodically according to documented procedures.

a) Validation prior to production use includes verification of the first article produced to the design data/specification.
b) Storage requirements, including periodic preservation/condition checks, are established for production equipment in storage.
c) Reference Documents:
    - MPS 2002-09-03 CNC Procedure
    - MPS 2002-03-07 FAI
    - MPS 2008-07-02 Equipment Maintenance

7.5.1.4 Post-Delivery Support: As applicable per customer requirement and or statutory / regulatory requirements, MPC shall provide the following for post-delivery support:

a) A method of collecting and analyzing in-service data, (Excluded, see 7.5.1.6 a).
b) Actions to be taken where problems are identified after delivery
c) The control and updating of technical documentation, (Excluded, see 7.5.1.6 a).

d) The approval, control and use of repair schemes, (Excluded, see 7.5.1.6 b).
e) The controls required for off-site work, (Excluded, see 7.5.1.6 b).

7.5.1.5 Control of Work Transferred, on a Temporary Basis, Outside of MPC Facilities

a) When it becomes necessary to temporarily transfer work to a location outside of MPC facilities, MPC will utilize the MPC Purchase Orders to control and validate the quality of work.

7.5.1.6 Control of Service Operations:

a) Magee Plastics Company only provides servicing in the manner of warranty work on their articles returned by customers and work permitted under Magee Manual No. 1007 FAA Repair Station Manual for FAA Approved Repair Station GR1R176K. Collection and analysis of in-service data is excluded.

b) Per FAA requirements contained in our Operations Specifications for our Repair Station No. GR1R176K MPC is not permitted to work at other location except at our primary location, 303 Brush Creek Road, Warrendale, PA 15086 on FAA Repair Station parts. For all other parts MPC does not carry the required insurance to allow MPC employees to travel to another facility to rework/repair any of our parts, thus it is prohibited.

7.5.1.7 MPC production operations are carried out in accordance with approved information which may include but is not limited to the following as required per the production plan:

a) drawings, procedures and work instructions, parts lists, process flow charts including inspection operations, production documents (e.g., manufacturing work order, traveler, router, process tags);
b) inspection documents;
c) a list of specific or non-specific tools and numerical control (NC) machine programs required and any specific instructions associated with their use.
d) Reference Documents:
- Magee Form WO-004 Work Order

7.5.2 Validation of Processes for Production and Service Provision:

7.5.2.1 MPC validates processes for production and service provisions where subsequent monitoring or measurement cannot verify the resulting output.

a) This includes any processes where deficiencies become apparent only after the product is in use.
b) Referred to as special processes.
c) Validation demonstrates the ability of these processes to achieve planned results.

7.5.2.2 When applicable, MPC shall establish arrangements for special processes to include, as applicable:

a) Defined criteria for review and approval of the processes.
b) Approval of equipment and qualification of personnel.
c) Use of specific methods and procedures
d) Requirements for records.
e) Revalidation.
f) Control of the significant operations and parameters of special processes in accordance with documented process specifications and change thereto.
g) Qualification and approval of special process prior to use.

7.5.3 Identification, Traceability and Positive Recall

7.5.3.1 MPC identifies the product by suitable means throughout the production and service operation, where appropriate.

7.5.3.2 MPC maintains the identification of the configuration of the product in order to identify any differences between the actual configuration and the agreed configuration.

7.5.3.3 Status is identified with respect to measurement and monitoring requirements.

7.5.3.4 When acceptance authority media is used (e.g., stamps, electronic signatures, passwords), MPC has established and documented controls for such media.

7.5.3.5 MPC controls and records the unique identification of products, when traceability is a requirement of this company, a regulatory authority or by customer requirement.

7.5.3.6 According to the level of traceability required by contract, regulatory, or other established requirement, MPC systems provides for:

a) Identification to be maintained throughout the product life,
b) All products manufactured from the same lot of raw material or from the same manufacturing lot to be traced, as well as the destination (delivery, scrap) of all products of the same lot,
c) An assembly, the identity of its components and those of the next higher assembly to be traced,
d) A given product, a sequential record of its production (manufacture, assembly, inspection) to be retrieved.
e) Reference Documents:

- MPS 2002-02-04 Identification , Traceability and Positive Recall
- MPS 2002-08-01 Configuration Management

7.5.4 Customer Property

7.5.4.1 Care is exercised while customer property is under control or being used by MPC.

7.5.4.2 MPC identifies, verifies, protects and maintains customer property provided for use or incorporation into the product.

b) Customer property includes intellectual property, customer furnished data used for design, production and/or inspection that has been given in confidence.

c) In the unlikely event that customer property is lost or damaged it is recorded and reported to the customer immediately.

d) If customer property is found to be unsuitable for use or repair it is recorded and reported to the customer immediately.

e) Reference Documents

- MPS 2002-02-04 Identification, Traceability and Positive Recall
- MPS 2002-02-08 Handling, Storage, Packaging & Delivery

7.5.5 Preservation of Product

7.5.5.1 MPC preserves the conformity of product during internal processing and delivery to the intended destination. Preservation also applies to the constituent parts of a product

7.5.5.2 This preservation includes, where applicable in accordance with product specifications and/or applicable regulations, provisions for:

a) Handling, packaging, storage, protection, cleaning,
b) Prevention, detection and removal of foreign objects,
c) Special handling for sensitive products,
d) Marking and labeling including safety warnings,
e) Shelf life control stock rotation,
f) Special handling for hazardous materials.

7.5.5.3 MPC ensures that all documents required by the contract/order to accompany the product are present at delivery and are protected against loss and deterioration.

7.5.5.4 Reference Documents:

- MPS 2002-02-04 Identification, Traceability and Positive Recall
- MPS 2002-02-08 Handling, Storage, Packaging & Delivery
- MPS 2010-11-02 Shelf Life Program
- MPS 2012-11-01 Foreign Object Debris / Damage (FOD) Detection and Prevention Program

7.6 CONTROL OF MONITORING AND MEASURING DEVICES

7.6.1 MPC identifies the measurements to be made as well as the measuring and monitoring devices required to assure product conformity to specified requirements.

7.6.2 Measuring and monitoring devices used are controlled to ensure that measurement capability is consistent with the measurement requirements. Registries of the critical to quality equipment are maintained by the Quality Assurance Department. These listings shall include tools and gauges that are calibrated both internally and by third party resources.

- Reference: Magee Form Tool-001 Tool and Gauge Data

7.6.3 Processes have been defined and documented to ensure monitoring and measurements can be carried out in a manner consistent with the requirements. The process by which this equipment is calibrated along with the register includes the following details:

a) Equipment Type
b) Unique Identification
c) Location
d) Frequency of Checks
e) Check Method
f) Acceptance Criteria

7.6.4 Other monitoring and measuring devices:

- Monitoring and measuring devices are supplied by Magee Plastics Company and the use of employee supplied equipment is prohibited.
- Non-commercial or customized software used for measuring and monitoring of specified requirements is validated prior to use.
- Test hardware, test software, automated test equipment and plotters used to produce inspection data when defined by MPC, regulator or customer requirement shall also be validated prior to use.
- Test devices and tools supplied by the customer for specific customer requirement shall be used when appropriate and at the discretion of MPC.

7.6.5 MPC conducts all calibrations, inspections, measurements and tests in environmental conditions that are suitable for such activities, per contract, regulatory requirements or manufactures recommendations.

7.6.6 Where applicable, measuring and monitoring devices are:

a) Calibrated or verified at specific intervals or prior to use.

- Standards traceable to international or national standards are utilized.
- Where no such standards exist, the basis used for calibration is recorded.

b) Adjustments are made as required.

c) Identified to enable calibration status to be determined.

d) Safeguarded from adjustments that would invalidate the measurement result.

e) Protected from damage and deterioration during handling, maintenance and storage.

f) Be recalled to a defined method when requiring calibration.

g) To have the validity of previous results re-assessed if they are subsequently found to be out of calibration, and corrective action taken.

h) To have the results of their calibration recorded per procedure.

i) When computer software is used in monitoring and measurement of specific requirements, it is also to be confirmed prior to initial use and reconfirmed as necessary.

7.6.7 MPC has established and maintains processes to ensure that monitoring and measurements can be carried out in a manner consistent with the requirements. Engineering drawings, First Article Inspections and work instructions provide the guidance and direction for requirements. In addition, appropriate measuring devices are provided by the company for use.

7.6.8 Reference Documents:

- Magee Form WO-004 Work Order
- Magee Manual No. 1003 Tool and Gauge Control Manual
- MPS 2002-02-05 General Inspection
- MPS 2002-03-01 Receiving Inspection Procedure
- MPS 2002-03-07 First Article Inspections
- MPS 2002-03-17 Dimensional Tolerances
- MPS 2009-05-02 FARO Laser Arm Scan

8.0 MEASUREMENT, ANALYSIS AND IMPROVEMENT

8.1 GENERAL

8.1.1 MPC has established and has implemented monitoring, measurement, analysis and improvement processes in order to:

8.1.1.1 Demonstrate product conformity:

- MPS 2002-02-05 General Inspection
- MPS 2002-03-01 Receiving Inspection Procedure
- MPS 2002-03-02 In Line Checks
- MPS 2002-03-03 Final Inspection
- MPS 2002-03-07 First Article Inspections
- MPS 2002-03-09 Statistical Techniques
- MPS 2002-03-11 Visual Inspection
- MPS 2002-03-15 Testing Procedures
- MPS 2002-03-17 Dimensional Tolerances
- MPS 2009-05-02 FARO Laser Arm Scan

8.1.1.2 Enhance process efficiency:

- MPS 2002-02-06 Control of Nonconforming Product
- MPS 2002-03-13 Preventive Action
- MPS 2009-07-02 Change Management

8.1.1.3 Ensure compliance of the MPC quality management system and its associated standards and regulatory bodies:

- MPS 2002-03-08 Internal Audits
- MPS 2002-03-16 Management Review
- MPS 2003-08-01 Configuration Management

8.1.1.4 Continually improve the effectiveness of the quality management system:

- MPS 2002-03-08 Internal Audits
- MPS 2002-03-16 Management Review
- Manual No. 1023 Training Program

8.1.1.5 MPC has determined the need for, and use of, applicable methodologies including statistical techniques.

- MPS 2002-03-09 Statistical Techniques

8.1.2 According to the nature of the product and depending on the specified requirements, statistical techniques may be used to support:

- design verification (e.g., reliability, maintainability, safety)
- process control,
- selection and inspection of key characteristics,
- process capability measurements,
- statistical process control,
- design of experiment,
- inspection - matching sampling rate to criticality of the product and to the process capability,
- failure mode, effect and criticality analysis.

8.1.3 Reference Documents:

- MPS 2002-03-09 – Statistical Techniques
- MPS 2002-03-03 – Final Inspection

8.2 MONITORING AND MEASUREMENT

8.2.1 Customer Satisfaction

8.2.1.1 MPC monitors information relating to customer satisfaction as one of the measurements of performance of the quality management system. See Section 5.2 for details.

8.2.1.2 The methodologies for obtaining and using customer requirements are outlined in Section 7.0 Product Realization.

8.2.1.3 MPC monitors customer perception by actively surveying the organizations performance in addition to collecting data through the Corrective and Preventive Action systems.

- Magee Form Sales-008 Magee Satisfaction Survey
- MPS 2002-02-07 Corrective Action
- MPS 2002-03-13 Preventive Action

8.2.1.4 MPC participates in activities to further the improvement of its performance and its customer satisfaction. Examples include:

- C.A.S.E. (Coordinating Agencies for Supplier Evaluation) Audits
- Customer Audits / Scorecards

8.2.2 Internal Audit

8.2.2.1 MPC schedules and conducts internal quality audits as part of a monitoring and measuring tool of continuous improvement.

- MPC Internal Audits are utilized as an evaluation of activities and records against documented requirements (to include this Manual); to determine compliance to the requirements of AS9100 (latest revision); to assess the effectiveness of the system; and to establish that the system has been maintained.
- Internal audits shall also meet customer contractual and/or regulatory requirements.

8.2.2.2 MPC's Internal Audit program commits to test the quality management system at least annually, taking into consideration the status and importance of the activities and areas to be audited as well as the results of previous audits.

8.2.2.3 The audit criteria, scope, frequency and methodologies are defined in procedure format and reviewed by the MPC Management body.

8.2.2.4 MPC Auditors are independent of the department or activity that they are auditing and are prohibited from auditing their own work.

8.2.2.5 MPC has established a procedure which defines the responsibilities and requirements for planning and conducting audits as well as reporting results, maintaining records and training auditors. MPC personnel, designees or contracted parties carrying out internal audits shall receive appropriate training or have the appropriate credentials or experience to conduct said audits.

8.2.2.6 MPC Management shall take timely containment and corrective actions on deficiencies found during the audit and to identify and eliminate the associated causes of those nonconformances. Follow-up activities shall take place and include verifying corrective actions have taken place; the effectiveness of those corrective actions; and the communication of the verification results to the applicable parties.

8.2.2.7 Detailed tools and techniques have been developed to assist in the audit process which include but are not limited to the Internal Audit Check Sheets and process maps or "turtle diagrams". Other supporting methodologies or tools may also be utilized to support the audit of the procedural requirements. The acceptability of the selected tools will be measured against the effectiveness of the internal audit process and overall supplier performance.

8.2.2.8 Reference Documents:

- MPS 2002-03-08 - Internal Audit
- Magee Form QA-051 Internal Audit Report
- Magee Form QA-004 Schedule Internal Audit

8.2.3 Monitoring and Measurement of Processes

8.2.3.1 Where applicable, MPC employs suitable methods for monitoring and measuring the quality management system processes. These methods confirm the continuing ability of each process to satisfy its intended purpose.

8.2.3.2 In the event of process nonconformity, MPC shall:

- Take appropriate action to correct the nonconforming process.
- Evaluate whether the process nonconformity has resulted in product nonconformity.
- Determine if the process nonconformity is an isolated case or if it could have affected other processes or products.
- Identify and control the nonconforming product in accordance with Section 8.3.

8.2.3.3 Reference Documents:

- MPS 2002-02-06 Control of Nonconforming Product
- MPS 2002-02-07 Corrective Action

8.2.4 Monitoring and Measurement of Product

8.2.4.1 MPC monitors and measures the characteristics of the product to verify that established product requirements have been met. This is carried out at appropriate stages of the product realization process in accordance with the applicable quality plans.

8.2.4.2 Measurement requirements for product acceptance is documented and includes as applicable:

a) Criteria for acceptance / rejection

b) Where in the production plan measurement and testing operations are performed

c) Required records of measured results

d) Specific measurement instruments required

8.2.4.3 Critical items to include key characteristics are identified, monitored and controlled.

8.2.4.4 MPC employs a 100% sampling inspection plan unless otherwise specified. A statistical sampling plan is used when applicable and if required the plan will be submitted for customer approval.

8.2.4.5 Product is not used until it has been inspected or otherwise verified as conforming to specified requirements, except when the product is released under positive-recall procedures pending completion of all required measurement and monitoring activities.

8.2.4.6 Records of conformity along with acceptance criteria and the person(s) authorizing release are maintained.

8.2.4.7 Product release and service delivery will not proceed until all the specified activities have been satisfactorily completed, unless otherwise approved by the customer.

8.2.4.8 If product is inadvertently released from the quality system and found to be nonconforming, the protocol outlined in MPS 2002-02-04 Identification, Traceability and Positive Recall shall be enacted.

8.2.4.9 MPC provides required documentation at the delivery of the purchased articles as dictated by contractual and / or regulatory requirements

8.2.4.10 Reference Documents:

- MPS 2002-02-05 General Inspection Procedures
- MPS 2002-03-02 In-Line Inspection Procedures
- MPS 2002-03-03 Final Inspection Procedures
- MPS 2002-03-07 First Article Inspection Procedure
- MPS 2002-02-04 Identification, Traceability and Positive Recall
- MPS 2007-09-01 Shipping

8.2.5 Inspection Documentation

8.2.5.1 Measurement requirements for product acceptance are documented and include:

- Criteria for acceptance and/or rejection,
- Where in the sequence measurements and testing operations are performed,
- A record of measurement results,
- Type of measurement instruments required and any specific instructions associated with their use.
- Test records show actual test data results when required by specification or acceptance test plan. When required to demonstrate product qualification the records provide evidence that the product meets the defined requirements.

8.2.5.2 Reference Documents:

- MPS 2002-02-05 General Inspection Procedures
- MPS 2002-03-02 In-Line Inspection Procedures
- MPS 2002-03-03 Final Inspection Procedures
- MPS 2002-03-07 First Article Inspection Procedure
- Magee Form QA-005 First Article Inspection Report

8.2.6 First Article Inspection (See Section 7.5.1.1)

8.2.6.1 MPC created and maintains a process for the inspection, verification and documentation of a representative item from the first production run of a new part, or following any subsequent change that invalidates the previous first article inspection result.

8.2.6.2 Prototype parts or parts manufactured outside normal production processes are not utilized for the FAI process.

8.2.6.3 Full FAI or partial FAI for affected characteristics shall be performed by MPC when:

- A change in design affects fit, form or function of the article;
- A change in manufacturing processes, methods or materials occurs that affects fit form or function;
- A change in a numerical control program occurs which affects fit, form or function;
- A change which adversely affects the manufacturing process
- As requested by the Customer or Magee Management.

8.2.6.4 First Article Inspection records are retained and available for review by MPC personnel, regulatory authorities and/or customers.

8.2.6.5 Reference Documents:

- MPS 2002-03-07 First Article Inspection Procedure
- MPS 2002-02-05 - General Inspection Procedures

8.3 CONTROL OF NONCONFORMING PRODUCT

8.3.1 MPC created and maintains a process to ensure product which does not conform to product, customer or regulatory requirements is identified and controlled to prevent unintended use or delivery.

8.3.2 Activities which control nonconforming product and the responsibilities and authorities which dictate these controls are documented in procedure form.

8.3.3 Records which identify nonconforming product and the disposition of these products are maintained in accordance with AS9100 (latest revision) and associated regulatory standards. The documented procedure defines the responsibility for review and authority for the disposition of nonconforming product and the process for approving personnel making these decisions.

8.3.4 Nonconforming product is defined as product which does not meet the quality plan, purchased specifications or requirements, or the intended function of the product and includes nonconforming product returned by a customer. These nonconforming products are addressed by one or more of the following methods:

8.3.4.1 Action is taken to contain and eliminate the detected nonconformity.

8.3.4.2 Authorizing its use, release or acceptance under concession by a relevant authority and where applicable, by the customer.

8.3.4.3 Taking action to preclude its original intended use or application.

8.3.4.4 When nonconforming product is detected after delivery or use has started, MPC will take appropriate action to the effects, or potential effects, of the nonconformity.

8.3.5 MPC shall not use dispositions of use-as-is or repair, unless specifically authorized by the customer, if:

- the product is produced to customer design, or
- the nonconformity results in a departure from the contract requirements.

8.3.6 Unless otherwise restricted in the contract, MPC designed product which is controlled via a customer specification may be dispositioned by MPC as use-as-is or repair, provided the nonconformity does not result in a departure from customer-specified requirements.

8.3.7 Nonconforming product dispositioned for scrap is conspicuously and permanently marked and/or positively controlled / isolated, until physically rendered unusable.

8.3.8 When nonconforming product is corrected it is then subject to re-verification to demonstrate conformity to the requirements.

SITA:PITMPXD SUPPLIER CODE: 64235

Magee Plastics Company • 303 Brush Creek Road • Warrendale, PA 15086-7595 • Phone (724) 776-2220 • Fax (724) 776-9696

8.3.9 MPC shall provide for timely reporting of delivered nonconforming product that may affect reliability or safety, in addition to any contract or regulatory authority reporting requirements. Notification includes a clear description of the nonconformity, which includes as necessary parts affected, customer and/or MPC part number, quantity, and date(s) delivered. Parties requiring notification of nonconforming product may include but not limited to suppliers, customers and regulatory authorities.

8.3.10 Reference Documents:

- MPS 2002-02-05 General Inspection Procedures
- MPS 2002-02-06 Control of Nonconforming Product
- MPS 2002-03-12 FAA Reporting Requirement Procedures

8.4 ANALYSIS OF DATA

8.4.1 MPC determines, collects and analyzes appropriate data to ensure the suitability and effectiveness of the quality management system and to identify potential improvement opportunities.

8.4.2 This includes data generated by measuring and monitoring quality system program activities and other relevant sources.

8.4.3 MPC analyzes this data to provide information on:

- Customer satisfaction;
- Conformance to product requirements;
- Characteristics and trends of processes and products;
- Corrective and preventive action results;
- Supplier conformity.

8.4.4 Reference Documents:

- Magee Form Sales-008 Magee Satisfaction Survey
- MPS 2002-02-06 Control of Nonconforming Products
- MPS 2002-02-07 Corrective Action
- MPS 2002-03-08 Internal Audits
- MPS 2002-03-13 Preventive Action
- MPS 2002-03-16 Management Review

8.5 IMPROVEMENT

8.5.1 Continual Improvement

8.5.1.1 MPC strives to continually improve the effectiveness of the quality management system through the use of various vehicles / tools.

8.5.1.2 These continuous improvement tools may include but are not limited to the following:

- Use, review and communication of the quality policy
- Development and implementation of quality objectives and site goals
- Internal and external audit results
- Collection and analysis of data
- Customer feedback, C.A.S.E. evaluations and satisfaction surveys
- Employee suggestions and support
- Corrective Action process
- Preventive Action process
- Management Reviews
- Change Management Plans.

8.5.1.3 MPC monitors improvement activities and evaluates the effectiveness of the results through Key Performance Indicators as well as the tools listed above.

8.5.2 Corrective Action

8.5.2.1 MPC takes appropriate actions to eliminate the cause of nonconformities in order to prevent recurrences.

8.5.2.2 Corrective actions are appropriate to the effects of the nonconformities encountered.

8.5.2.3 When deemed unfeasible to correct conditions to produce a 0% failure rate, MPC shall determine an acceptable loss rate.

- This determination shall be made by Magee Management on an individual basis.
- Such conditions may include but not be limited to: economically unfeasible; safety reasons; technical impediments.

8.5.2.4 A documented procedure has been established for corrective actions and defines the requirements for:

a) Reviewing nonconformities to include customer complaints and audit findings.
b) Determining the root and contributing causes of nonconformities when applicable.
c) Evaluating the need for action to ensure that nonconformities do not recur.
d) Determining and implementing actions required to contain the nonconformity;

e) Recording the results of actions taken.

f) Reviewing the effectiveness of the corrective action taken via tools such as the management review and / or audit teams,

g) Flowing down of correcting actions when it has been determined that the supplier is responsible for the root or contributing cause.

h) Specific actions where timely and/or effective corrective actions are not achieved.

i) Determining if additional nonconforming product exists based on the causes of the nonconformities and taking further action when required.

j) Receiving and processing feedback on in-service failures, malfunctions and defects

8.5.2.5 Reference Documents:

- MPS 2002-02-07 Corrective Action
- MPS 2002-02-06 Control of Nonconforming Product

8.5.3 Preventive Action

8.5.3.1 MPC shall identify preventive actions to eradicate the sources of potential nonconformities. These preventive actions shall be appropriate to the impact of the potential problems.

8.5.3.2 MPC has established a documented procedure for preventive action which defines the requirements for:

a) Identifying potential nonconformities and their root and contributing causes as appropriate;

b) Assessing the requirement for action;

c) Determining and ensuring the implementation of preventive action when needed;

d) Recording results of action taken;

e) Reviewing of preventive action taken.

8.5.3.3 All MPC employees are empowered to submit a preventive action for review and assessment. Examples of preventive opportunities include risk management, error proofing, failure mode effect analysis and feedback by external sources.

8.5.3.4 Reference Documents:

- MPS 2002-03-13 - Preventive Action