

Minerals

Weir Minerals Supplier Quality Manual

WMD_SQM_002 – June 2021

Abbreviations

Section 1 – Overview

1. Introduction
2. Purpose
3. Scope
4. Responsibilities
5. Definitions
6. Supporting Documents

Section 2 – Supplier Requirements

1. General requirements
2. In process inspection
3. Drawings revision control
4. Concession request
5. Customer property
6. Identification and traceability
7. Packaging, shipping and labelling
8. Supplier continuous improvement / Innovation

Section 3 – Part Approval OTSR

1. Introduction
2. Purpose
3. Confidentiality
4. Applicability
5. Off Tool Sample Report (OTSR) requirements
6. Level of OTSR submission
7. OTSR submission
8. OTSR Approval / Rejection
9. Concessions
10. Authorisation to ship parts for production
11. Process Flow Chart (OTSR) approval process

Section 4 – Supplier Management

1. Supplier monitoring and evaluation
2. Supplier performance rating system
3. Supplier scorecard divisional factors: Quality /Delivery / Cost
4. Local factors: Service / Innovation / Supplier finance
5. Supplier classification
6. Disqualified supplier
7. Supplier corrective action

Abbreviations

- ANOVA – Analysis of Variance
- CAPA – Corrective Action Preventative Action
- DCO – Design Centre of Origin
- DPPM – Defective Parts Per Million
- EDR – Engineering / Drawing Request
- EHS – Environmental Health and Safety
- EMS – Environmental Management Systems
- FPY – First Pass Yield
- ISO – International Organization for Standardization
- MSA – Modern Slavery Act (UK) in 2015
- NCR – Non-Conformance Report
- OEM – Original Equipment Manufacturer
- OTD – On Time Delivery
- OTSR – Off Tool Sample Report
- PPV - Purchase Price Variance
- PPR – Product Performance Report
- PTC – Pump Technology Centre
- QA – Quality Assurance
- QMS – Quality Management System
- RDR – Research & Development Request
- SQD – Supplier Quality Development
- VA/VE – Value Analysis and Value Engineering

Section 1 – Overview

1. Introduction

The Weir Group PLC is a UK-listed engineering company founded in 1871 and listed on the London Stock Exchange since 1947.
The Weir Group has a proud heritage of engineering excellence demonstrated in closely aligned, independently successful companies and strong products. It focuses on designing, manufacturing, and supplying innovative products and expert engineering services for the Minerals, and ESCO specialising on Ground Engaging Equipment markets.

Today Weir employs over 14,000 people worldwide across operations grouped into two divisions, united by a common purpose and sharing know-how to deliver added value to our customers.

- Weir Minerals
- Weir ESCO

Our suppliers are an integral part of the business. Relationships with all suppliers are built on total quality practices and principles to achieve best performance, product, delivery, service and total cost.
Weir expects all suppliers to ensure no forms of modern slavery, servitude, forced nor compulsory labour, nor human trafficking are used (consistent with the UK Modern Slavery Act 2015), no children are employed (consistent with the United Nations Convention on the Rights of the Child) and that no bonded or involuntary prison labour is used within neither that supplier's operations nor in its own supply chain.
Weir shares its knowledge and expertise with their supply base and invests substantially in the development of their supply in order to achieve the highest standard of product to our customers. For this, Weir expects maximum partnership participation and global performance standards from all suppliers.
For further information about the Weir Group PLC, visit www.global.weir

2. Purpose

The purpose of this manual is to define and establish the expected quality requirements for suppliers of goods and services to Weir.
This supplier quality manual contains a basic quality format to lay the foundation of an effective supplier quality assurance system which can be referred to in the below model.

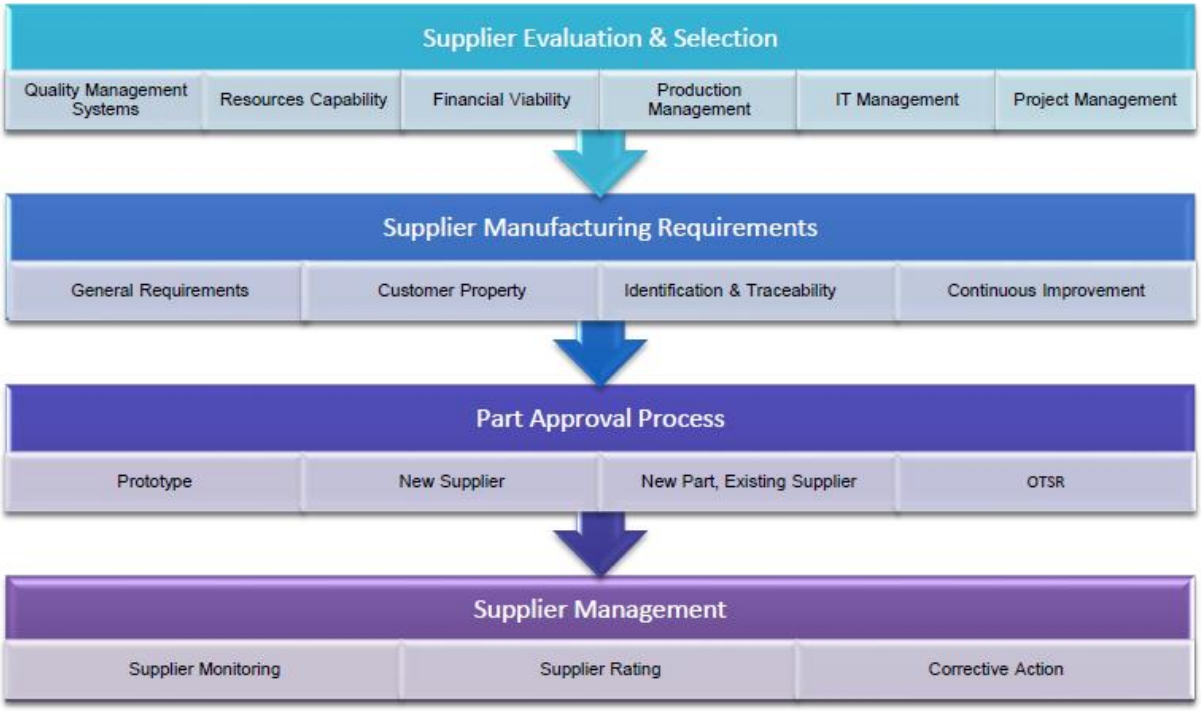


Figure 1 Supplier Quality Manual Process

It also outlines the process of supplier selection, assessing the capability and performance of each supplier, part approval process and finally, the overall supplier management process in terms of evaluating, rating our suppliers as well as control of non-conforming products.

The intent of the supplier quality management process is to be a cooperative effort between Weir and its suppliers, to ensure and maintain good quality and deliveries throughout the supply chain. This is achieved by helping the supplier develop and maintain internally controlled processes which address Weir requirements and ensure minimal quality costs for both Weir and its suppliers.

In addition to these quality requirements, Weir also expects their direct material suppliers to have a quality management system in place equivalent to ISO 9001:2015. Third party registration to ISO 9001:2015 is not compulsory however, suppliers must endeavour to meet all the requirements of the standard and be able to demonstrate compliance through business process activities.

Weir Minerals may also require materials and equipment suppliers to provide evidence of MSDS documents (Material Safety Data Sheet)

Weir is also committed to high standards of environmental management and controls the impact of its activities on its employees, the community and its environment. Commitment also includes achieving and maintaining an injury free work environment that minimises all risks to health.

During the supplier assessment process Weir Minerals will favour suppliers who have implemented ISO14001:2015 and or equivalent systems for environmental management. Furthermore, suppliers should be active in implementing a sustainability policy to outline their commitment to practises and standards to promote environmental responsible operations.

3. Scope

This supplier quality manual applies to all external suppliers of direct material such as components, products and systems to Weir and strategic indirect suppliers as defined by the local business. Throughout the supply chain, suppliers are expected to ensure that their own suppliers support similar compliance.

4. Responsibilities

Supplier Responsibilities:

Direct material suppliers are required to apply the same guidelines throughout their production value stream, including sub-supplier processes and cascade all Weir Minerals requirements throughout their supply chain.

Weir Minerals Responsibilities:

Weir Minerals is committed to work in a cooperative effort between Weir and its suppliers, to ensure and maintain quality and on time deliveries. This is achieved by helping the supplier develop and maintain internally controlled processes which align to Weir requirements, with the aim to keep costs low and quality high.

5. Definitions

8D Report
Weir's preferred method of problem solving when a corrective action request has been initiated. 8D refers to the eight disciplines or steps involved in identifying and correcting the problem's root cause (QA_002).

Approved Supplier
A supplier who is approved to supply particular/nominated/specific components, materials, products, systems or services to Weir. Approved suppliers are listed in the Weir approved supplier list

Bulk (Raw) Material
A substance (e.g. non-dimensional solid, liquid, gas), such as adhesives, sealants, chemicals, coatings, fabrics, lubricants, etc. A bulk material may become production material if issued a production part number.

Concession
Permission to use or release a product that does not conform to specified requirements

Corrective Action
Action to eliminate the cause of a detected nonconformity or other undesirable situation
Defective Parts Per Million (DPPM)
The ratio of defective parts over the total number of parts being considered multiplied by a million.

Direct Supplier
Determined by the impact of the supplied product/service on the quality of the final product

Weir Group PLC – Supplier Quality Manual

First Pass Yield (FPY)
The number of units coming out of a process divided by the number of units going into that process over a specified period of time

Indirect Supplier
Determined by not having any impact on the quality of the final product

ISO9001:2015 Quality Management
International Organization for Standardization, quality management system requirements

ISO14001:2015 Environmental Management
International Organisation for Standardization for Environmental Management

Kaizen
Refers to philosophy or practices that focus upon continuous improvement of processes in manufacturing, engineering, and business management

Lean
Is a production practice that considers the expenditure of resources for any goal other than the creation of value for the end customer to be wasteful, and thus a target for elimination?

Marked Up Drawing
Drawing provided by the customer, Weir, indicating dimensions to be checked through allocation of sequential numbering. Dimensions are to be reported against the sequential numbers

Measuring Equipment
Measuring instrument, software, measurement standard, reference material or auxiliary apparatus or combination thereof necessary to realize a measurement process

Nonconformity
Non-fulfilment of a specified requirement" In other words, an occurrence of a condition that does not conform to the specifications of the prescribed standards

Original Equipment Manufacturer - OEM
An original equipment manufacturer, or OEM, manufactures products or components that are purchased by another company and retailed under that purchasing company's brand name. OEM refers to the company that originally manufactured the product

Preventative Action
Action to eliminate the cause of a potential nonconformity or other undesirable potential situation

Prototype
Production of an original type, form or instance of something serving as a typical example, basis or standard for other things of the same category

Purchase Order (PO)
A formal request to a vendor to supply certain goods or services with stated conditions

Purchase Price Variance (PPV)
The difference in price between the amounts paid to the supplier and the planned or standard cost of that item

Rework
Action on a nonconforming product to make it conform to the requirements

Scrap
Action on nonconforming product to preclude its originally intended use, for example the destruction thereof

Traceability
Ability to trace the history, application or location of that which is under consideration

Value Analysis (Purchasing environment)
The study or examination to ascertain its total cost of acquisition, maintenance, and usage over its useful life, wherever feasible, to replace it with a more cost-effective substitute

Value Engineering
Is a systematic method to improve the "value" of goods or products and services by using an examination of function. Value, as defined, is the ratio of function to cost. Value can therefore be increased by either improving the function or reducing the cost.

Material Safety Data Sheet (MSDS)
A MSDS document provides health and safety information about products, substances or chemicals that are classified as hazardous or dangerous. Manufacturers and importers of hazardous chemicals must prepare such a document following local and international laws and governance. Failure to create a MSDS correctly is a breach of WHS.

Inspection and Test Plan (ITP)
This refers to the inspection and test plan for product construction, where the general process flow is described. Each stage that has been identified with inspection and tests required will be performed in accordance to the requirements stated. Records of the tests should be recorded and kept as per duration stated.

Manufacturer Data Report (MDR)
Manufacturing Data Report is the paperwork created where all quality checks are recorded by the vendor. These records can be dimensional inspections, construction and material certificates, photos of product and any other specific requirements.

- Supporting Documents
    a. SQD-001 Initial Supplier Survey
    b. SQD-002 Supplier Evaluation
    c. Supplier Acknowledgement WMD_ACK_001
    d. Supplier Code of Conduct WMD_COC_001
    e. Non-Disclosure Agreement, NDA
    f. Weir Minerals Terms and Conditions

Section 2 – Supplier Requirements

1. General Requirements

The supplier shall ensure all working areas, within their manufacturing process, is kept in such a way that Weir product can be produced to the right quality and quantity. Working conditions and housekeeping shall be regularly and formally evaluated, and corrections and improvements implemented accordingly.

It is within each supplier's best interest to utilize Lean manufacturing principles in their manufacturing process to ensure production time and cost reduction initiatives are continually improved upon. As part of the Weir focus on supplier development, a Weir representative may request the supplier to participate in improvement activities, e.g. Lean, Kaizen, 5s, VA/VE, at the supplier facility, in order to assist in continuous improvement initiatives.

2. In Process Inspections

The supplier shall ensure all production part(s) / component(s) and or material(s) manufactured and delivered to Weir, has been inspected, at specified intervals to ensure on-going conformance to Weir quality requirements.

Depending on the requirements specified on the purchase order, the supplier shall submit records of any actual in-process measurements and / or any other documents required upon request.

3. Drawing Revision Level Control

It is the responsibility of the supplier to ensure revision level on the drawing issued is in accordance to the revision level as displayed on the Weir purchase order.

Should the revision level(s) differ, the supplier shall, immediately upon discovering the difference, inform the relevant Weir representative, who will reissue the correct revision level. Any product and / or component manufactured to an incorrect Weir revision level drawing will not be accepted.

4. Concession Request

If a supplier identifies any properties that deviate from Weir specification during the supplier manufacturing process, the supplier shall submit a Request for Concession Form (QA_004) to the relevant Weir representative for approval before continuing with production.

If / when the concession is granted / approved by Weir, the supplier can either deliver the part(s) / component (s) or material as is or rework them where necessary before delivery. Concessions are only temporary and shall not be considered permanent.

The authorised Weir representative will advise of further instructions if the concession request is rejected.

Note: The above concessions process is applied during both OTSR stage and during normal production run of part (s) / component (s) or material.

5. Customer Property

All customer owned (Weir) property, such as moulds, patterns, tooling, test equipment, intellectual property or any other data or information must be clearly identified, stored in protected conditions and maintained by suppliers. In the case of customer property getting damaged, lost or found to be unsuitable for use, it is the supplier's responsibility to notify Weir immediately. All CAPEX paid for and owned by Weir should have a certificate of ownership and a controlled assets register. Example of this can be seen below:

Weir Minerals

CERTIFICATE OF TOOLING OWNERSHIP 2020/001

Originator:	Date:	Tool ID No:
Product:	Part no:	Drawing No:
Component:		Manufactured Date:
Supplier Name:		
Supplier Address:		
Description of Tools and Equipment:		
Approx Size of Tool(s):		
Approx Weight of Tool(s):		
Original Purchase Value:		
Remaining Tool Life / Guarantee		
Drawings of Tool:	Drawings of Part:	
Accessories with Tool:		
Comments:		
We hereby certify that the above tools and equipment stated above are the property of Weir Minerals. The investment will be kept at the address specified unless otherwise agreed and recorded by both parties.		
Signed:	Signed:	
Print:	Print:	
Date:	Date:	
Company:	Company:	

The supplier shall furthermore have an operating preventative maintenance system to optimize operating performance of the above. The preventative maintenance system shall include a timeline schedule for activities required for preventative maintenance, instructions and records of findings.
If applicable, Weir can require an additional tooling agreement which includes the detailed specifications for such customer property.

6. Identification and Traceability

The supplier manufacturing system shall ensure that all critical and significant characteristics, as indicated on Weir drawings and specifications, are traceable and recorded from the lot / batch number of the delivered part, back to the raw material (s) lot (s) / batch (s) from the sub supplier. This is also applicable for all process parameters affecting such characteristics and raw material certificates or analysis.

Where product identification is appropriate, as defined by Weir, suppliers must ensure identification for traceability purposes such as:

a) Traceability to individual supplier
b) Recall of product
c) Product segregation

7. Packaging, Shipping and Labelling

TRACEABILITY
Items to be marked with Part number & Identifiable to Purchase Order and line item number, WMA purchase orders are not to be mixed together as one piece. If items are consolidated as loose cartons (shrink-wrapped pallets only) each purchase order must be identifiable and be labelled correctly as per purchase order with the word “mixed pallet” on the outside accompanied by an invoice for each purchase order within. Loose cartons are not to be packed into cases, crates or skids or any other item(s) that cannot be easily cut open and separated.

CONSIGNMENT REQUIREMENTS:
CARDBOARD CARTONS: To be of good quality to withstand road transport with a new content of a manageable weight (industry standard recognizes 20kg as a safe lifting load per item). All cartons must be securely taped crossways, top and bottom. Items outside this realm must be packed in a wooden crate or the carton placed and secured onto a wooden skid. Cartons alone must not exceed 20kg.





WOODEN CRATES/BOXES – LIGHT DUTY: To be of good quality pine timber with a sturdy base and strengthening bands. Net content weight not to exceed 200kg.
WOODEN CRATES/BOXES – HEAVY DUTY: To be of good quality pine timber with a hardwood base and strengthening bands. Net content weight not to exceed 400kg.
WOODEN OPEN CRATES – HEAVY DUTY: To be of good quality pine timber with a hardwood base and strengthening bands. Net content weight not to exceed 600kg.
WOODEN PALLET CRATES – EXTREME DUTY: To be of good quality pine timber with a hardwood base and strengthening bands. The overall quality of this crate must be commensurate with the weight of the contents to ensure safe handling and protection of the cargo during transit.

All international shipments containing wood packaging shall confirm to ISPM 15



BUNDLING OF LOOSE ITEMS: Loose items such as steel pipe, steel shapes, timber etc. are to be segregated by length and size in packs not exceeding 2,000kg each. Each pack to contain a single purchase order number and be made up of one product type bundles with 25mm wide heavy-duty poly strapping spaced at a maximum of 1,50mm intervals and have a minimum to two lengths of timber with a minimum dimension of 100mm x 50mm to form an integral base. All items are to be glutted with a minimum space of 150mm for forklift tine access. All bundles to be strapped securely for transit and shall not exceed 4,000kg.

GLUTS: For items up to 3,000kg, gluts are to be at least 50mm thick. For items up to 7,000kg gluts are to be at least 100mm thick. For items over 7,000kg gluts are to be at least 120mm thick.
PALLETISING
Pallets are to be non-returnable and of export quality. They are to be of suitable construction to withstand 2,000kg horizontal breaking force. Pallets are to be no greater than 1,170mm x 1,170mm in size.
Cartons packed on pallets must be shrink-wrapped and a 6mm piece of ply placed on top prior to shrink-wrapping.
Plastic pails and tins are to have a piece of 6mm ply placed in between each layer plus a 6mm top ply and then shrink wrapped.
HAZARDOUS GOODS
All markings on the outside of the containers and packing shall be in accordance with the International maritime Dangerous Goods (IMDG), if applicable, and accompanied by a Material Safety Data Sheet (MSDS).

8. Supplier continuous improvement / Innovation

Weir supports and encourages supplier-initiated product or process innovation, cost reduction and process improvement ideas. Weir suppliers' demonstrating proactive continuous improvement and innovation efforts drive business excellence, which both Weir and their suppliers can benefit from.

For this reason, Weir has introduced the Supplier Improvement Suggestion Form (SISF) (SQD_004). This document aims to give Weir suppliers the opportunity to suggest any improvement(s), whether it be process related and / or product related.

This platform is designed to improve the value of the product by reducing the cost through continuous improvement activities without eliminating and / or reducing any necessary features, functions and quality.

Examples of supplier improvement are:

- Component Design – Can we simplify the component?
- Dimensions / Shape – Can we modify the shape to improve processing?
- Tolerances – Is tolerance(s) achievable and/or can we change to other specifications?
- Commonality – Can we use industry-standard parts?
- Raw Material – Are there less expensive substitutes?
- Process Changes – Can we reduce process and / or handling steps?

Section 3 – Part Approval Process (OTSR)

1. Introduction

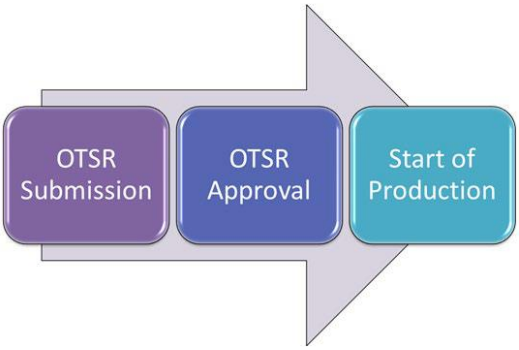
Before any new or changed parts from suppliers are used for production or procurement, standardized approval procedures (figure 3) needs to be followed. Weir demands from all its suppliers to execute introduction of new parts or any changes to parts in a standardized way.
The purchasing contract contains all the relevant requirements of a part during the purchasing and sourcing process and therefore the release of such a contract is considered a major part of Weir part approval process.

All Weir engineering design record and specification requirements shall be properly understood by the supplier and the suppliers' intended process to consistently produce conforming product shall meet all these requirements before the start of production.
The part approval process serves as the last quality gate before new or changed parts is to be produced by the supplier. No supplier shall be authorized to produce parts to Weir unless full official approval of the Off-Tool Sample Report is given.

All suppliers are required to prepare and submit an Off-Tool Sample Report (QA_001) to Weir prior to shipping production intend product. Suppliers are also responsible for implementing and managing their subcontractors in the part approval process and Weir reserves the right to evaluate such subcontractors.

2. Purpose

For the supplier to demonstrate understanding of Weir requirements and to verify that their manufacturing process has the potential to produce products consistently meeting Weir specification and requirements, at the quoted production rate and achieving on-time delivery.



3. Confidentiality

The supplier shall treat all Weir drawings, material(s), product(s), specification(s) or any other information provided by Weir, in strict confidence and shall not disclose, in any form, such information in whole or in any part to any other party unless directed to do so by Weir, or Weir have provided approval in writing.
Depending on the nature of the product or process, suppliers are required to sign a non-disclosure confidentiality agreement prior to doing business with Weir.

Without prior written notification, no supplier shall provide or view any of the above mentioned to any subcontractor.

4. Applicability

OTSR shall apply to all existing and new approved suppliers to Weir, supplying new or changed parts / components or materials.
For standard catalogue parts, e.g. bolts, and or OEM product, e.g. electrical motors, where specifications are not specified, unknown or unpublished by Weir, OTSR is not required, unless requested by an authorised Weir representative. If not required, the parts / components or material shall be manufactured in accordance to the relevant manufacturer specifications and or by recognized industry standards, evidence of conformance to be submitted to Weir upon request.
Note: For bulk (raw) materials, OTSR is not required unless specified by an authorized Weir representative.

5. Off Tool Sample Report Requirement

OTSR submission is required for any of the following:

Change to Material:
Any changes made to material supplied to Weir, being raw material or any substance change in the product or component.

Correction of Discrepancy:
Correction of any discrepancy on a previous submission of off tool sample report (resubmission of a conditionally approved or rejected OTSR)

Engineering / Drawing Changes:

Any changes to component level drawings, manufactured internally or manufactured by any subcontractors, that has an impact on the design for product supplied to Weir.

Initial Submission:
Initial production of a new or revised component and / or material, by either a new or existing supplier

Manufacturing Changes:
Any change in process that may influence the fit, form or function of the product or component.

Prototype:
Production of an original type, form or instance of something serving as a typical example, basis or standard for other things of the same category.

Tooling – Transfer, Replacement / Refurbishment, or Additional:
Any change in the supplier's manufacturing location, tooling transfer or replacement / refurbishment or movement of any tooling used to manufacture the product or component to new location.

Other:
Any other change that may affect form, fit or function of the product or component to be supplied. A detailed explanation hereof is required to be documented on the OTSR cover page.
Note: If there is any question regarding the need for OTSR submission, the supplier shall contact the Weir representative.

6. Level of OTSR Submission

Level 1 Submission:
This level of submission includes only OTSR documentation, with all the required documents specified and does not include submission of an actual product sample for verification by Weir. This level of submission must be sent to the Weir Minerals for analysis before shipping and awaiting until approval or concession if necessary. Required documents could be but are not limited to:

- OTSR cover page, filled and signed by the supplier representative
- Dimensional report of the part
- Material report of the part
- Photos of the part, where traceability data is visible and readable.

Level 2 Submission:
Includes all the specified OTSR documentation submission together with an actual product sample(s) submitted to Weir. Total amount of samples to be submitted will be specified by Weir, depending on the importance of the product or component.

Level 3 Submission:
Includes full OTSR documentation submission to Weir, together with any other requirement(s) as specified by Weir.

Note: Level 1 submission is the default submission level required by Weir for all new product or components to be supplied by an approved supplier to Weir

7. Off Tool Sample Report (OTSR) Submission

Drawing
The specified drawing shall be submitted with marked up numbers for all dimensions to be measured and recorded on the dimensional report.

Off Tool Sample Report Cover Page
All relevant information shall be recorded on the cover page and signed by the supplier's senior quality representative as a declaration that all the information in the OTSR package is true and representative of the parts produced and measured as per Weir requirements.

Dimensional Report
All drawing dimensions shall be checked, and actual results recorded on the dimensional report. Only Weir approved method of checking shall be used by the supplier for measurement purposes. All measuring equipment used for each dimension recorded, must be documented on the dimensional report in order to ensure accuracy of measurement. Measuring equipment may include Vernier, callipers, fixtures, gauges, models, templates, CMM, Faro Arm or any other device used during inspection.

Material Report
All suppliers must provide evidence of compliance to material specifications specified by Weir. All required material and performance actual results to be recorded on the material report provided by Weir, documented together with the actual measuring equipment utilized.

Note: In addition to the above requirements, Weir may request performance test results to be submitted by the supplier, when performance or functional requirements are specified by the Weir representative. This should be emailed to your local Weir quality department for approval.

Photos of the part
All suppliers must provide pictures of the product, including the areas where traceability data is visible and readable. Identification and Traceability must comply with Weir Minerals requirements mentioned in this manual.

3D report (scan) of the part
If needed, this report can be required to identify the level of compliance against specifications. Communication with commodity Weir Minerals will clear doubts about when is required or not.

Sample submission shall be required for the following, unless otherwise specified by an authorised Weir representative:
a) All prototype product or components shall be sent as samples.
b) All level 2 OTSR submissions shall be accompanied by the actual sample manufactured and measured by the supplier, as part of the OTSR process.
c) Other - Suppliers may also be required to submit actual samples, total amount to be specified by Weir, for the following reasons:

- Instability in supplier measurement process
- Critical parts / components or material
- Customer specific request

• Gauge R&R studies – continuous improvement – share findings
• Ongoing quality related issues with the supplier
• Unstable supplier manufacturing processes

Note: All samples required must be sent with identification stating that it is a sample for OTSR purposes.

8. OTSR Submission Status

Approved
Indicates the OTSR package does meet Weir specification. Once a supplier's OTSR package is approved, the off tool sample report cover page, signed and approved by the Supplier Quality manager, will be sent back to the supplier.

Rejected
Means the OTSR package does not meet Weir specification. The supplier will be notified immediately and will be responsible to promptly resubmit OTSR with corrections / improvements made.

Conditionally Approved
Means any deviation from the issued Weir specification, authorised by Weir Engineering, permits the shipment of the one off OTSR sample under the agreed conditions, e.g. part required to be reworked. The supplier shall resubmit OTSR for the next production run in order to get OTSR approved status. No additional shipments are authorized unless an extension of the conditional approval is granted.

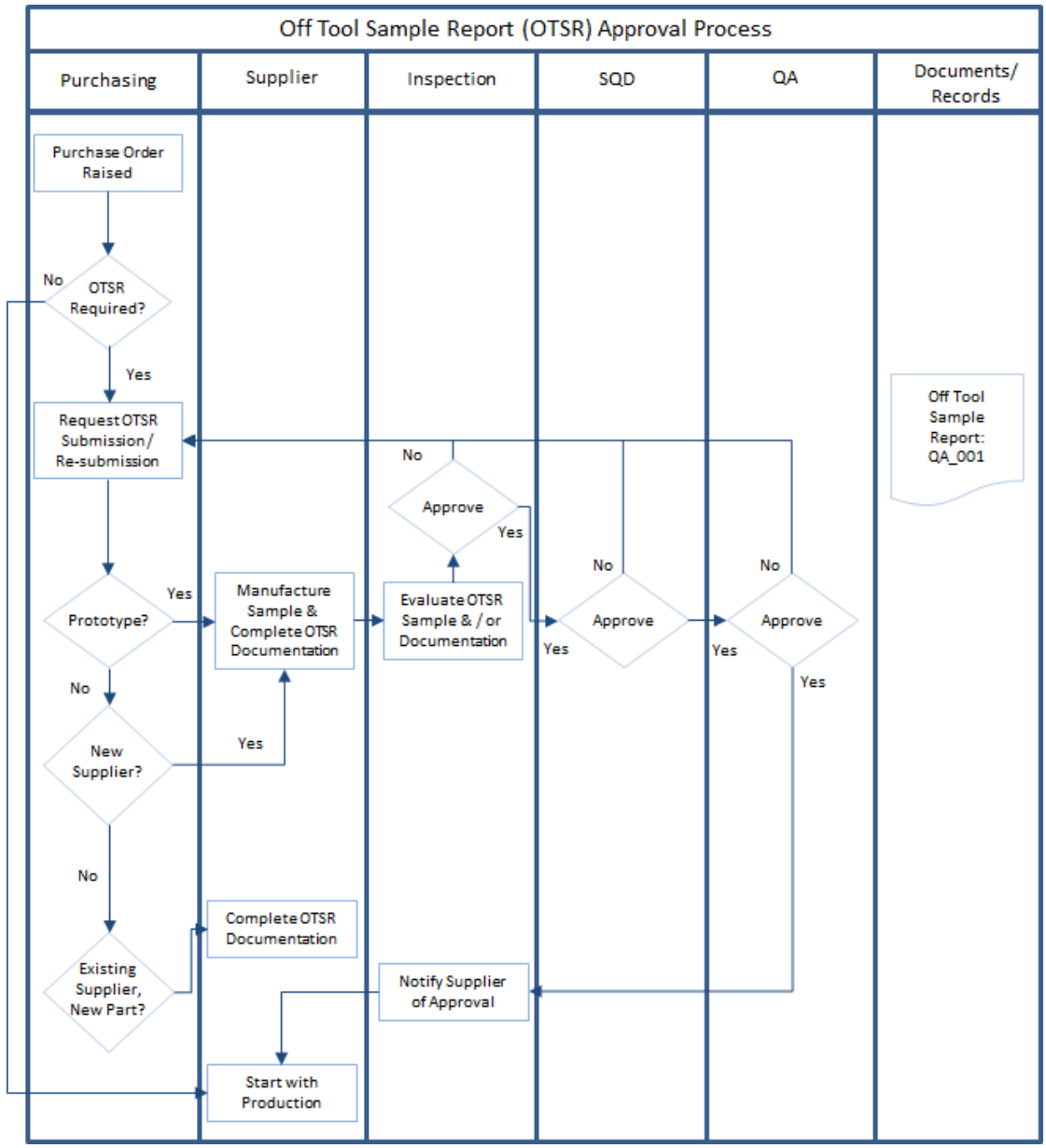
9. Concessions

Prior to OTSR submission, the supplier shall notify the supplier quality engineer or manager any deviations to Weir specification identified during the manufacturing of the OTSR sample and / or during the inspection process thereof.
Failure to notify Weir of the above will result in a non-conformance report raised and issued to the supplier. If concession approval is given by the Weir Quality Manager, it will include time and / or quantity and / or dimensional limits and / or may impose extended production time.

10. Authorisation to Ship Parts for Production

The supplier is authorized to ship product(s) or components, as specified on the Weir purchase order, only upon receipt of the approved / signed copy of the Off-Tool Sample Report cover page from Weir. Upon receipt of a signed copy of the off-tool sample report cover page, the supplier is authorized to make shipments of products or components as specified by Weir purchase order.
Product shipped without Weir approval will not be accepted.

11. Process Flow Chart



Section 4 – Supplier Management

1. Supplier Monitoring and Evaluation

Weir reserves the right to conduct an onsite evaluation, at the supplier's premises, at periodic intervals in order to monitor and evaluate supplier quality systems, procedures and on-going process performance.

The supplier evaluation is intended to help further the supplier's continuous production of good quality product or components as required and Weir reserves the right to identify any continuous improvement opportunities arising from the evaluation.

The supplier evaluation is to be conducted by personnel for and on behalf of Weir (i.e. SQD personnel or Weir contractors) using the 'supplier evaluation' sheet (SQD_002). Opportunities for improvement will be addressed with the supplier in a feedback session after the onsite supplier evaluation.

All open issues / opportunities for improvements must be addressed by the supplier and sent back with corrective action, deadline date and responsibility within the specified time frame as defined by Weir SQD departments.

Failure to adequately address opportunities for improvement may result in disqualification and/or modify supply arrangements.

Potential suppliers will be evaluated, if deemed necessary, as part of the initial sourcing process. All current suppliers will be evaluated at Weir SQD department's discretion and may include reasons such as on-going quality issues, any other poor supplier performance indicator or a quarterly visit.

Weir is committed to help suppliers maintain and improve their overall quality systems. Assistance shall be provided to suppliers when needed to ensure effective quality system development and continuous process improvement. Other supplier improvement initiatives may include the following:

- Training on quality management systems (ISO 9001:2015)
- Training on problem solving techniques
- Assist suppliers with any improvement activities
- Assist suppliers with developing EHS improvement plans as may be deemed necessary by Weir, this may include training awareness actions / materials.

2. Supplier Performance Rating System

Weir is committed to continued customer satisfaction and exceeding their expectations. The overall performance of our suppliers directly impacts on our ability to support our customers' requirements. Weir supplier performance rating system is a consistent process to measure supplier performance that is critical to our success. The process is designed to capture specific data, measure on a regular basis and provide feedback to our suppliers.

We are committed to improving supplier performance through this standardized supplier performance rating system which is designed to categorize all our suppliers into "A", "B" and "C" categories based on weighted averages of the following:

KPI	Points
Quality	35
Delivery	30
Cost	15
Additional Local Factors, e.g. CAPA Responsiveness & Flexibility Continuous Improvement	**20**

Table 2 KPI weightings

3. Supplier scorecard divisional factors: Quality /Delivery / Cost

The top 3 KPI's are set by Minerals division and can be tracked factually by the following different means.

Quality – DPPM

Supplier quality for direct materials is measured by DDPM. The calculation formula is:

$$Defective\ Parts\ Per\ Million = \frac{Defective\ Units}{Total\ Units\ Delivered\ to\ Weir} \times 1{,}000{,}000$$

DPPM Score	Points
DPPM < 100	35
100.1 < DPPM < 500	30
500.1 < DPPM < 1,000	27
1,000.1 < DPPM < 5,000	25
5,000.1 < DPPM < 10,000	20
10,000.1 < DPPM < 50,000	15
50,000.1 < DPPM < 100,000	7
100,000.1 < DPPM < 200,000	3
DPPM > 200,000	0

Table 3 DPPM Scores

Delivery – OTD

The number of complete shipments delivered satisfactorily on the day agreed and required by the customer divided by the number of complete shipments due in the period plus the number of late (not delivered yet or delivered late in the period) complete shipments.

Example: 100 lines due this month, 5 late lines from last month, and 95 lines received this month gives an OTD of 95%.

OTD	Points
100%	30
90% > OTD ≥ 99.9%	25
80% > OTD ≥ 89.9%	15
71% > OTD ≥ 79.9%	5
≤ 70%	0

Table 4 OTD Scores

For suppliers of indirect goods OTD will be measured under the same principles as direct materials. For indirect services the assessment of OTD will be measured on the timely delivery of the specific services offered by the supplier.

Supplier OTD has a total weight of 30%.

Cost PPV

A supplier can receive positive PPV by providing continuous annual reductions in cost as they become more familiar with our product. Since positive PPV is desirable, partnering with suppliers that will work to improve their processes and pass the savings along to Weir is the goal. Savings in PPV are reported as a negative number (i.e. a reduction); a positive PPV in the financial sense is an 'on-cost' or price increase. For suppliers of indirect goods PPV will be measured under the same principles as direct materials. For indirect services the assessment of PPV will be measured on the overall cost of the transaction or services offered by the supplier. This is usually identified as part of the outcome of any RFP process.

PPV %	Points
≥ 5%	15
≥ 3% < 5%	10
> 0% < 3%	5
< 0% (i.e. on cost)	0

Table 5 PPV Scores

Supplier cost section has a total weight of 15%.

4. Local factors: Service / Innovation / Responsiveness / Supplier finance

Points are awarded for issues of local importance. These can be, but are not limited to, any of the following. The number of points and how they are awarded must total no more than 20:

Continuous improvement support, e.g. Lean, Kaizen, VA/VE, Kanban/Consignment implementation, CAPA response or responsiveness as well as demonstration of industry-leading technology and continual presentation of innovative solutions to improve both, service and cost.

Local factors agreed by individual sites have a total weight of 20%.

5. Supplier Classification

Suppliers will be rated according to the outcome of the above weighted averages and will be categorized as follows:

Rating		Score	Actions to be taken
AAA Rated Supplier	Preferred	≥ 80 Points	Add to local Approved Supplier List
A Rated Supplier	Approved	≥ 65 Points	Add to local Approved Supplier List
B Rated Supplier	Conditionally Approved	≥50, < 65 Points	Development and corrective action required, subject to on-going review
C Rated Supplier	Probationary	< 50 Points	Immediate corrective action required or 'disqualified'

Table 6 Supplier Rating System

The ratings are based on a twelve-month window of data which is provided on a monthly basis by the Purchasing or SQD department.
The supplier performance rating score will be used as the basis for future sourcing decisions and for annual awards and recognition.

6. Disqualified Supplier

Once a supplier is rated as a "C" rated supplier (probationary) for more than three consecutive months or any three months in a 12-month period, they will be placed on a performance improvement plan in order to meet "B" rated level criteria. The supplier then has six months to improve its performance and reach "B" rated supplier level (conditionally approved).

If the supplier does not improve performance within the six-month window period, they will become a disqualified supplier and no additional purchase orders are to be placed with them.

Supplier disqualification may be warranted by consensus of the purchasing or quality department and subsequently be removed from the approved supplier list.

7. Supplier Corrective Action

Suppliers are responsible to provide defect free products and components to Weir. If a product or component is received from a supplier that does not meet the requirements and is deemed to be a non-conformance, supplier will immediately be notified by Weir and will be required to take appropriate corrective action.

Nonconforming material, product or component can be detected either during an audit, incoming inspection, assembly or upon any warranty returns.

The supplier shall acknowledge receipt of corrective action request within 8 business hours. Immediate containment action is required within 24 hours to prevent any additional non-

conformances to Weir. If disposition of nonconforming material or an extension is not requested within 3 business days, Weir will scrap the material at the supplier's expense.

The supplier shall complete a corrective action report within 30 calendar days. Root cause and corrective action plan shall be documented and returned to Weir within the above-mentioned period. Suppliers may make use of their own document. This document shall include the following:

Problem statement
- Define problem(s) symptoms as experienced by the customer
- Identify when the problem started
- List manufacturing dates of defective material

Interim containment action – Expected within 24 hours
- Define all containment actions required
- Describe method of sorting
- Validate effectiveness of containment action

Root cause analysis – Expected within 5 calendar days
- Define detailed root cause
- Verify root cause identified
- Use of quality tools such as 5 why approach or fishbone diagram

Permanent corrective action - Expected within 30 calendar days
- Root cause must be addressed
- Detailed action plan with responsibility and deadline dates
- Verify and validate corrective action taken

The supplier may be requested to use the Weir problem solving 8D report (QA_002) on request.

Suppliers shall be responsible for all costs incurred by Weir as a result of non-conformance received or supplier's failure to meet specification.
Approval and closure of non-conformance report will be at the discretion of Weir SQD department and will remain open until problem solving requirements have been met.

Revision History – Supplier Quality Manual

Revision Date	Version Number	Description of Change	Reviewed by	Approved By	Date of last review
08/12/2020	V1	First release of Minerals Supplier Quality Manual	J.Vulkan P.Firth	J.MacLean	08/12/2020

			Minerals PEC		
07/06/2021	V2	Updated wording to improve flow. Added references to additional supplier documentation	J.Vulkan	J.MacLean	07.06.2021