

## MATERIAL TRACEABILITY PROGRAM

For many manufacturers of critical components, traceability is vitally important in the event of product, part, or component failures, as well as matters of liability. Full traceability allows for each component to be monitored including the alloying elements, testing results from the producing mill, manufacturing/fabrication processes, and storage.

The following is an outline of the procedure and system that Hawk Machine Works utilizes for material and product identification and traceability.

## STEEL MILL & CHEMICAL TESTING

Our steel vendors deal with ISO certified steel mills who all ensure end-to-end documentation of the creation and refining of various metals.

All metal compositions manufactured by a steel mill are lab-tested and certified at an independent and specialized laboratory to ensure accurately record chemical composition, heat signature, and grade. Every lab utilized by a steel mill must adhere to ASTM, AISI, ANSI, and API standards.

Si 14  
P 15  
C 6

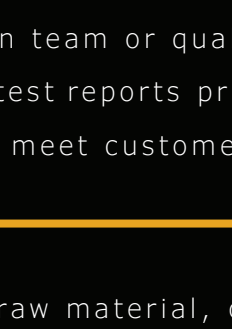
ASTM ANSI AISI API

## RESPONSIBILITY



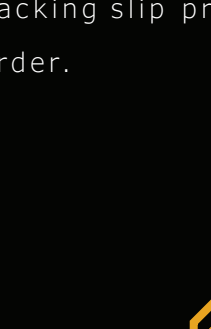
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All suppliers & sub-contractors must provide materials and products with marked identification to ensure traceability in accordance with our requirements. This includes Material Test Results (MTRs), heat numbers, etc.



2

Hawk Machine's Shipping and Receiving department is responsible for ensuring that all incoming material and products are identified and logged in accordance with requirements.



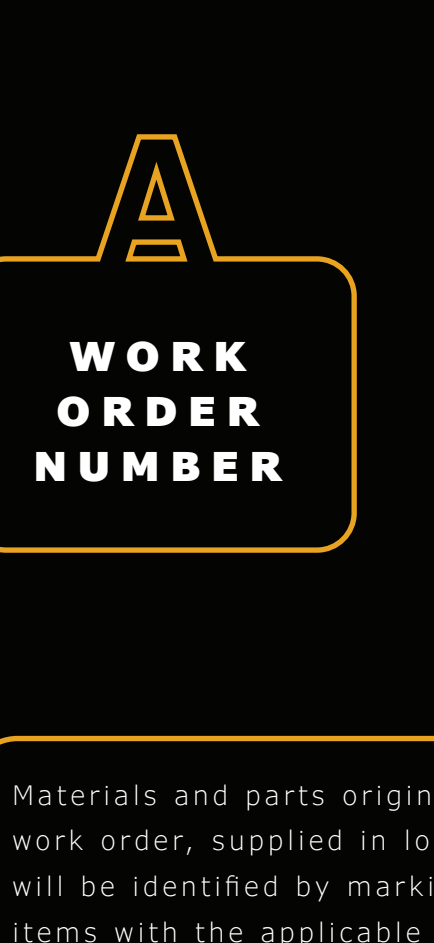
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All departments that have any hand in moving or manipulating material, all the way through to finished parts or products, must ensure that identification is maintained throughout all manufacturing and delivery activities and that these reports are turned into the proper authority at the end of job or shift for proper data entry.

## IDENTIFICATION OF RAW MATERIALS

Purchase orders issued by our purchasing department for raw materials will request that suppliers identify such items with the applicable size, grade, heat number and provide material test reports as required. The production team or quality assurance will approve material test reports prior to purchase, ensuring materials meet customer requirements.

On receipt of raw material, our receiving department will mark the item with the applicable work order number, receiver number, ensure the heat number is clearly marked, and ensure the item matches the packing slip provided with the applicable purchase order.



If incoming raw material does not meet Hawk Machine's specified requirements, the Work Order will not be issued, thereby placing the item on hold until dispositioned by the Production Team and/or Quality Assurance.

## IDENTIFICATION OF PRODUCTS

Identification of products will be maintained throughout manufacturing and comprise of any of the following marked on the item or its container by the individual handling the item:

A

**WORK ORDER NUMBER**

B

**HEAT NUMBER**

C

**RECEIVER NUMBER**

Materials and parts originating from the same work order, supplied in lots of multiple quantities, will be identified by marking one or more of the items with the applicable Work Order number, thereby identifying the entire lot.

During manufacturing, identification will be maintained and transferred back onto the material if it is removed by subsequent operations.

Each job completed will be identified by the Work Order number written on the product or its container by any suitable means (such as stamping, tags, notations, markers or records that accompany the product).

If identification on an item is lost and cannot be re-established, the item in question will be rejected and scrapped.



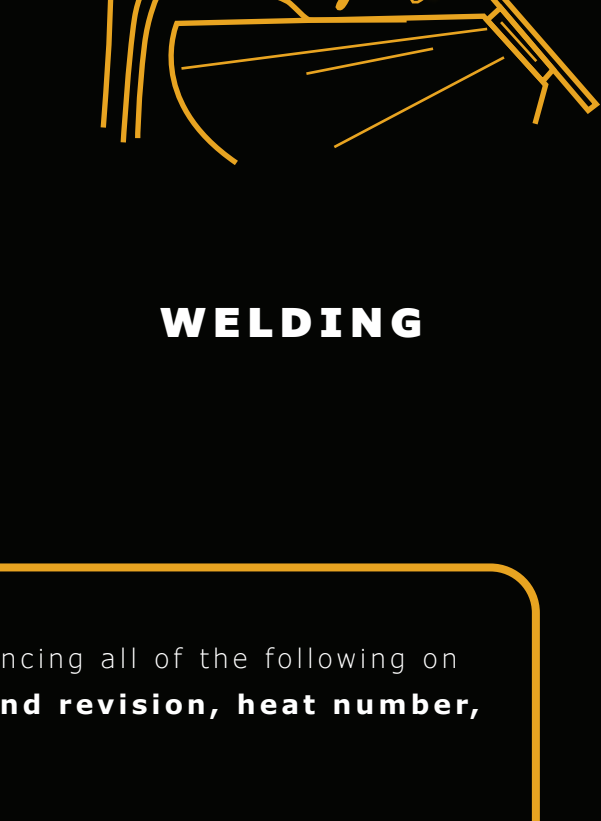
Identification for manufactured parts will be performed by the individual starting the job by recording the appropriate information as required on the applicable Work Order and recording the Work Order number on the product or its container

## SUBCONTRACTORS & SERVICES

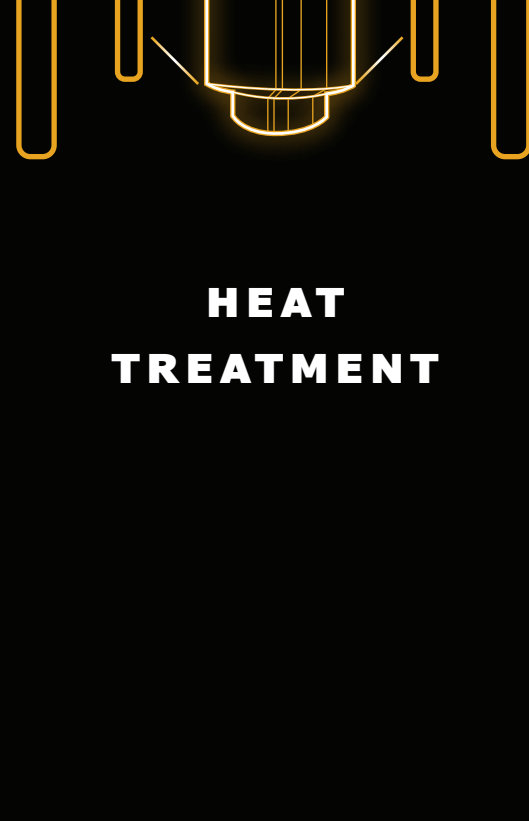
Services sub-contracted by Hawk Machine Works such as:



**NON-DESTRUCTIVE TESTING**



**WELDING**

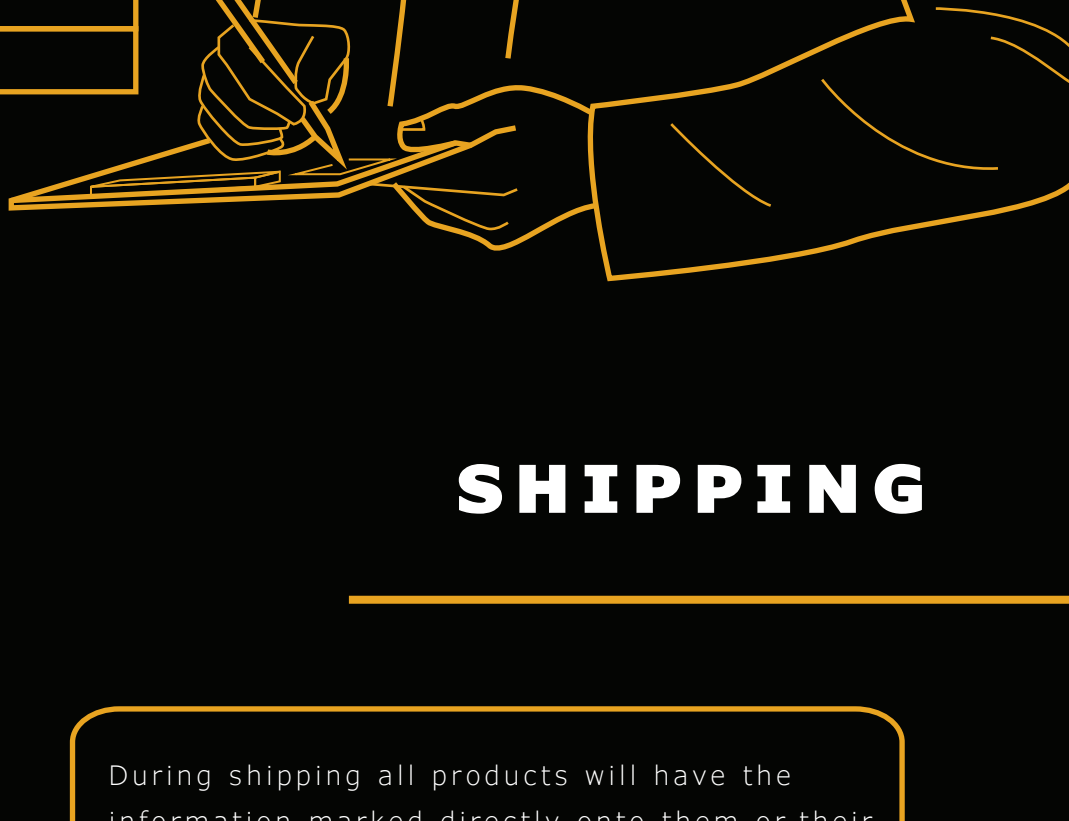
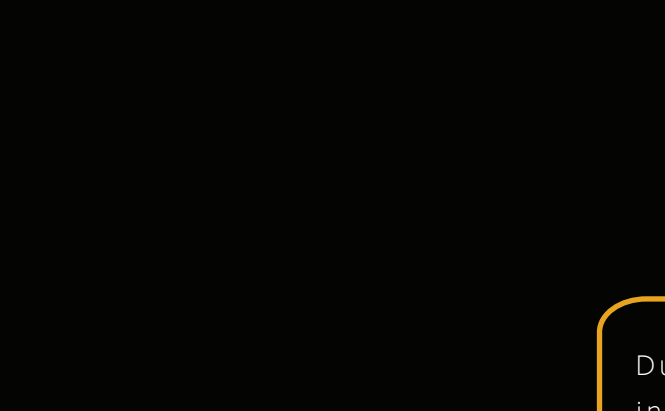


**HEAT TREATMENT**

All must assure traceability by referencing all of the following on all reports supplied: **part number and revision, heat number, and work order number**

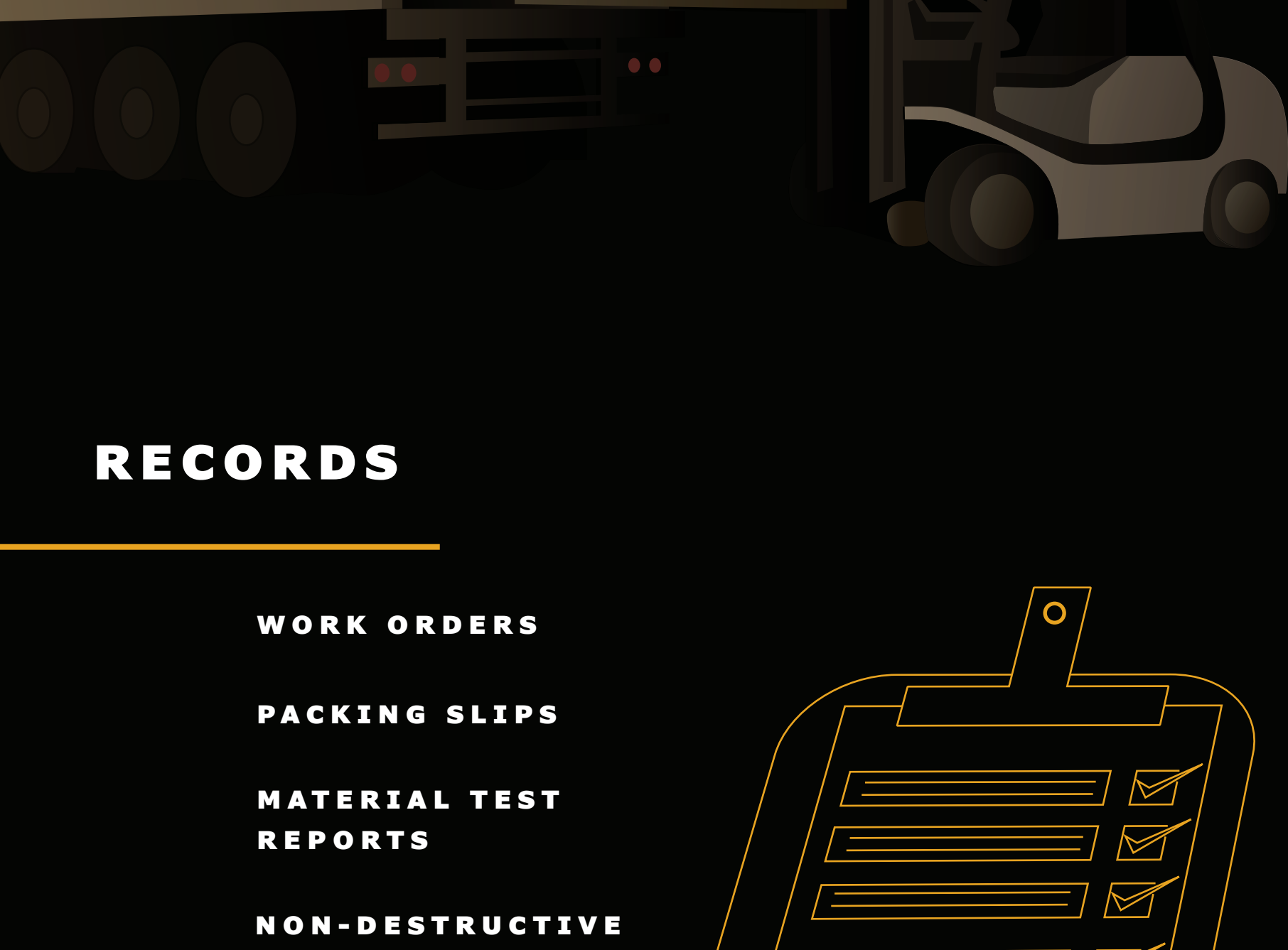
## STATUS INDICATORS

Raw material and product deemed to be acceptable, on hold, or non-conforming will be identified as defined in QSP 110 Inspection and Test Status and /or QSP 111 Control of Non-Conforming Product as applicable.



## SHIPPING

During shipping all products will have the information marked directly onto them or their container with the proper identification.



## RECORDS

**WORK ORDERS**

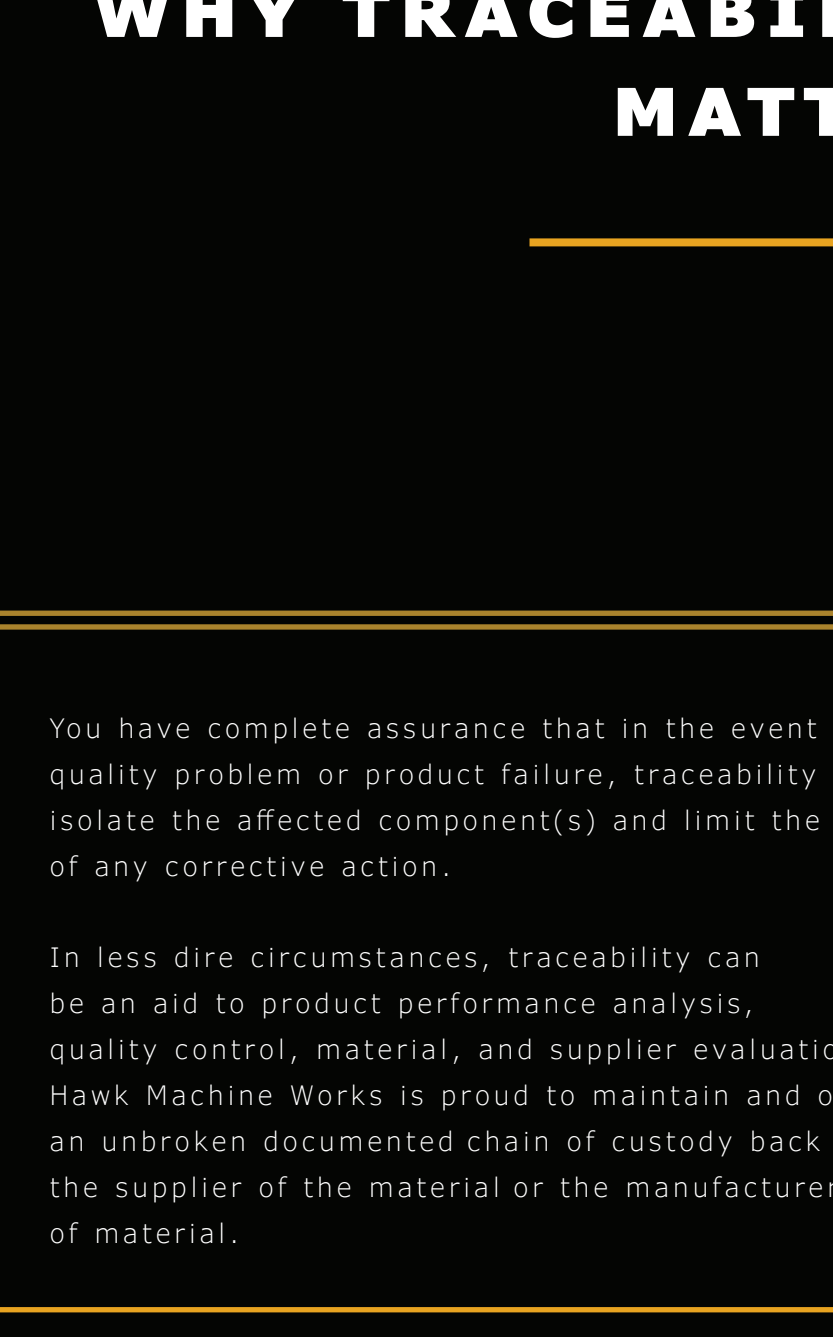
**PACKING SLIPS**

**MATERIAL TEST REPORTS**

**NON-DESTRUCTIVE TESTING**

**HEAT TREATMENT CHARTS**

**TRAVELERS**



## WHY TRACEABILITY MATTERS



You have complete assurance that in the event of a quality problem or product failure, traceability can isolate the affected component(s) and limit the need of any corrective action.

In less dire circumstances, traceability can be an aid to product performance analysis, quality control, material, and supplier evaluation. Hawk Machine Works is proud to maintain and offer an unbroken documented chain of custody back to the supplier of the material or the manufacturer of material.

