DYWIDAG

SUPPLIER QUALITY MANUAL

August 2020

QUICKSTART

Supplier Qualification	**Sections 1 & 2**
New Production	**Section 3**
Continuing Production	**Sections 4 to 9**

REVISION HISTORY

Revision	Date	Description
0	August 2020	Initial Release

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SECTION 1 – INTRODUCTION & CODE OF CONDUCT

1.1 History

DYWIDAG traces its origins to 1865 and the partnership of founders Dyckerhoff & Widmann in a small German cement factory. Rapid expansion into construction, particularly of bridges, laid the foundation for extensive R&D into steel reinforcement and the adoption of emerging technologies to support civil infrastructure requirements. Today DYWIDAG operates in over 50 countries and is the market leader for infrastructure support and monitoring.

1.2 Document Purpose

DYWIDAG's success is predicated on supplying high quality, high performance products at a competitive price to our customers. Our Suppliers are a critical element in achieving and maintaining this high standard of performance our reputation is built upon.

This document sets out and defines DYWIDAG's expectations of our global supply chain for direct materials, tooling and equipment; as a Supplier you agree to conform to the quality system guidelines in this document. Any exceptions to these guidelines must be agreed to in writing by an authorized representative of DYWIDAG.

In this document, "you" or "your" relates to Supplier and "we" or "us" relates to DYWIDAG.

1.3 Code of Conduct

DYWIDAG promotes and expects the application of high legal, ethical, environmental and employee-related standards within our own business and among our Suppliers. Your adherence to these standards is an important and integral part of DYWIDAG's Spirit.

DYWIDAG therefore requires its Suppliers to respect the ethical principles presented in this Code of Conduct and to ensure that their own Suppliers and subcontractors do the same. The foundation of these guidelines are the UN Global Compact's ten principles in the areas of human rights, labor, the environment and anti-corruption, the Universal Declaration of Human Rights of the United Nations as well as the OECD guidelines for Multinational Enterprises.

On an annual basis Supplier is required to certify that they:

<u>Governance & Ethics</u>

- *Abide by all applicable national and international trade laws and regulations including but not limited to antitrust, trade controls, and sanction regimes;*
- *Consider business integrity as the basis of business relationships;*
- *Prohibit all types of bribery, corruption and money laundering;*
- *Respect the privacy and confidentiality information of all its employees and business partners, as well as protect data and intellectual property from misuse;*
- *Not engage in price fixing or other market manipulation;*
- *Not submit false statements in the course of the procurement process.*

People

- *Support the protection of internationally proclaimed human rights, fight forced labor (including modern slavery and human trafficking) and child labor;*
- *Uphold the freedom of association and the right to collective bargaining in accordance with applicable laws;*
- *Treat employees with respect and provide a workplace free of harassment or abuse of any kind, harsh and inhumane treatment, unlawful practices or discrimination;*
- *Enable employees and other stakeholders to report concerns or potentially unlawful workplace practices;*
- *Comply with minimum wages and working hours in accordance with local laws;*
- *Ensure safety of employees in the workplace in accordance with all applicable laws, regulations and industry standards.*

Environment

- *Comply with all applicable environmental, health and safety regulations;*
- *Promote the safe and environmentally sound development, manufacturing, transport, use and disposal of products;*
- *Ensure that product quality and safety meet the applicable requirements;*
- *Protect employees' and neighbors' life and health, as well as the general public at large against hazards inherent in Supplier's processes and products;*
- *Use resources efficiently, apply energy-efficient and environmentally friendly technologies and reduce waste, as well as emissions to air, water and soil;*
- *Minimize negative impact on biodiversity, climate change and water scarcity.*

DYWIDAG will investigate thoroughly any actual or suspected breach of content and/or spirit of this code and reserves the right to discontinue any relationship for non-adherence to these principles, failure to correct violations, or continuing non-compliance with these standards.

If Supplier or Supplier's employee has a serious concern on possible irregularities or misconduct, it should be reported using the best and most easily accessible channel in this regard. DYWIDAG's Whistleblower Policy covers the means of contact and can be found here: https://www.DYWIDAG-systems.com/group/ethics-compliance/

SECTION 2 – SUPPLIER FUNDAMENTALS

2.1 Responsibilities

DYWIDAG expects from Supplier purchased products and/or services which

- comply with established specifications;
- comply with engineering specifications;
- comply with material specifications;
- conform to supplied drawings; and
- meet common industry standards not explicitly called out in specifications

All Suppliers must maintain a comprehensive Quality Management System (QMS) to ensure compliance with the above expectations, criteria laid out in this Supplier Quality Manual and with the requirements of any purchase order, supply agreement and associated documents which are provided by DYWIDAG.

Accreditation by third-party certification bodies may be required in specific instances which will be identified by your DYWIDAG representative; a list of global bodies may be found at the International Accreditation Forum http://www.iaf.nu

In the absence of third-party certification and depending on the product, its application, value, and criticality, DYWIDAG may authorize the acceptance of other evidence of compliance. This may include second-party (DYWIDAG) audit or first-party (self) assessment to the applicable criteria above, or to a set of alternative basic quality requirements such as those described in a Quality Assessment checklist.

2.1 Relationships

It is the policy of DYWIDAG to award contracts for all equipment, Suppliers and services on the basis of merit. Supplier will be treated with fairness and integrity and without discrimination. To do so, all employees in any organization having contact with Supplier or potential Supplier must maintain the highest standards of ethics and business practices. The “DYWIDAG Spirit” document governs conflicts of interest and other potential pitfalls for employees who deal with Supplier or potential Supplier.

2.3 Supplier Approval

Prior to part submission Supplier must be approved by representatives of DYWIDAG. This approval process will include at a minimum:

a) Completion of a Supplier Evaluation Form (Exhibit A.11) for technical capabilities and process controls, to be completed by Supplier in combination with a likely site visit from DYWIDAG purchasing and/or technical resources. An external QC company may also be engaged for this initial review.

b) Financial risk assessment of Supplier’s stability.

Additional criteria may be also used in the approval process, including but not limited to:

- demonstrated performance, in the case of existing vendors;
- approval by one or more DYWIDAG internal technical resources;
- total cost competitiveness and commitment to continuous improvement;
- unique technical capabilities and the ability to provide engineering support; and/or
- other DYWIDAG-directed requirements such as security of supply, etc.

Your DYWIDAG representative will help guide you through the approval process.

2.4 Facility access

Supplier’s products or services may be subject to source inspection by DYWIDAG, representatives thereof or applicable government or regulatory agencies if required.

This inspection may apply to any and all operations performed by the Supplier or the Supplier's sources, including those

completed prior to delivery of products to DYWIDAG. The Supplier shall provide the necessary access, equipment and resources required to effectively accomplish source inspection.

2.5 Business continuity

The Supplier should have a business continuity plan which would allow for the safeguarding, storage and recovery of engineering drawings, electronic media, and production tooling in the event of damage or loss. This plan should also contain contingency plans to satisfy DYWIDAG requirements in the event of significant utility interruptions, labor shortages, equipment failure and field returns.

2.6 Insurances

DYWIDAG requires Supplier to maintain adequate insurance coverage as agreed and confirmed during the qualification process. Supplier has to provide verification of existing and adequate insurance coverage at DYWIDAG's request at any time, but at least once a year.

SECTION 3 – PRODUCT QUALIFICATION

3.1 Technical requirements

Approval requirements for each product will be agreed between with Supplier via documentation provided by Technical and Quality representatives of DYWIDAG.

This documentation will be provided to the Supplier early on in the procurement process, and it is Supplier's responsibility to review the check sheet and ensure that all specific requirements are understood, and then sign and return to their DYWIDAG representative before prototyping.

3.2 First Article Inspection

As a minimum, a First Article Inspection (FAI) is required to initially qualify a part/process for approval, unless specific other instructions are used instead. These FAI's may different slightly between DYWIDAG regions and business units, and it is the responsibility of Supplier to follow the guidance provided by their DYWIDAG representative and use the correct documentation.

Furthermore, a new FAI may be requested if there is an extended gap of time since last production. The FAI requires that all features and characteristics on the design specification and control plan be inspected and verified prior to production. Actual measured values shall be recorded as opposed to general statements of conformance or other notations simply indicating acceptance.

Due to business requirements these inspection and approval requirements may differ between DYWIDAG regions and business units. It is the responsibility of Supplier to understand the FAI required for the entirety to which they are supplying. Your DYWIDAG representative will assist.

Examples of regional First Article inspection and approval (see Appendix):

A.2 Americas Quality Plan & Sample Inspection Report (PPAP)
A.3 Americas Part Approval ("Form C")
A.5 EMEA First Inspection Report
A.6 EMEA Inbound Inspection Report
A.9 China Guidelines for Supplier QMS

For a valuable resource on general First Article Inspection guidance, see also AIAG PPAP Manual (Appendix C, D, & E) – Production Part Approval Process (available from www.aiag.org).

In addition to a FAI, Supplier shall, as a minimum, develop a Control Plan by identifying special product and process characteristics that are key to achieving the required quality and technical performance of the goods. The Supplier shall also include those special characteristics designated by DYWIDAG in the drawing, specification, or contract.

3.3 Other Part Approvals

Regional DYWIDAG units may have additional processes that are to be completed prior to a product entering production. These can include submission of Production Part Approval Process documentation (PPAP), completion of specific testing, evaluation by an independent third party and approval by a recognized body with support from an accredited laboratory. Your DYWIDAG representative will provide details in the event any of these are required.

SECTION 4 – GENERAL REQUIREMENTS

4.1 Compliance to Contractual Requirements

Upon accepting a DYWIDAG contract, Purchase Order or Supply Agreement, the Supplier is responsible for compliance to all contractual requirements (e.g., engineering drawings, specifications, purchase order(s), regulations, etc.). All documents, drawings and specifications, regardless of origin, are applicable to the Supplier when specified in the contract or documents referenced in the contract and are required to be used at all levels of the supply chain.

Unless otherwise specified in the contract, the document revision in effect on the date of issue of the contract applies to the contract.

Neither audit, surveillance, inspection or tests made by DYWIDAG, representatives of DYWIDAG or its customer(s), at Supplier's facilities, at any sub-tier facilities, or upon receipt at DYWIDAG,

relieves the Supplier of the responsibility to furnish acceptable products or services that conform to all contract requirements; nor does it preclude subsequent rejection by DYWIDAG or its customers.

4.2 Designated Sources

When specified by contract Supplier shall purchase products, materials or services from DYWIDAG-designated sources. The Supplier is responsible to ensure that items procured from such sources meet all applicable technical and quality requirements.

4.3 Control of sub-Supplier

Supplier, as the recipient of a purchase contract from DYWIDAG, is responsible for meeting all requirements, including work performed by the Supplier's sub-tier/subcontract Supplier. When the using sub-tier sources to perform work on products and/or services scheduled for delivery to DYWIDAG, Supplier shall include (flow-down) on contracts, to its sub-tier sources, all of the applicable technical and quality requirements contained in the DYWIDAG contract, including quality system requirements, regulatory requirements, the use of designated sources, and the requirement to document and control 'key characteristics' and/or 'key processes,' and to furnish certifications and test reports as required. DYWIDAG and its customers reserve the right-of-entry to sub-tier/subcontractor facilities, subject to proprietary considerations.

4.4 Control and Release of Supplied Documents

Documents furnished by DYWIDAG to Supplier are furnished solely for the purpose of doing business with DYWIDAG. Proprietary documents may be furnished to Supplier in hard copy, electronic or other media. Supplier is responsible for controlling and maintaining such documents to preclude improper use, loss, damage, alteration and/or deterioration.

Unless authorized by an appropriate DYWIDAG resource in writing, Supplier may not transmit or furnish any supplied documents, or copies of such documents, to anyone outside the Supplier's business organization except to a sub-tier source used by the Supplier for performance of work on the DYWIDAG contract. The Supplier shall return to DYWIDAG, or purge electronic copies of, all proprietary documents with the last delivery of products or services on the contract or with prior approval by a certain date in the future. DYWIDAG may request the Supplier to furnish objective evidence or certification that proprietary documents have been purged. The Supplier shall flow down this requirement to all sub-tier sources, when such sources will be in receipt of DYWIDAG proprietary documents during performance of work for the Supplier.

4.5 Material certification

The Supplier will provide evidence of material certification (conformance to specification) with each lot/batch or shipment to the receiving DYWIDAG facility. This will normally take the form of a ‘mill certification’ listing the mechanical, chemical and performance properties of the material along with documentation of its country of origin.

In some cases, the Supplier may be asked to participate in “pre-certification” approval processes prior to actual shipment; your respective DYWIDAG purchaser or technical contact will advise if this is the case and what the process entails.

Material certifications that include a date of manufacture, expiration or “use by” date must have that same date of manufacture, expiration or “use by” date marked on the label of the material packaging. Material shipped to a DYWIDAG facility or customer job site shall have no less than 90 percent of its useable shelf life remaining.

4.6 Continuous Improvement

Continuous Improvement to achieve a lower Total Cost of Ownership (“TCO”) is an essential element of long-term business success. To remain competitive, DYWIDAG and its Supplier must recognize the requirement to find effective ways to eliminate waste and reduce the cost of their products and services.

Supplier are expected to constantly examine and optimize the entire cost structure of their business and the products and services; This includes process improvements, cycle-time reduction, scrap reduction, die/tooling set-up reduction, design improvements, and reductions in sales, general and administration (“SG&A”) expenses, fixed and variable overhead expenses reduction, transportation expenses, etc.

DYWIDAG may also propose specific continuous improvement activities to Supplier.

SECTION 5 – PROCESS CONTROL

In order to prove stability of a process, the output of an individual process, or group of processes should be measured and tracked. A Supplier should work with DYWIDAG to select the most appropriate metrics for their business; these metrics could include process capability studies or other measurements.

DYWIDAG may define the characteristics for which the Supplier needs to provide capability data and may also designate critical product or process characteristics beyond those formally identified on engineering drawings and specifications. These additional requirements may be based on known process issues, production problems, or field problems.

5.1 Control Plan

A control plan is a detailed, step-by-step description which shows how the part and its key characteristics are to be manufactured, inspected, and tested. The plan describes actions that are required at important phases of the manufacturing process including receiving, in-process for products, final assembly, final inspection, audit, packaging, shipment and other pertinent steps to ensure that all outputs will be in a state of control. The control plan provides the

process monitoring and control frequency and methods that will be used to control critical characteristics. The control plan must include instructions in case of non-conformity detection.

The Control Plan should be developed by a cross-functional team that understands the process being controlled or improved. The information contained in the control plan can originate from several sources, including but not limited to the following:

- process flow;
- risk analysis;
- customer and regulatory requirements;
- engineering specifications and drawings;
- special characteristics;
- lessons learned from similar parts;
- team knowledge about the process;
- claims or warranty issues

The control plan is maintained and used throughout the product life cycle. If changes or revisions occurred to the products or the process specified for the manufacturing of the products, the control plan must be updated and reapproved.

Early in the product life cycle its primary purpose is to document and communicate the initial plan for process control; subsequently, it guides manufacturing strategy and practice in how to control the process and ensure product quality. The control plan is a living document, reflecting current methods of controlling the process, and should be updated as control methods are evaluated and improved.

A control plan may apply to a group or family of products that are produced by the same processes on the same production line at the same source. Supplier must monitor actual processing of the part, compare processing to the control plan in all aspects, and report to DYWIDAG any variances/deviations from the plan. DYWIDAG reserves the right to audit the Supplier's facility and practices to evaluate compliance to the control plan.

An audit may be part of a certification assessment or an independent activity, and the result of such audits shall not relieve the Supplier from the responsibility to produce defect-free parts.

5.2 DYWIDAG Tooling

Defined as:

- tooling specifically fabricated for a DYWIDAG product with little or no other use;
- tooling transferred to Supplier by DYWIDAG;
- tooling fabricated by Supplier and paid for by DYWIDAG;
- tooling whose life and value is limited to the commercial production and service life production of the products which it produces or measures;
- tooling which directly affects the part it measures or produces including part specific gauges, dies, fixtures, gear cutters, broaches, molds, jigs, etc..

Supplier is responsible for the cost of routine maintenance, repair, refurbishment, and keeping DYWIDAG-owned tooling in production condition in accordance with industry standards. Supplier will keep detailed maintenance records and make these records available on request. DYWIDAG shall be responsible for the cost of major refurbishments due to life cycle completion, for which quotations must be submitted in advance for review and approval.

DYWIDAG tooling shall be permanently and visibly marked.

5.3 Tooling sampling conditions

There are a number of conditions when tooling used to produce parts for DYWIDAG may need to be “proofed” with new samples in accordance with the Part Approval Process.

- making of a new part or product; new parts or products may require multiple submissions (e.g. pilot, pre-production, and production). The Part Qualification Check Sheet will cover submissions in these cases;
- correction of a discrepancy on a previously shipped part;
- product modified by an engineering change;
- use of another optional process or material (as approved);
- production from new or modified tools (except perishable tools), dies, molds, patterns, including additional or replacement tooling;
- production following refurbishment or rearrangement of existing tooling;
- production following any change in process or method of manufacture;
- production from tooling and equipment transferred to a different plant location or from an additional plant location;
- change of source for key subcontracted parts, materials or services (for example, heat-treating, plating, etc.);
- product re-released after the tooling has been inactive for a substantial time;
- following a customer request to suspend shipment due to Supplier quality concerns.

Supplier is responsible for alerting DYWIDAG whenever production circumstances change and one of the above situations become applicable.

5.4 Control of Monitoring and Measuring Devices

DYWIDAG expects Supplier to maintain controls on their measurement devices that fulfill ISO 9000-type requirements at a minimum.

All devices or tools specified in a control plan as a means of inspection or other control shall have their capability verified. Proof of this verification may be required for submission for Supplier and/or part approval.

All gauging systems must provide readings in the same unit of measure as the blueprint unless otherwise approved by DYWIDAG.

Gauge tolerances are to be defined by SAE/DIN/ISO standards:

- SAE – Society of Automotive Engineers
- DIN – Deutsches Institut fur Normung – German Institute for Standardization
- ISO – International Standards Organization

Supplier is expected to maintain the integrity of the measurement system may be asked to provide proof of gauge repeatability & reproducibility ("GR&R") at PPAP submittal.

5.5 Sampling Inspection

Supplier is required to maintain part sampling and testing protocols to levels specified in DYWIDAG production prints and quality documentation. This may range from a nominal % parts per lot up to 100% piece inspection depending on the criticality of the part.

It is the responsibility of Supplier to determine if their existing sampling protocol (i.e. under ISO or similar) meets/exceeds the requirements laid forth by DYWIDAG.

5.6 Attribute Measurements

Where a product does not lend itself to discrete measurements the Supplier shall propose, and DYWIDAG approve, a method for evaluating process capability. This process will be guided by your DYWIDAG representative.

5.7 Raw Material Lot Control

The quality level of materials supplied by sub-tier Supplier is critical to the final quality of a product. Supplier shall maintain as part of their QMS a record of heat number, lot number, processing batch number, etc. associated with production of parts supplied to DYWIDAG. Furthermore, Supplier shall be able to retrace these identifying marks through their production process within 24 hours in the event of a part failure, discovery of non-conforming material, etc.

If requested, Supplier shall provide a bill of material annotated with sub-suppliers to DYWIDAG. This document may be used to help determine the adequacy of Supplier's tier control.

5.8 Corrective Actions

In the event that Supplier defects are discovered at DYWIDAG, the parts/components in question will be identified and segregated to preclude further use. DYWIDAG will make a determination of the next steps to be made in the process based on several criteria, including the defect's criticality, quantity, cost, and other factors. Based on this evaluation, DYWIDAG will determine whether the:

- defectives are accumulated and returned to the Supplier in accordance with plant procedures;
- Supplier sorts the defectives at DYWIDAG; and/or
- Supplier reworks defects at DYWIDAG

DYWIDAG will request a Supplier to submit a formal written corrective action to address specific non-conformances identified at either a plant or in the field. The need for formal corrective action request will be evaluated in terms of potential impact upon production costs, quality costs, performance, reliability, safety, and customer satisfaction.

Corrective Action Requests will be issued to the Supplier using the appropriate form specific to the region or Business Unit generating reporting the non-conformance. Supplier is expected to fully comply with these Requests.

Supplier's response to a Corrective Action Request must include root cause determination, containment action (short-term action), and permanent (long-term) corrective action. As part of the corrective action, a defined implementation plan with effective dates must be included, as well as disposition of suspect material. The information about the containment action has to be provided verbally to DYWIDAG within a period of 24 hours. Failure Analysis leading to the root cause determination shall be done within 72 hours of receipt of a non-conforming or "failed" part from DYWIDAG or a field location directly. Permanent corrective action and detailed Corrective Action Request (CAR) response must be completed within 15 days.

If DYWIDAG disagrees with the containment action, the Supplier must respond within 24 hours. The DYWIDAG approval of the permanent corrective action will be transmitted to the Supplier within 2 weeks. Any changes to this procedure must be agreed in writing. The CAR process provides for DYWIDAG approval of the proposed corrective action, as well as verification of the effectiveness of the proposed actions after implementation of changes is complete.

SECTION 6 – CHANGE CONTROL

6.1 Change Control Process

Supplier shall ensure that relevant versions of applicable documents furnished by DYWIDAG (as well as those specified of external origin) are available at points of use in manufacturing.

Supplier is responsible for the timely review, distribution and implementation of all DYWIDAG engineering standards/specifications. "Timely review" of any proposed changes should be as soon as possible. Supplier shall maintain a record of the date on which each change is implemented in production, and this implementation shall include updated documents.

6.2 Supplier Change Requests

Supplier shall not make changes to their processes, location, facilities, equipment, material, product design (or any change which may affect product design or function) without written approval from DYWIDAG for:

- correction of a discrepancy on a previously submitted part;
- product modified by an engineering change to design records, specifications, or materials; or
- any planned changes by Supplier to the design, process, or manufacturing location, such as:

  a) use of other material than was used in previously approved part or product;
  b) production from new, additional, replacement or modified tools, dies, molds, patterns, etc.;
  c) production following upgrade or rearrangement of existing tooling or equipment;
  d) production from tooling and equipment transferred to a different plant site or from an additional plant;
  e) change of sub-tier Supplier for parts, nonequivalent materials, or services (e.g. heat treating, plating, etc.);
  f) product produced after tooling has been inactive for production for >12 months;
  g) change to test/inspection method (no effect on acceptance criteria);
  h) for bulk materials: new source of raw material from new or existing Supplier, or change in product appearance attributes, etc.; and/or
  i) use of any non-conventional manufacturing methods

Before submitting to DYWIDAG a request for a permanent change to a Supplier-controlled design, the Supplier shall ensure that all process-related issues have been addressed and resolved. DYWIDAG may also require other portions, or all, of the related qualification process to be repeated, and in some cases DYWIDAG may elect to review Supplier proposed permanent changes at the Supplier's facility.

To request a temporary or permanent engineering change, Supplier shall use an appropriate Regional approval document ("Engineering Change Request") or equivalent form of notification to the technical resources identified by your DYWIDAG representative.

SECTION 7 – NON-CONFORMING PRODUCT

7.1 Identification and Notification

It is the responsibility of Supplier to ensure the continuous supply of conforming product. Supplier shall not be absolved, or otherwise released, from fulfilling established delivery schedules due to identification of non-conforming product. In the event circumstances arise that may result in an inability to fulfill established delivery schedules, Supplier must immediately contact the appropriate DYWIDAG purchasing representative and submit a written recovery plan.

DYWIDAG will immediately notify Supplier if non-conforming material is found at a DYWIDAG location. Evidence of the non-conformance, such as digital photos and samples will be provided along with documentation of the non-conformance and reasons for rejection.

7.2 Containment

Upon internal discovery or receiving notification from DYWIDAG, Supplier is required to immediately contain all defective product:

- at Supplier production location(s);
- in transit;
- in warehouses;
- at DYWIDAG location(s) with assistance from DYWIDAG representatives;
- at Customer location(s) with assistance from DYWIDAG representatives

7.3 Requests for Deviation

In certain instances, it may be necessary for the Supplier to deviate from DYWIDAG requirements and specifications; request for such deviations shall be made using a deviation request form appropriate to the DYWIDAG unit for whom the parts are intended (example Appendix A.4).

A deviation request may arise from the following situations:

- a Supplier may initiate the deviation request because of non-conforming material found at their facility;
- A Supplier may initiate the deviation to request a substitution of material, processing method, or change in procedures;
- DYWIDAG may initiate the request to document a change to specifications prior to a formal product change authorization being completed.

The Supplier Deviation Request form must provide all required and pertinent information about the requested deviation, and Supplier is responsible for the segregation and non-shipment of the non-conforming material until a deviation is granted. Discrepant material received at DYWIDAG without an approved SDR will be rejected and returned to the Supplier at the Supplier's expense with all additional handling and shipping costs incurred by the Supplier.

No discrepant material will be processed until all required personnel approve a deviation. All requests for deviations must be accompanied by written corrective action plan (if applicable).

DYWIDAG views the excessive use of SDRs for non-conforming material as abusive and an indicator that a Supplier may have a breakdown in their quality system. The SDR is not to be used to cover up or replace proper quality systems and process controls at the Supplier location, or function as a mechanism to ship otherwise non-conforming materials.

7.4 Cost Recovery

Costs to contain, segregate and recover non-conforming material rests wholly with Supplier. This may include, but are not limited to, costs incurred associated with containment, sorting, premium freight, rework, replacement of non-conforming product, overtime, travel, associate time, line downtime/productivity loss, etc. incurred by DYWIDAG or its customer.

SECTION 8 – PACKAGING, LABELING, DELIVERY and RECORD RETENTION

8.1 Packaging

Packaging requirements can vary by DYWIDAG location, type and quantity of product being shipped, however in all cases Supplier must adequately plan for packaging designed to ensure safety, prevent product contamination, deterioration (including corrosion) or loss and to eliminate shipping damage. Expendable materials and packaging should be identified as such and must meet local and national standards for safe disposal and/or recycling.

For steels treated with paint, zinc (galvanizing) or epoxy particular care is to be taken not to band, lift, or transport in such a way as to damage the coating.

For steel being shipped internationally in shipping containers “seaworthy packaging” is required, including but not limited to durable crating, waterproof wraps, metal tags and desiccant bags or other humidity-controlling devices. The use of oil or other liquid chemical treatments of steel are sometimes allowed but must specifically be cleared by a DYWIDAG purchasing or technical representative prior to use.

8.2 Labeling

Labeling should assure product identification and traceability. Supplier must conform to the local labeling and identification requirements as specified by their DYWIDAG representative.

8.3 Delivery

Method of transport and point of ownership transfer (“delivery) will be specified on DYWIDAG purchase orders or other agreements for purchase to the Supplier. Costs associated with deviating from these instructions without DYWIDAG approval are the responsibility of Supplier.

Supplier shall systematically inform DYWIDAG of any potential delays in delivering product due to supply interruptions, non-conforming product, etc. and provide updated delivery estimates in a timely manner. Additional transport costs including the use of premium freight services due to these delays are the responsibility of Supplier.

8.4 Record Retention

The control of records must satisfy all regulatory requirements and further any special requirements specified by DYWIDAG or a designated customer (such as Bridge owner). These records must be retained for a minimum of ten years unless otherwise required and be made available for review upon request. It is the Supplier's responsibility to confirm the record retention period with the appropriate DYWIDAG purchasing representative before disposal of any records related to production or quality control.

SECTION 9 – SUPPLIER PERFORMANCE MEASUREMENT

9.1 General

DYWIDAG may request the Supplier to provide a copy of its quality management system certificate and/or complete an assessment of its business and quality management system and capabilities (i.e., quality, delivery, technology, cost, and continual improvement objectives). These assessments can take a number of forms.

9.2 DYWIDAG Assessments

An initial assessment of Supplier Capabilities will be made by DYWIDAG purchasing and/or technical representatives. This will cover:

- Whether the Supplier's quality management system meets one or more of the applicable standards and is functioning effectively; and
- Whether the Supplier has the financial resources, production capacity, and other business resources needed to fulfill DYWIDAG volume production needs and continuity of supply; and
- Whether the Supplier has the needed technical resources, including production and inspection equipment, facilities, engineering resources, DYWIDAG-specified computer-aided design language/format, electronic commerce capability, etc.

Ongoing assessments performed by DYWIDAG may take the form of annual technical audits, visits by purchasing and quality teams on relevant topics and/or Operational review of Supplier compliance to HSE (Health, Safety & Environment) guidelines.

Generally, when a Supplier is certified to a standard by an accredited certification body (i.e. ISO 9001), DYWIDAG will not conduct an on-site assessment of the Supplier's quality management system against the same criteria.

9.3 Self-Assessment

In specific instances DYWIDAG may request Supplier to conduct a self-assessment of operational and quality controls related to performance measurement. These may be in response to observed shortcomings, perceived gaps in control or uncorrected non-conformance complaints. Your DYWIDAG purchasing representative will provide details should this be required.

9.4 External Audits

Often times Supplier will be required to undergo audits by representatives of a national technical body. These will be scheduled with Supplier with due notice and instructions how to prepare and will usually be conducted with a DYWIDAG technical representative present. These audits may extend to sub-Supplier/subcontractors as required.

APPENDICES

No.	Scope	Description	Form
A.1	-	(slot blank)	
A.2	Regional	Americas Quality Plan & Sample Inspection Report	(see example)
A.3	Regional	Americas Part Approval	“Form C”
A.4	-	(slot blank)	
A.5	Regional	EMEA First Article Inspection	DSI-FB-32005
A.6	Regional	EMEA Inbound Inspection Report	(see example)
A.7	-	(slot blank)	
A.8	-	(slot blank)	
A.9	Regional	China Guidelines for Supplier QMS	(see example)
A.10	-	(slot blank)	
A.11	Global	Supplier Assessment Report	GSCSAR2.0
A.12	-	(slot blank)	

Appendix A.2 Americas Quality Plan & Sample Inspection Report (PPAP)

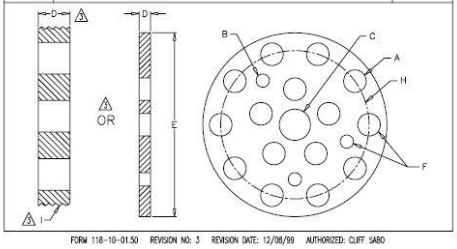
DYWIDAG–SYSTEMS INTERNATIONAL, USA, INC. DSI

QUALITY PLAN

PLAN NO. QS60098100L
PAGE 1 OF 2

P.O. NO.	JOB NO.	PROJECT NO.	REV. NO. 3	NAME: CLIFF SABO	DATE 02-02-12
PART OR ASSEMBLY NAME: KEEPER PLATE			PART NO.		
PLANNED BY: CHRIS NASH	DATE 10-27-93	APPROVED BY:	DATE		

INSPECTION / TEST POINT	ATTRIBUTES TO BE VERIFIED & METHOD	SUGGESTED INSPECTION / TEST EQUIPMENT
A	MEASURE STRAND HOLE DIAMETER	CALIPER
B	MEASURE THE BOLT HOLE DIAMETER (IF SPECIFIED) ⚠	CALIPER
C	MEASURE THE GROUT HOLE DIAMETER (IF SPECIFIED)	CALIPER
D	MEASURE THE THICKNESS OF THE PLATE	CALIPER
E	MEASURE THE DIAMETER OF THE PLATE	TAPE MEASURE
F	CHECK BOLT HOLE ALIGNMENT ON A WEDGE PLATE (IF AVAILABLE)	WEDGE PLATE
G	MAKE A VISUAL INSPECTION FOR BURRS OR OTHER IMPERFECTIONS	VISUAL
H	MEASURE B.C. DIAMETER FOR THE STRAND HOLES	VERSI-GAUGE
I ⚠	CHECK THREADABILITY ON A MATING PART (IF SPECIFIED)	MATING PART



FORM 118-10-0150 REVISION NO: 3 REVISION DATE: 12/08/99 AUTHORIZED: CLIFF SABO

INSPECTION CHECKLIST

QUALITY PLAN NUMBER: DRAWING NUMBER:
QUALITY DOC. NO. QS60098100L PAGE 2 OF 2

PART NUMBER	PART NAME: KEEPER PLATE	IC NO.	JOB NO.	RECEIVER NO.
SAMPLING: ☐ ASQC Z1-4 ☐ OTHER	INSPECT STATUS: SEVERITY:	QTY:	P.O. NO.	PLANNED BY: CHRIS NASH DATE 10-27-93
		SUPPLIER:	REV. NO. 3	NAME: CLIFF SABO DATE 02-02-12

CHECK POINT	CHARACTERISTIC	LOWER LIMIT — UPPER LIMIT	INSPECTION LEVEL	INSPECTION TOOL I.D.	QUANTITIES EXAMINED	QUANTITIES NONCONFORM	REMARKS
A	STRAND HOLE DIAMETER						
B	BOLT HOLE DIAMETER (IF SPECIFIED) ⚠						
C	GROUT HOLE DIAMETER (IF SPECIFIED)						
D	THICKNESS						
E	PLATE DIAMETER						
F	BOLT HOLE ALIGNMENT						
G	VISUAL (WELDS, BURRS, ETC.)						
H	STRAND HOLE POSITION						
I	THREADABILITY (IF SPECIFIED) ⚠						

MDR NO.
MAT'L SPEC. SHEET:
MATERIAL APPROVED ☐
ADDITIONAL REMARKS:
HEAT CODES:
INSPECTOR
DATE

FORM: 118-10-0151 REVISION NUMBER: 4 REVISION DATE: 06/13/97 AUTHORIZED: CLIFF SABO

DYWIDAG SYSTEMS INTERNATIONAL, USA, INC. DSI

Appendix A.3 Americas Part Approval (“Form C”)

DYWIDAG-SYSTEMS INT. *DSI*

Form C

Approval for Accessories from DSI USA

Request No.:
Rev. No.: Date:

Description: Part No.:
Drawing Number: Rev #: Date:
Applicable Systems:
Manf. of 1st Sample:
Date of 1st Sample:

Do the samples parts successfully meet the following (if applicable)

	Yes	n/a
1) Dimensions		
2) Material Specs		
3) Qualification Tests Performed		
3.1) @ DSI		
3.2) @ Independent lab		
3.3) @ Independent lab with cert.		
4) Caltrans (California) Approval		
4.1) Others:		
5) Mat cert per DIN 50049		
5.1) Others:		
6) Test per FE Requisition No.		

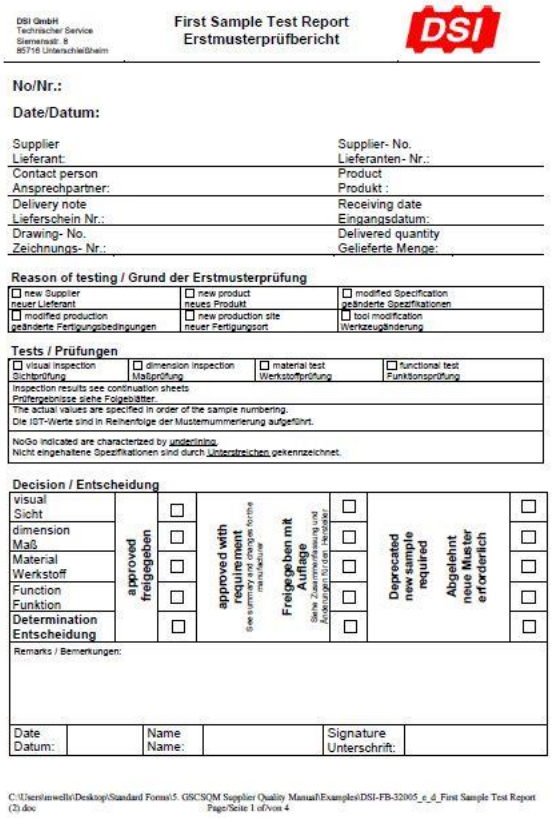
Remarks:

Date: Dept Head: Applicant

Distributions: Attachments:

	Signed	Date
Accepted for Use by DSI USA:		
Accepted for Use by DSI Without Approval:		
Accepted for Use by DSI General:		
Detailed Test Results are Necessary:		

Appendix A.5 EMEA First Article Inspection



DSI GmbH
Technischer Service
Siemensstr. 8
85716 Unterschleißheim

First Sample Test Report
Erstmusterprüfbericht

DSI

No/Nr.:

Date/Datum:

Supplier Lieferant:	Supplier- No. Lieferanten- Nr.:
Contact person Ansprechpartner:	Product Produkt :
Delivery note Lieferschein Nr.:	Receiving date Eingangsdatum:
Drawing- No. Zeichnungs- Nr.:	Delivered quantity Gelieferte Menge:

Reason of testing / Grund der Erstmusterprüfung

☐ new Supplier neuer Lieferant	☐ new product neues Produkt	☐ modified Specification geänderte Spezifikationen
☐ modified production geänderte Fertigungsbedingungen	☐ new production site neuer Fertigungsort	☐ tool modification Werkzeugänderung

Tests / Prüfungen

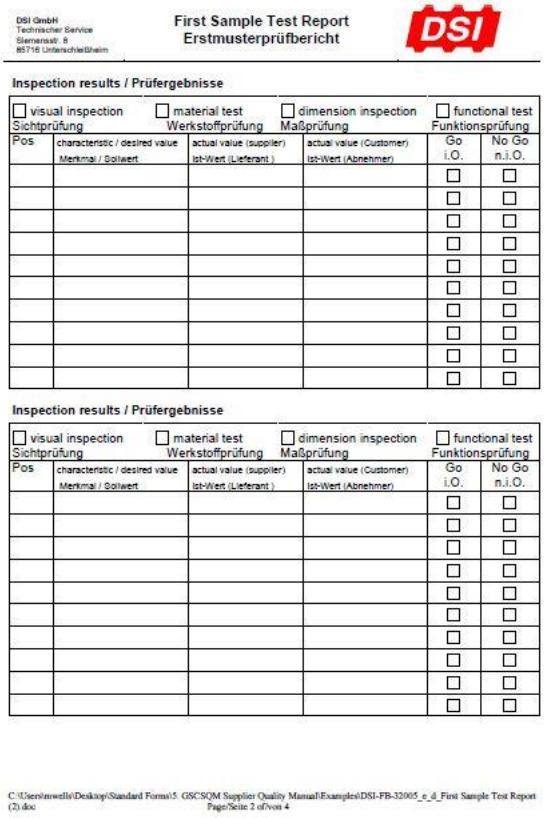
☐ visual inspection Sichtprüfung	☐ dimension inspection Maßprüfung	☐ material test Werkstoffprüfung	☐ functional test Funktionsprüfung
Inspection results see continuation sheets Prüfergebnisse siehe Folgeblätter.			
The actual values are specified in order of the sample numbering. Die IST-Werte sind in Reihenfolge der Mustemummerierung aufgeführt.			
NoGo indicated are characterized by underlining. Nicht eingehaltene Spezifikationen sind durch Unterstreichen gekennzeichnet.			

Decision / Entscheidung

visual Sicht	approved freigegeben	☐	approved with requirement See summary of deviations for the manufacturer	☐	Deprecated new sample required Abgelehnt neue Muster erforderlich	☐
dimension Maß		☐		☐		☐
Material Werkstoff		☐	Freigegeben mit Auflage Siehe Zusammenfassung und Anmerkungen für den Hersteller	☐		☐
Function Funktion		☐		☐		☐
Determination **Entscheidung**		☐		☐		☐

Remarks / Bemerkungen:

Date Datum:		Name Name:		Signature Unterschrift:	



DSI GmbH
Technischer Service
Siemensstr. 8
85716 Unterschleißheim

First Sample Test Report
Erstmusterprüfbericht

DSI

Inspection results / Prüfergebnisse

☐ visual inspection Sichtprüfung ☐ material test Werkstoffprüfung ☐ dimension inspection Maßprüfung ☐ functional test Funktionsprüfung

Pos	characteristic / desired value Merkmal / Sollwert	actual value (supplier) Ist-Wert (Lieferant)	actual value (Customer) Ist-Wert (Abnehmer)	Go i.O.	No Go n.i.O.
				☐	☐
				☐	☐
				☐	☐
				☐	☐
				☐	☐
				☐	☐
				☐	☐
				☐	☐
				☐	☐
				☐	☐

Inspection results / Prüfergebnisse

☐ visual inspection Sichtprüfung ☐ material test Werkstoffprüfung ☐ dimension inspection Maßprüfung ☐ functional test Funktionsprüfung

Pos	characteristic / desired value Merkmal / Sollwert	actual value (supplier) Ist-Wert (Lieferant)	actual value (Customer) Ist-Wert (Abnehmer)	Go i.O.	No Go n.i.O.
				☐	☐
				☐	☐
				☐	☐
				☐	☐
				☐	☐
				☐	☐
				☐	☐
				☐	☐
				☐	☐
				☐	☐

Appendix A.6 EMEA example

Stamp of Company / Firmenstempel	Inspection Sheet Prüfblatt	Part No. / Revision (Artikel-Nr. / Index) 18 TR 2123 b	Page/Seite ..... of / von ...

Anchor plate / Ankerplatte - 18 TR– K+S

Order No. / Auftrag Nr.:	Inspected/Supplied Quantity / Prüf-/Liefermenge:
Project / Projekt:	visual / Sicht (100%): ..... Pcs. / Stck.
Order quantity Bestellmenge: ..... Pcs. / Stck.	with measurement tool mit Meßwerkzeug (6,4%): Min ..... Pcs. / Stck.

General Requirements / Allgemeine Anforderungen:

Inspection Certificate 3.1 Abnahmeprüfzeugnis 3.1 (acc. to / nach DIN EN 10204)	☐ available / vorhanden ☐ not available / nicht vorhanden
Certificate of compliance with the order 2.1 Werksbescheinigung 2.1 (acc. to / nach DIN EN 10204)	☐ available / vorhanden ☐ not available / nicht vorhanden
Corrosion Protection Korrosionsschutz	☐ required / erforderlich ☒ not required / nicht erford. ☐ temporary / temporär ☐ durable / dauerhaft ☐ existing / vorhanden ☐ not existing / nicht vorhanden

Requirement (see drawing) Anforderung (siehe Zeichnung)	Norm. Value Soll-wert	Min. Value Min. Wert	Max. Value Max. Wert	Sample / Probe 1	2	3	4	5
A	80	79	81					
B	80	79	81					
Ø C	39	38,3	39,7					
D	12	11,5	12,5					
Ø E	32	31,5	32,5					
"T"	Existing / vorhanden			Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐
"W"	Existing / vorhanden			Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐
"X"	Existing / vorhanden			Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐

Delivery corresponds to drawing
Lieferung entspricht Zeichnungsvorgaben yes ☐ no ☐

Approval for delivery / Lieferfreigabe: yes ☐ no ☐ .....
Date/Datum, Signature/Unterschrift, Stamp of Company/Firmenstempel

DSI **Approval for application/ Anwendungsfreigabe:**

☐ yes / ja
☐ no / nein
☐ Approval under restriction (see Notes)
eingeschränkte Freigabe (siehe Bemerkungen)

Notes / Bemerkungen: .....

Copy to / Kopie an: .....

.....
Date/Datum, Signature/Unterschrift

Appendix A.9 China guidelines for QMS

	Process of DSI Shanghai	No.	
	Guideline for Supplier QMS 供应商质量管理体系---基础流程指南	Revision: 02	

Created by:	Shawn Wu / Yihai Chen	Date	2019/11/29	Distribution list: DSI Shanghai office, Suppliers in China 中国区供应商.
Checked by:	Shawn Wu	Date	2019/11/29	
Approved by:	Edward Wang	Date	2019/11/29	

Version Modificatory History
版本变更历史记录

Version No 版本号	Modificatory Content 变更内容	Modificatory Dated 变更日期	Editorial Staff 编辑人员
01	Added Comment 14-4, the requirements of Austra. 增加备注 14-4，奥地利对托盘的要求。	2019/3/21	Shawn
02	Updated the format template of cert 2.1 and cert 3.1 更新 cert 2.1 和 cert 3.1 的格式模板。	2019/11/29	Shawn

Page 1

	Process of DSI Shanghai	No.	
	Guideline for Supplier QMS 供应商质量管理体系---基础流程指南	Revision: 02	

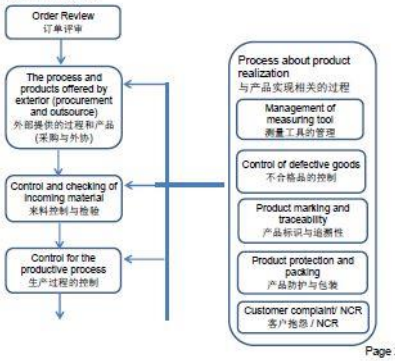
1 Objective and Range
目的和范围

This guideline stipulates the essential operational framework and process of the quality management system for DSI Chinese suppliers.
Remarks: 1-1) The quality management framework stipulated by this guideline is the most basic operational process rather than the full requirements of the quality management system of ISO9001 standard. DSI prefers suppliers to establish a comprehensive and effective quality management system according to ISO9001 standards.
1-2) The forms listed in this guideline are only used as demonstration. For organizations have established the relevant forms can continue to use their original form formats.

本指南定义了 DSI 中国区供应商，其质量管理体系的最基础作业框架与流程。
备注：1-1）本指南所定义的质量管理框架仅为最基础的作业流程，没有涵盖 ISO9001 质量管理体系标准的完整要求。DSI 鼓励供应商按照 ISO9001 标准的要求，建立全面且有效的质量管理体系。
1-2）本指南列出的范例表单格式，仅用于举例示范。对于已建立相关记录表单的组织，其已有表单格式可继续沿用。

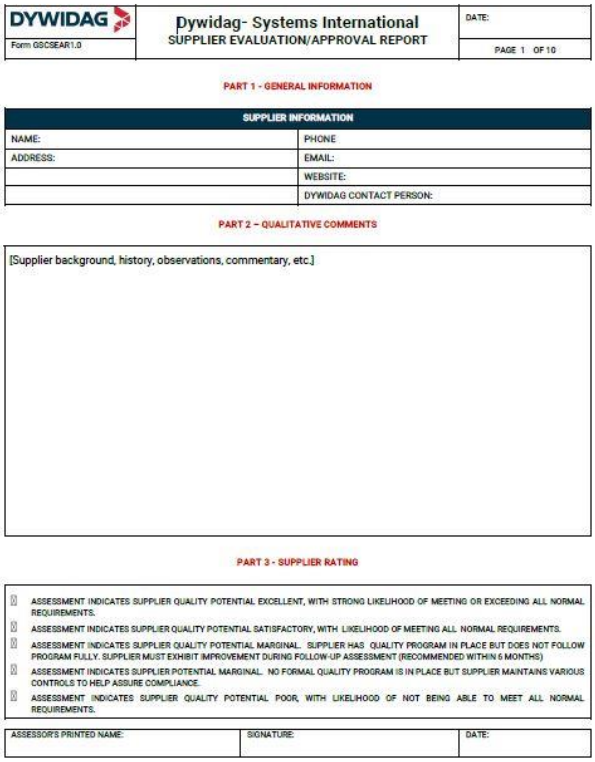
2 Terms and Definitions
术语和定义

3 Quality Management System of Suppliers– Basic Operational Process
供应商质量管理体系—基础作业流程



Page 2

Appendix A.11 Supplier Assessment Report



DYWIDAG
Form GSCSEAR1.0

Dywidag- Systems International
SUPPLIER EVALUATION/APPROVAL REPORT

DATE:
PAGE 1 OF 10

PART 1 - GENERAL INFORMATION

SUPPLIER INFORMATION	
NAME:	PHONE
ADDRESS:	EMAIL:
	WEBSITE:
	DYWIDAG CONTACT PERSON:

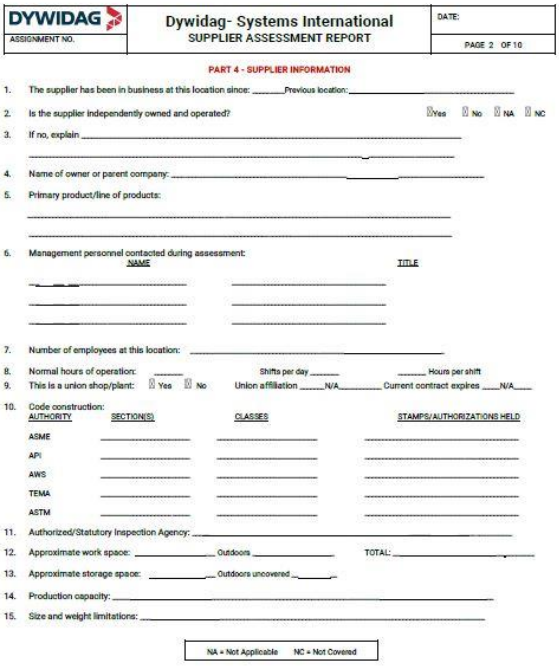
PART 2 – QUALITATIVE COMMENTS

[Supplier background, history, observations, commentary, etc.]

PART 3 - SUPPLIER RATING

- ☐ ASSESSMENT INDICATES SUPPLIER QUALITY POTENTIAL EXCELLENT, WITH STRONG LIKELIHOOD OF MEETING OR EXCEEDING ALL NORMAL REQUIREMENTS.
- ☐ ASSESSMENT INDICATES SUPPLIER QUALITY POTENTIAL SATISFACTORY, WITH LIKELIHOOD OF MEETING ALL NORMAL REQUIREMENTS.
- ☐ ASSESSMENT INDICATES SUPPLIER QUALITY POTENTIAL MARGINAL. SUPPLIER HAS QUALITY PROGRAM IN PLACE BUT DOES NOT FOLLOW PROGRAM FULLY. SUPPLIER MUST EXHIBIT IMPROVEMENT DURING FOLLOW-UP ASSESSMENT (RECOMMENDED WITHIN 6 MONTHS)
- ☐ ASSESSMENT INDICATES SUPPLIER POTENTIAL MARGINAL. NO FORMAL QUALITY PROGRAM IS IN PLACE BUT SUPPLIER MAINTAINS VARIOUS CONTROLS TO HELP ASSURE COMPLIANCE.
- ☐ ASSESSMENT INDICATES SUPPLIER QUALITY POTENTIAL POOR, WITH LIKELIHOOD OF NOT BEING ABLE TO MEET ALL NORMAL REQUIREMENTS.

ASSESSOR'S PRINTED NAME:	SIGNATURE:	DATE:



DYWIDAG
ASSIGNMENT NO.

Dywidag- Systems International
SUPPLIER ASSESSMENT REPORT

DATE:
PAGE 2 OF 10

PART 4 - SUPPLIER INFORMATION

1. The supplier has been in business at this location since: _____Previous location: _____
2. Is the supplier independently owned and operated? ☐Yes ☐No ☐NA ☐NC
3. If no, explain _____
4. Name of owner or parent company: _____
5. Primary product/line of products:
6. Management personnel contacted during assessment:

NAME	TITLE

7. Number of employees at this location: _____
8. Normal hours of operation: _____ Shifts per day _____ _____ Hours per shift
9. This is a union shop/plant: ☐ Yes ☐ No Union affiliation _____N/A_____ Current contract expires ____N/A____
10. Code construction:

AUTHORITY	SECTION(S)	CLASSES	STAMPS/AUTHORIZATIONS HELD
ASME			
API			
AWS			
TEMA			
ASTM			

11. Authorized/Statutory Inspection Agency: _____
12. Approximate work space: _____ Outdoors _____ TOTAL: _____
13. Approximate storage space: _____ Outdoors uncovered _____
14. Production capacity: _____
15. Size and weight limitations: _____

NA = Not Applicable NC = Not Covered