



Belcan

CENTER OF EXCELLENCE

Advanced Product Quality Planning (APQP)

Our attention to detail and quality is unmatched. Let our experts fill the gaps.

Our APQP Center of Excellence (CoE) executes robust AS9100 compliant procedures and processes with a keen focus on detail to drive risk-reduced machining and assembly processes. Our teams are skilled in creating, auditing and teaching all aspects of APQP from the OEM's facilities and into the supply chain.

IDENTIFY & MINIMIZE RISK USING INDUSTRY STANDARDS



“Excellent training experience. Knowledgeable instructor-easy to understand, good assignments to learn and apply what was taught. Great class!”

Ensure new product introductions are launched with world-class quality & delivery.

Belcan offers documentation management of any or all APQP components. Our standardized and meticulous training can be customized to support OEM's and their suppliers. Our established methodology safeguards against risk, while maximizing efficiency and minimizing costs.

| | Training | Artifact Creation | Artifact Review | Risk Mitigation | Approval |
|----------------------------|----------|-------------------|-----------------|-----------------|----------|
| Design Formation & Review | | ✓ | | ✓ | ✓ |
| Design Risk Analysis | ✓ | ✓ | ✓ | ✓ | ✓ |
| Process Flow Diagram | ✓ | ✓ | ✓ | ✓ | ✓ |
| PFMEA | ✓ | ✓ | ✓ | ✓ | ✓ |
| Control Plan | ✓ | ✓ | ✓ | ✓ | ✓ |
| MSA | ✓ | ✓ | ✓ | ✓ | ✓ |
| Capacity Analysis | ✓ | ✓ | ✓ | ✓ | ✓ |
| Process Capability Studies | ✓ | ✓ | ✓ | ✓ | ✓ |
| FAI | ✓ | ✓ | ✓ | | ✓ |
| PPAP | ✓ | ✓ | ✓ | ✓ | ✓ |
| Sub-Tier APQP Compliance | ✓ | ✓ | ✓ | ✓ | ✓ |

SUCCESS STORY

Leadership from a major aerospace OEM established Advanced Product Quality Planning (APQP) as a strategic priority – both internally and in the supply chain.

The client engaged Belcan to create a detection vs. prevention culture that included maturing their supplier APQP capabilities, creating a contractual APQP environment with suppliers and improving a lack of internal resource bandwidth for change implementation. Belcan's solution included a maturity assessment, PPAP element training, and support developing a PPAP package for specific parts.

Key Customer Results Included:

Agility/Scale – Successfully implemented program and standards for 23 suppliers in under 1 year.

APQP Maturity – Client recognized an average supplier APQP maturity increase of 0.75 (IAQG scale of 5)

Supplier Satisfaction – Through exemplary supplier survey feedback scores

Customer Satisfaction – “The project would not have been such a success so quickly without the help of the Belcan team” – Senior Manager, Supplier Quality



“The project would not have been such a success so quickly without the help of the Belcan team”

– Senior Manager, Supplier Quality

Our proven APQP/PPAP approach maximizes the impact for your employees.

1



Understand
your training
objectives

2



Develop
and/or tailor
content

3



Facilitate
& Deliver
Training

When APQP Can Benefit Your Company

From new product launches and work transfers, to product redesigns and material changes – we provide a customized approach that can be implemented quickly, while fitting your needs and budget. If any of these scenarios sound familiar to you, Belcan has the APQP solution to benefit your company.

Design Risk Analysis

- Product design, change or redesign
- Upon APQP activity commencement
- Throughout APQP execution to track new learnings and phase implementations

Process Flow Diagram

- Preliminary design release
- Prior to initiating PFMEA
- To evaluate process changes

PFMEA

- New product or service launch
- Manufacturing process design & Development
- Improve or change a process

Control Plan

- New product or service launch
- To identify key characteristics on drawing & design records
- Inspection plan edits or updates

MSA

- Evaluating or implementing new measurement systems or industry standards
- To examine the impact of process or measurement
- Root cause and corrective action investigations

Capacity Analysis

- Product or service provision
- Impending changes in product or service demand
- Delivery performance investigation

Process Capability Studies

- When a Key Characteristic is identified on drawing / design records
- When justifying/implementing sample inspection plans
- To determine if process is statistically capable to meet requirements

FAI

- New product or service launch
- Design change or revision to approved FAI items
- Changes to manufacturing process or location

PPAP

- New product or service launch or changes
- Work transfer activities
- Changes to manufacturing process or location

Sub-Tier APQP Compliance

- To implement APQP where sub-tier is required
- Internal or customer policy definition is required
- As part of a supplier development activity

Meet our APQP CoE Team Subject Matter Experts

Belcan has developed an APQP CoE to provide scalable, actionable solutions for clients across the globe. Our expert teams are carefully selected and focused on providing you with the latest technology, highest value and quality outcomes.



Mark Phalin

40+ years of experience in all parts of manufacturing quality and leadership, including: Mechanical Inspection, Quality Planning, Product and Process design Quality, Nondestructive Testing (NDT), Metallurgical Process Control, Operations Quality Engineering and Management, Supplier Quality Engineering and Management, Program Quality Management, Business Unit Quality Management, and Aftermarket Customer Service Quality Management.

- Held NDT Level 3's in PT, MT, RT, ET, UT, Bond Testing, and Holography
- Held membership positions in the ASNT, ASQ, AIA-NDT, NADCAP-NDT
- Trained and worked with all NDT Methods, FMEA's, PFMEA's, MSA, Manufacturing Process Reviews, implemented SPC, Zero Defect Plan processing, creating, reviewing, and approving FAI's, APQP/PPAP, 3P processing, Process Certification, Lean Management, Value Stream Mapping and Management, Supplier Development, Internal and External Auditing, Quality Clinic implementation and processing, various methods of Relentless Root Cause Analysis
- Satisfied all Six Sigma Black Belt training and classroom requirements, along with the Black Belt Project. Lean Methods, ASQ Certified Quality Engineer.
- Holds an Associate Degree in Engineering, Mechanical Design, from Springfield Technical College, a Bachelor's Degree in Operations Management from Lesley University, and a Master's in Business Administration, with an additional concentration in Lean Methodologies from Rensselaer Polytechnic Institute, Hartford. He is an instructor for the ASQ Certified Quality Engineer (CQE) and the Certified Supplier Quality Professional (CSQP) prep courses.



Daryl Brunswick

Extensive experience Advanced Product Quality Process (APQP) and Production Part Approval Process (PPAP) both in Automotive and Aerospace. He is also experienced in Supplier Development, Quality Engineering, Lean Manufacturing, Product Design, and Supply Base Management.

- Member of SAE International Aerospace Quality Group (IAQG) team for procedures and guidance documents for Aerospace APQP/PPAP.
- Developed APQP/PPAP "Best Practice" guidance and templates found in the SAE Supply Chain Handbook
- Aerospace Standard for Advanced Product Quality Planning and Production Part Approval Process, AS9145
- Aerospace Process Mapping, Process Failure Mode Effects and Analysis (PFMEA) and Control Plans, AS13004
- Certified Black Belt with Mechanical Engineering Degree from the University of Cincinnati and Masters in Engineering Management from the University of Missouri at Rolla.

Leverage our APQP expertise for your organization.

- Assistance with compliance of quality standards where risk management is required (AS9100D and TS16949).
- Fulfillment of Aerospace AS9145 Requirement for Advanced Product Quality Planning and Production Part Approval Process.
- Fulfillment of AIAG Advanced Product Quality Planning (APQP) and Control Plan.
- Unsure of your specific APQP needs? Belcan will conduct a APQP Maturity Assessment and will provide an action plan to improve your organization implementation and fulfillment of APQP.

Contact us to create a **comprehensive APQP program** to fulfill your needs.

About Belcan

Belcan, LLC is a global supplier of engineering, workforce, manufacturing & supply chain, and government IT solutions to customers in the aerospace, defense, automotive, industrial and public sectors. Belcan engineers better outcomes for customers—from jet engines, airframe, and avionics to heavy vehicles, automobiles, and cybersecurity, Belcan takes a partnering approach to provide solutions that are adaptable, integrated, and value added. Belcan has been earning the trust of our customers for 60 years and counting.

For more information, please visit www.belcan.com. |   

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