

TIER-1 DESIGN READINESS SYSTEM

TIER-1 DFM AUDIT



IAAR INITIAL AUDIT ASSESSMENT REPORT

COMPILED BY:
TIER-1 ENGINEER, LLC

PREPARED FOR:

JOE SCHMO ENGINEERING CORP.

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PROJECT INFORMATION

REPORT ID	SUBMISSION DATE	CLIENT / COMPANY
IAAR-11-0038	11/11/2011	JOE SCHMO ENGINEERING CORP.
CLIENT TYPE	PART / ASSEMBLY NAME	
STARTUP	COVER SHROUD	
PROJECT STAGE	PART / ASSEMBLY DESCRIPTION	
PRE-TOOLING	SUPPORT ARM COVER	
ASSIGNED MATERIAL	PC+ASA	
TARGETED PROCESS	INJECTION MOLDING	
PRODUCTION VOLUME	10,000 UNITS / YEAR	
PART COMPLEXITY	MODERATE	
COSMETIC REQUIREMENTS	NONE	
DESIGN INTENT STATEMENT	THIS PART IS DESIGNED TO COVER AND PROTECT THE EXPOSED COMPONENT AREA, ATTACH SECURELY TO THE MAIN ASSEMBLY, AND PROVIDE A CLEAN FINISHED EXTERIOR SURFACE.	
SPECIAL REQUIREMENTS & STATED CONCERNS	NONE STATED	

DESIGN SUBMISSION

FILES / DOCUMENTATION SUBMITTED		DOCUMENTATION TYPE	
COVER_SHROUD.stp SUPPORT_ASSEM.stp COVER_SHROUD.pdf RE: Cover Shroud RFQ.msg		CAD 2D DRAWING SKETCH	PICTURE DOCUMENT OTHER
PRIMARY CAD FILE		FILE TYPE	UNITS
COVER_SHROUD.stp		STEP	METRIC
INITIAL AUDIT ASSESSMENT			
PROCESS SUITABILITY			
PART DESIGN			
DRAWING & TOLERANCING			
INITIAL DESIGN FINDINGS	4	INITIAL DRAWING FINDINGS	4
OVERALL AUDIT SCOPE COMPLEXITY		CAD DATA USABILITY	
		REQUIRED MISSING INFORMATION	
		NONE	
REVIEW LEVEL ASSIGNMENT			
LEVEL 1	EST. LEAD TIME	INITIATE PHASE THREE →	
	5-7 BUSINESS DAYS		
	AUDIT PRICING		
	\$ 4 9 9	Payment in full constitutes approval of IAAR findings and Review Level assignment. Phase Three will begin after payment and delivery of any REQUIRED MISSING INFO.	



REVIEW LEVEL OVERVIEW

Review Levels are assigned by Tier-1 Engineer, LLC during Phase Two based on expected review effort, project complexity, risk assessment, documentation quality, and scope necessary for completeness.
If additional documentation, revised CAD, new project concerns, supplier feedback, or expanded questions are introduced after IAAR approval, the Review Level, pricing, lead time, or approved scope may be revised.

LEVEL 1	LEVEL 2	LEVEL 3
FOCUSED AUDIT	EXPANDED AUDIT	ADVANCED AUDIT
GENERAL INTENT: A focused review for simple parts, early-stage concepts, narrow concerns, or limited documentation packages. Level 1 is intended to assess the primary issue, identify obvious manufacturability risks, flag clear process-fit concerns, and provide practical next steps without expanding into a broad full-design audit.	GENERAL INTENT: A broader review for moderate parts, defined assemblies, quote-stage designs, or developed documentation packages. Level 2 is intended to assess the main risk areas, identify manufacturability concerns, flag process-fit issues, and provide prioritized commentary without reaching into full lifecycle engineering support.	GENERAL INTENT: An expanded review for complex parts, high-risk features, supplier-rejected designs, or uncertainty-heavy documentation packages. Level 3 is intended to assess major risk drivers, identify serious manufacturability threats, and provide priority action items without expanding into full engineering redesign.
SCOPE GENERALLY INCLUDES: - Focused review of main concerns - Basic manufacturability screening - Obvious geometry risk flags - Initial process-fit observations - Basic documentation review - High-level tolerance concerns - Clear next-step recommendations	SCOPE GENERALLY INCLUDES: - Detailed manufacturability review - Process-fit evaluation - Feature-level risk identification - Documentation completeness review - Tolerance and fitment risk review - Tooling and defect risk observations - Prioritized improvement comments	SCOPE GENERALLY INCLUDES: - Deep manufacturability assessment - Process suitability review - Tooling complexity review - Defect driver identification - Critical tolerance risk review - Production-readiness mapping - Priority action recommendations
SCOPE MAY INCLUDE: - Closer review of key features - Comments on the primary risk area - Recommendations when issue is clear - Comments on obvious concerns	SCOPE MAY INCLUDE: - Review of multiple concern areas - Comparison of design tradeoffs - Supplier feedback interpretation - Recommendations for quote readiness	SCOPE MAY INCLUDE: - Deep investigation of high-risk areas - Supplier rejection or no-quote analysis - Multiple process-risk observations - Expanded documentation gap review
SCOPE DOES NOT INCLUDE: - Broad feature-by-feature review - Full production-readiness assessment - Assembly-level review unless scoped - Supplier quote package development - Redesign work or CAD changes - Added concerns after IAAR approval	SCOPE DOES NOT INCLUDE: - Open-ended revision cycles - Formal tolerance stack analysis - FEA, CFD, or simulation work - Supplier sourcing or negotiation - Production launch ownership - Regulatory or safety certification	SCOPE DOES NOT INCLUDE: - Full CAD remodeling - Formal simulation or validation - Detailed tooling design - Supplier management - Production process ownership - Ongoing engineering support

UNIVERSAL SCOPE LIMITS

Unless specifically stated in the IAAR or project-specific scope, no Review Level includes:

- Full product redesign
- Ongoing, open-ended engineering support
- CAD remodeling or CAD revision work
- Engineering drawings from scratch
- FEA, CFD, moldflow, simulation, or formal analysis
- Regulatory, safety, or compliance approval

- Supplier sourcing, negotiation, or management
- Prototype fabrication or testing
- Tooling design or production launch ownership
- Unlimited meetings, revisions, or follow-up support
- Review of newly added information after IAAR approval
- Validation, certification, or production release approval

DFM AUDIT PHASES OVERVIEW

The four-phase DFM Audit system is used to keep the manufacturability review controlled, transparent, and tied to a clearly defined production objective.

PHASE ONE captures the submitted design information and project context so the audit starts from a clear manufacturing baseline.

PHASE TWO screens the submission and finalizes the IAAR so the audit level, scope, price, lead time, and missing information are defined before technical audit work begins.

PHASE THREE executes the DFM Audit and produces the MAAR findings, manufacturability risks, defect concerns, recommended actions, and production-readiness guidance.

PHASE FOUR delivers the final report, closes the approved audit scope, and defines what is included or excluded after delivery.

This structure prevents vague expectations, scope creep, unclear responsibilities, and uncontrolled follow-up while giving the client a clear path to any corrective actions.

PHASE ONE	PHASE TWO	PHASE THREE	PHASE FOUR
DEFINE THE MISSION	BUILD THE REVIEW PLAN	EXECUTE THE AUDIT	MAAR DELIVERY AND CLOSE-OUT
KEY ACTIONS: Contact Information Project Information Engineering Concerns Documentation Upload	KEY ACTIONS: Risk Evaluation Scope Definition Assign Review Level IAAR Generation	KEY ACTIONS: DFM Analysis Process Fit Evaluation Risk Identification MAAR Development	KEY ACTIONS: MAAR Delivery Engineering Findings Optional Clarification Audit Closeout
OUTPUT: COMPLETE DESIGN SUBMISSION PACKAGE	OUTPUT: INITIAL AUDIT ASSESSMENT REPORT	OUTPUT: MANUFACTURABILITY ASSESSMENT REPORT	OUTPUT: COMPLETED TIER-1 DFM AUDIT
KEY STAKEHOLDER: YOU	KEY STAKEHOLDER: TE	KEY STAKEHOLDER: TE	KEY STAKEHOLDER: TE , YOU

IAAR DELIVERY

PAYMENT / IAAR APPROVAL

PHASE THREE INITIATED



LEGAL

IAAR USE LIMITATIONS & CLIENT ACKNOWLEDGMENT

This Initial Audit Assessment Report, or IAAR, is a preliminary intake and scoping document prepared by Tier-1 Engineer, LLC as part of the Tier-1 Design Readiness System.

The IAAR is intended to define the submitted project condition, identify initial review needs, assign the appropriate Review Level, document known information gaps, and establish the next step required to initiate Phase Three technical review.

The IAAR is not the final technical review deliverable.

The IAAR does not constitute:

- Final design approval
- Production approval
- Tooling approval
- Supplier approval
- Regulatory approval
- Safety certification
- Licensed professional engineering certification
- Engineer of Record work
- A complete DFM audit
- A complete DFA review
- A complete failure investigation
- A complete RFQ package review
- A guarantee of manufacturability, performance, cost, timing, or production success

This IAAR is based only on the information, documentation, files, drawings, CAD data, images, descriptions, assumptions, and project context submitted or otherwise made available to Tier-1 Engineer, LLC at the time of initial assessment.

Incomplete, inaccurate, outdated, missing, or misleading information may affect the assigned Review Level, estimated lead time, review scope, pricing, usefulness of the assessment, and accuracy of any initial observations.

Tier-1 Engineer, LLC may revise the assigned Review Level, scope, pricing, lead time, or required information if additional documentation, revised design data, new concerns, supplier feedback, alternate manufacturing processes, or expanded review requests are introduced after IAAR delivery.

Payment in full constitutes acknowledgment and approval of this IAAR, including the assigned Review Level, review scope, pricing, estimated lead time, information still needed, and applicable Tier-1 Design Readiness System Terms & Conditions.

Phase Three technical review begins only after payment confirmation and receipt of any required missing information. The client remains solely responsible for final design decisions, supplier selection, tooling release, testing, validation, regulatory compliance, production approval, and implementation of any findings or recommendations provided by Tier-1 Engineer, LLC.

Use of this IAAR, approval of this IAAR, submission of payment, or continuation of the engagement constitutes acceptance of the applicable Tier-1 Design Readiness System Terms & Conditions.



TIER-1 ENGINEER, LLC

This page defines the limits of the IAAR only. Full Terms & Conditions apply to all Tier-1 Design Readiness System services.

KEY TERMINOLOGY

TERM	DEFINITION
IAAR	The Initial Audit Assessment Report used to document the submitted project condition, initial audit screening, assigned Audit Level, price, lead time, and required next steps.
DFM Audit	A manufacturability-focused review of a submitted design against the targeted material, process, volume, drawings, tolerances, and production assumptions.
MAAR	The Manufacturability Audit Assessment Report delivered after the DFM Audit, containing detailed findings, risks, recommended actions, and production-readiness guidance.
Assigned Material	The material currently selected or specified for the part, such as resin, alloy, grade, blend, or material family.
Targeted Process	The manufacturing process the part is intended to use, such as injection molding, die casting, machining, stamping, extrusion, or additive manufacturing.
Production Volume	The estimated number of parts expected to be produced per year or per production run.
Part Complexity	The expected manufacturing difficulty of the part based on geometry, features, undercuts, tolerances, surfaces, interfaces, and process constraints.
Cosmetic Requirements	Appearance-related expectations for the part, including visible surfaces, texture, gloss, color, sink visibility, witness marks, or surface finish needs.
Design Intent	A short statement explaining what the part is designed to do, how it is used, and what basic function it must support.
Special Requirements	Any stated concerns, unusual conditions, known risks, supplier feedback, performance needs, or project-specific requirements that may affect the audit.
Process Suitability	The initial judgment of whether the targeted manufacturing process appears appropriate for the submitted part, material, volume, and production assumptions.
Part Design	The submitted geometry, features, wall sections, transitions, ribs, bosses, holes, shutoffs, draft, access, and other design details that affect manufacturability.
Drawing & Tolerancing	The submitted drawing information, dimensions, tolerances, datums, notes, specifications, and inspection requirements that affect manufacturing and quality risk.
CAD Data Usability	The practical usefulness of the submitted CAD file for audit review based on file type, geometry condition, units, clarity, completeness, and accessibility.
Required Missing Information	Information needed before the audit can begin or be completed properly, such as missing drawings, CAD files, material data, process assumptions, or supplier feedback.
Review Level Assignment	The Audit Level assigned by Tier-1 Engineer based on project complexity, submitted information, expected audit effort, risk areas, and required review depth.