

PROCESS DOCUMENTATION AND TRAINING

ARC#6535 Automated Certifications

Nam Le – Nov 2021

Business Case:

ELMET TECHNOLOGIES is a manufacturer of raw materials that requires the creation of Material Certs for each work order. Currently they use different excel template files for each cert that is needed. The template file is opened, manually edited, and saved under a new name. What they would like to do is automate that process to eliminate the possibility of manual entry error. The data required for these certs is all available in GSS and should be able to be auto filled without any manual entry.

Solution:

The first part of this project will be to convert the Excel template files to Fillable PDF Documents. Each field on the template document will be given a logical corresponding name to the data that's required from GSS.

The second part of this project will be to add a GAB script to the Script 1, 2, or 3 button (TBD By Elmet) on the process screen of the GUI. When the user clicks the button to create the cert, the script will look at the part being created, then check for the "logical tie" to determine which template PDF to use. The script will then use the work order data to populate the fillable PDF, save it as a new file, and display the new file to the screen.

If the script does not find a "logical tie" for the part being created, a screen will popup with a drop down list of the available PDF templates to use. For the script to generate this drop down list, the Template Files should be stored in a specific folder on the server used ONLY for these Template Files.

Option 1: Print from WIP to FG screen

Shop Floor Control > Transactions > WIP To Finished Goods

On WIP to FG screen, click browse or enter a WO number

WIP To Finished Goods

☐ ☐ Close Work Order

☐

Quantity: Cost: Total Cost: Price: Total Price:

☐ Estimate
☐ Percentage
☒ Inventory
☐ Alt Cost
☐ Actual
☐ Remaining
☐ Entered

JBS0052
GAB IS ACTIVE

.NET

JB0052GI-010421.1707

WO Browsing

Select Work Order

Browser Type-Ahead in column

Select Work Order Number Job ☐ Cache Data ☐ Simple Mode

	Job	Suffix	Printed	Description	Part Number	Rev	Da
▶	000003	001	Y	plastic blocks	BLOCKSHDPE		1/2
	000019	001	Y	6" flower pot	FLWRPOT		2/1
	000155	001	Y	CAT IDLER	0025		2/2
	000405	001	Y	COILED SPRING	SPRING		3/8
	000406	001	Y	COILED SPRING	SPRING		3/4
	000437	001	Y	multi loc part	MLTLOC		6/8
	000438	001	Y	TOP BEVELED SAW BLADE	A45P-10.25-150...	5-B	7/7
	000440	001		SCREW MACHINE PART	14-781-8E		8/4
	000452	001		POWER CART	05-5259		10/
	000455	001		MAIN MOUNTING PLATE	0040-00569-A		11/
	000456	001		SCREW MACHINE PART	14-781-8F		11/
	000457	001		MAIN MOUNTING PLATE	0040-00569-A		11/
	111		Y	plastic blocks	BLOCKSHDPE		2/2
	112	000	Y	¾" Water Bottle Lids	3/4INWTRBTLID		1/2
	114	000	Y	50 percent recycled molded pla	5050BTLMOLE...		1/2
	123001	000	Y	RED WATER BOTTLE	REDWTRBTL		2/4
	124001	000	Y	RED WATER BOTTLE	REDWTRBTL		2/4
	124001	001	Y	RED BOTTLE	RBOTTLE		10/
	124001	002	Y	RED LABEL	RLABEL		10/
	125001	000	Y	RED WATER BOTTLE	REDWTRBTL		2/2

In column Job Include results containing

Filter Resultset Repopulate Results Export Results

Select Cancel

Click Lot/Serial Button

WIP To Finished Goods

☐

Work Order

000003 - 001

Work Order Description

plastic blocks

Transfer Date

11/05/2021

☒ Close Work Order

☐

Part Number

BLOCKSHDPE

Rev

Loc

Part Description

plastic blocks

Quantity	Cost	Total Cost	Price	Total Price
100.0000	0.000320	0.03	0.5000	50.00

☐ Estimate

☐ Percentage

☒ Inventory

☐ Alt Cost

☐ Actual

☐ Remaining

☐ Entered

1.320000

0.400000

0.000320

0.700000

0.389900

0.389900

Save

Lot/Serial

View WO

Cancel

Create Cert

Script 2

Script 3

JB0052

GAB IS ACTIVE

.NET

JB0052GI-010421.1707

4

Enter the Material Lot# into the “Heat Number” field, then click on ‘Save’, then click on ‘Ok’ button

WIP to Finished Goods - Lot\Bin\Heat\Serial Number Assignment

Work Order	Work Order Description	Part Number	Rev	Part Description
000003 -001	plastic blocks	BLOCKSHDPE		plastic blocks

Lot Number	Bin	Heat Number	Serial Number	Quantity
		89899911		0.0000

Expiration Date	Warranty Months
	000

Save
User Info
Delete
Clear

Lot Number	Bin	Heat Number	Serial Number	Qty Received
		89899911		100.0000

Click Link To Select
Total Qty Received: 100.0000

Ok
Cancel

Script 1
Script 2
Script 3

JB0052-JBS0052L
GAB IS ACTIVE
.NET
JB0052GI-010421.1707

Click Create Cert Button

WIP To Finished Goods

☐ Work Order: 000003 - 001

Work Order Description: plastic blocks

Transfer Date: 11/03/2021

☒ Close Work Order

☐ Part Number: BLOCKSHDPE

Rev:

Loc:

Part Description: plastic blocks

Quantity	Cost	Total Cost	Price	Total Price
100.0000	0.000320	0.03	0.5000	50.00

☐ Estimate

☐ Percentage

☒ Inventory

☐ Alt Cost

☐ Actual

☐ Remaining

☐ Entered

1.320000

0.400000

0.000320

0.700000

0.389900

0.389900

Save

Lot/Serial

View WO

Cancel

Create Cert

Script 2


Script 3

JBS0052
 GAB IS ACTIVE

.NET

JB0052GI-010421.1707



If the Part is not linked to a Cert, User would need to select a template


Template
—
□
×

×

Drag a column header here to group by that column

	CODE	TEMPLATE
→	MO	PURE MOLYBDENUM PRODUCTS (.9995)
	HCT	HCT MOLYBDENUM
	MOLA.07	LANTHANATED MOLYBDENUM (MoLa-.007) PLATE & SHEET
	MOLA.03	LANTHANATED MOLYBDENUM (MoLa-.003) ROD & WIRE
	MoRe	MOLYBDENUM-.475 RHENIUM
	WK	NON-SAG (POTASSIUM DOPED) TUNGSTEN ROD & WIRE
	W	PURE TUNGSTEN PRODUCTS
	WHA1	TUNGSTEN HEAVY ALLOY - CLASS 1
	WHA2	TUNGSTEN HEAVY ALLOY - CLASS 2
	WHA3	TUNGSTEN HEAVY ALLOY - CLASS 3
	WHA4	TUNGSTEN HEAVY ALLOY - CLASS 4
	Wre.03	TUNGSTEN-.03 RHENIUM PRODUCTS
	Wre.25	TUNGSTEN-.25 RHENIUM PRODUCTS
	TZM	TZM ALLOY ROD, WIRE, PLATE, & SHEET PRODUCTS

Output Sample

ELMET
TECHNOLOGIES

Your Edge in Performance Metals

Tel: 207-333-6100
1560 Lisbon Street, Lewiston, ME 04240
ACCREDITED TO AS 9100, ISO 9001
CAGE CODE: 7AWJ9**TUNGSTEN-3% RHENIUM ROD, WIRE & PARTS**
MATERIAL CERTIFICATION

The products contained in this shipment conform to the specifications and drawings listed on this order and the required testing have been performed.

The chemical composition complies with ASTM requirements for powder lot analysis. ASTM specifications and test methods are used as guidelines to control and monitor our processes to assure product quality. Applicable ASTM Material Standards: Rod/Wire – F73.

This product meets the requirements of low copper and mercury-free materials.

ITEM #:	BLOCKSHDPE	DATE:	11/05/2021
CUSTOMER:	BLUECACTUS NURSERY	SO#:	0000003-0010
CUSTOMER PO#:	YOUR RFQ	SIZE:	0.00x0.00
CUST PART #		QUANTITY:	100.0000
MATERIAL LOT#:	98765656		
CHEMICAL COMPOSITION			
W + Re	>99.95%		
W: (excluding gases)	96.5 – 97.5%	Re:	2.5 – 3.5 %
Al:	35 PPM Max.	Mo:	50 PPM Max.
C:	20 PPM Max.	Na:	20 PPM Max.
Cr:	20 PPM Max.	Ni:	30 PPM Max.
Cu:	10 PPM Max.	O:	50 PPM Max.
Fe:	30 PPM Max.	Si:	40 PPM Max.
K:	30 PPM Max.		

All other elements are contained at <20 ppm.


Country of Origin: USA

All products are compliant with EU RoHS Directive 2002/95/EC, 2011/65/EU.

The liability of Elmet Technologies LLC is limited to the cost of the materials in question.

All products comply with: DFARS 252.225-7001 Buy American Act; DFARS 252.225-7009 Specialty Metals; DFARS 252.225-7052 Magnet and Tungsten. All products are compliant with EU RoHS Directive 2015/863 and with Regulation (EC) No. 1907/2006 of The European Parliament and of the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). Mercury or mercury-containing compounds were not intentionally added or came in direct contact with hardware or supplies furnished under this purchase order. Pursuant to Section 1502 ("the Provision") of the Dodd-Frank Wall Street Reform and Consumer Protection Act ("Act") (Pub. L. 111-203, 124 Stat. 1376, July 21, 2010), also referred to as the "Conflict Minerals Act", Elmet Technologies only purchases "DRC conflict-free" minerals from smelters on the Conflict-Free Smelter Program (CFSP) Compliant Smelter list. Material free from radiation contamination.

CERTIFIED:


Vinay M. Desai
Chief Metallurgist

Option 2: Print from GUI

On Line System > Transactions > Shop Floor Data Collection (GUI)

After clock in, select a WO

Global Shop On-line System - Wkstn ID: 0004 - OLG001: 042020.1318 (PLA)

Employee
Workcenter
Work Orders

Jobs being worked on by Employee: BEN GRIMES
Employee Number: 00002
Clocked In At: 09:16

Active Employees: BEN GRIMES

W/O	Seq	W/C	Op Code	Part	Start Time	Pcs Rem	Completed Hours	Pieces
000406-001	000200	SAW1		SPRING	12:03	26.0000	61	24
114 -000	996000			5050BTLMOLDED	12:17			

WO Detail Update Jobs Add Jobs Select/Unselect Toggle All Remove Jobs

Legend: Highlighted Normal Selected

Script 1 Script 2 Script 3

Active Employee: BEN GRIMES Search (F3)

Script 1 Script 2 Script 3

1 2 3 4 5 6 7 8 9 0
! @ # \$ % & * , . Alpha
Lower - << Erase

Prior Home Sync
Friday 11/5/2021 09:16 am

Enter the number of Good Pieces. Then Click Create Cert Button

Global Shop On-line System - Wkstn ID: 0004 - OLG001: 042020.1318 (PLA)

Employee
Workcenter
Work Orders

Jobs being worked on by Employee: BEN GRIMES
Employee Number: 00002
Clocked In At: 09:16

Active Employees: BEN GRIMES

W/O	Seq	W/C	Op Code	Part	Start Time	Pcs Rem	Completed Hours	Pieces
000406-001	000200	SAW1		SPRING	12:03	26.0000	61	24
114 -000	996000			5050BTLMOLDED	12:17			

Job: 000406-001 Sequence: 000200 Workcenter: SAW1 - SAW

Good Pieces: 28
Scrap Pieces:
Scrap Codes:

☐ Close
☒ Leave
☐ Use Estimated Pieces
☐ Charge Time As Setup

Process
Cancel
Add Comments

Create Cert Script 2 Script 3

Active Employee: BEN GRIMES
Search (F3)
Script 1 Script 2 Script 3

1 2 3 4 5 6 7 8 9 0
! @ # \$ % & * . Alpha
Lower - << Erase

Prior Home Sync
Friday 11/5/2021 09:16 am

References: Codes and Template Name

The Codes are entered as Description_2 in the INVENTORY_MST2 table

1	CODE	Template Name
2	MO	PURE MOLYBDENUM PRODUCTS (.9995)
3	HCT	HCT MOLYBDENUM
4	MOLA.07	LANTHANATED MOLYBDENUM (MoLa-.007) PLATE & SHEET
5	MOLA.03	LANTHANATED MOLYBDENUM (MoLa-.003) ROD & WIRE
6	MoRe	MOLYBDENUM-.475 RHENIUM
7	WK	NON-SAG (POTASSIUM DOPED) TUNGSTEN ROD & WIRE
8	W	PURE TUNGSTEN PRODUCTS
9	WHA1	TUNGSTEN HEAVY ALLOY - CLASS 1
10	WHA2	TUNGSTEN HEAVY ALLOY - CLASS 2
11	WHA3	TUNGSTEN HEAVY ALLOY - CLASS 3
12	WHA4	TUNGSTEN HEAVY ALLOY - CLASS 4
13	Wre.03	TUNGSTEN-.03 RHENIUM PRODUCTS
14	Wre.25	TUNGSTEN-.25 RHENIUM PRODUCTS
15	TZM	TZM ALLOY ROD, WIRE, PLATE, & SHEET PRODUCTS