

# Sequence

1. Home Page ***“Production Lot Control And Traceability”***
2. Register or Login
  - a. If applicable, complete ***“Registration”*** page and save to SQL ***“tbl\_User”***. Registration page must be password protected, set password as ***“admin”***. Open ***“login”*** page following registration.
  - b. If applicable, complete ***“Login”*** page and verify in SQL ***“tbl\_User”***. Store user ***“LastLoginDate”*** and set ***“Active”*** flag to 1 (reset ***“Active”*** flag to 0 on logout). Open ***“Job Bag Overview”*** page following login.
3. Job Bag Overview
  - a. On load, enable only the three dropdown boxes (***“Technology”***, ***“Machine”***, ***“Lot”***) linked to SQL tables of the same name.
  - b. All dropdown box selections are mandatory, selections must be made in left to right order.
  - c. If the lot record is already being accessed, pop up a message ***“record in use, please try later”*** and logout the user back to ***“Home Page”***
  - d. If the lot record is not in use, load additional dropdown menu's at top of screen and all functional data from SQL View ***“qry\_Lot”***, field names are shown in text boxes. All data must remain loaded until logout.
  - e. Auto logout to ***“Home Page”*** after 10 minutes of no activity on this page (show countdown in bottom right hand corner of screen).
4. Use menu drop downs (at top of screen) for further functionality
5. On ***“Line Clearance”*** page, click to log a new record , actual date/time should be auto populated on click. Any records for selected lot should be visible but locked if completed and saved. Use RFID boxes to scan fobs and auto load usernames from ***“tbl\_User”***, save to SQL ***“tbl\_LineClearance”*** to exit back to ***“Job Bag Overview”*** page. Do not allow save until all fields complete. Return to ***“Job Bag Overview”*** page after 5 minutes of no activity on this page.
6. On ***“Authorisation To Run”*** page, click to log a new record , actual date/time should be auto populated on click. On clicking log, check that there is a line clearance record for this lot. If not, pop up message ***“please complete line clearance”***, untick box and jump back to page 5 ***“Line Clearance”***. Any records for selected lot should be visible but locked if completed and saved. Use RFID boxes to scan fobs and auto load usernames from ***“tbl\_User”***, save to SQL ***“tbl\_AuthorisationToRun”*** to exit back to ***“Job Bag Overview”*** page. Do not allow save until all fields complete. Return to ***“Job Bag Overview”*** page after 5 minutes of no activity on this page.
7. On ***“Material Lot Control”*** page, click to log a new record, actual date/time should be auto populated on click. Any records for selected lot should be visible but locked if completed and saved. Do not allow save until all fields complete. Save to SQL ***“tbl\_MaterialLotControl”*** to exit back to ***“Job Bag Overview”*** page. Return to ***“Job Bag Overview”*** page after 5 minutes of no activity on this page.
8. On ***“Product Checkpoint”*** page, click to log a new record, actual date/time should be auto populated on click. Any records for selected lot should be visible but locked if completed and saved. Do not allow save until all fields complete.
  - a. On clicking time check, check that there are authorisation to run record and line clearance records for this lot. If not, pop up message ***“please complete authorisation to run”***, untick box and jump back to page 6 ***“Authorisation To Run”***
  - b. If ***“Mc Running”*** = no, then open page 8c, return to ***“Product Checkpoint”*** page after 30 seconds of no activity on this page.
  - c. If ***“Active Cavities”*** < cavities on P4, open page 8a, return to ***“Product Checkpoint”*** page after 30 seconds of no activity on this page.
  - d. If ***“Rejects”*** = yes, then open page 8b, return to ***“Product Checkpoint”*** page after 30 seconds of no activity on this page.

# Sequence Cont'd

9. On "**Functional Test**" page, click to log a new record, actual date/time should be auto populated on click. Any records for selected lot should be visible but locked if completed and saved. Do not allow save until all fields complete. Save to SQL "**tbl\_FunctionalTest**" to exit back to "**Job Bag Overview**" page. Return to "**Job Bag Overview**" page after 30 seconds of no activity on this page.
10. On "**Product Drawing**" page, return to "**Job Bag Overview**" page after 30 seconds of no activity on this page.
11. On "**Product Quality Information Sheet**" page, return to "**Job Bag Overview**" page after 30 seconds of no activity on this page.
12. On "**Packing Specification**" page, return to "**Job Bag Overview**" page after 30 seconds of no activity on this page.
13. On "Data Archive" page, select "**Lot**" from "**qry\_Lot**", auto populate product description, select "**Archive Type**" from "**tbl\_ArchiveType**" and populate table of results based on selected view (scale to fit horizontally with only vertical scrollbar). Return to "**Job Bag Overview**" page after 30 seconds of no activity on this page.
14. \*I have indicated page links in red and page numbers in green (these do not need to be displayed of course)
15. \*All other notes are on the sheets
16. \*The system must be fully error trapped
17. \*Platform compatible visual studio 2019, sql server 2012
18. \*All source code must be provided as this system will be further customised by myself in visual studio 2019

# SQL Info – Database Name : VJB

## List of Tables

```
CREATE TABLE [dbo].[tbl_User](
[UserID] [int] IDENTITY(1,1) NOT NULL,
[Username] [nchar](10) NULL,
[Password] [nchar](10) NULL,
[RFID] [nchar](20) NULL,
[Forename] [nchar](20) NULL,
[Surname] [nchar](20) NULL,
[Email] [nchar](30) NULL,
[Active] [bit] NULL,
[LastLoginDate] [datetime] NULL,
[Admin] [bit] NULL
) ON [PRIMARY]
```

```
GO
CREATE TABLE [dbo].[tbl_Technology](
[TechnologyID] [int] IDENTITY(1,1)
NOT NULL,
[TechnologyName] [nchar](10) NULL
) ON [PRIMARY]
```

```
GO
CREATE TABLE [dbo].[tbl_Machine](
[MachineID] [int] IDENTITY(1,1) NOT
NULL,
[MachineName] [nchar](10) NULL,
[TechnologyID] [int] NULL
) ON [PRIMARY]
```

```
GO
CREATE TABLE [dbo].[tbl_Lot](
[LotID] [int] IDENTITY(1,1) NOT NULL,
[LotName] [nchar](10) NULL,
[LOQ] [decimal](18, 0) NULL,
[MachineName] [nchar](10) NULL,
[ProductName] [nchar](10) NULL
) ON [PRIMARY]
```

GO

```
CREATE TABLE [dbo].[tbl_Product](
[ProduceID] [int] IDENTITY(1,1) NOT
NULL,
[ProductName] [nchar](10) NULL,
[DES] [nchar](30) NULL,
[COL] [nchar](10) NULL,
[TOL] [nchar](10) NULL,
[CAV] [int] NULL,
[CYC] [decimal](18, 0) NULL,
[CPH] [int] NULL,
[PPS] [int] NULL,
[RTQ] [bit] NULL,
[FUT] [bit] NULL,
[STS] [bit] NULL,
[ENS] [bit] NULL,
[COC] [bit] NULL,
[COA] [bit] NULL,
[SPC] [bit] NULL,
[POR] [bit] NULL,
[P1] [nchar](10) NULL,
[P1Q] [int] NULL,
[P2] [nchar](10) NULL,
[P2Q] [int] NULL,
[MB] [nchar](10) NULL,
[MBQ] [int] NULL,
[SA] [nchar](10) NULL,
[SAQ] [int] NULL,
[PA] [nchar](10) NULL,
[PAQ] [int] NULL,
[CA] [nchar](10) NULL,
[CAQ] [int] NULL,
[CL] [nchar](10) NULL,
[CLQ] [int] NULL,
[IB] [nchar](10) NULL,
[IBQ] [int] NULL
) ON [PRIMARY]
```

GO

```
CREATE TABLE [dbo].[tbl_LineClearance](
[LineClearanceID] [int] IDENTITY(1,1) NOT NULL,
[LotName] [nchar](10) NULL,
[LCTimeStamp] [timestamp] NULL,
[TechRFID] [nchar](20) NULL,
[TechUsername] [nchar](10) NULL,
[QCRFID] [nchar](20) NULL,
[QCUUsername] [nchar](10) NULL
) ON [PRIMARY]
```

GO

```
CREATE TABLE [dbo].[tbl_AuthorisationToRun](
[AuthorisationToRunID] [int] IDENTITY(1,1)
NOT NULL,
[LotName] [nchar](10) NULL,
[ATRTimeStamp] [timestamp] NULL,
[TechRFID] [nchar](20) NULL,
[TechUsername] [nchar](10) NULL,
[QCRFID] [nchar](20) NULL,
[QCUUsername] [nchar](10) NULL
) ON [PRIMARY]
```

```
GO
CREATE TABLE [dbo].[tbl_ProductCheckPoint](
[ProductCheckpointID] [int] IDENTITY(1,1)
NOT NULL,
[LotName] [nchar](10) NULL,
[CheckPoint] [time](0) NULL,
[PCPTTimeStamp] [timestamp] NULL,
[McRunning] [bit] NULL,
[CartonNo] [int] NULL,
[ActivCavities] [int] NULL,
[ShotWeight] [decimal](18, 2) NULL,
[CycleCount] [int] NULL,
[Rejects] [bit] NULL
) ON [PRIMARY]
```

GO

```
CREATE TABLE [dbo].[tbl_DataArchive](
[DataArchiveID] [int] IDENTITY(1,1) NOT NULL,
[DataArchiveName] [nchar](20) NULL
) ON [PRIMARY]
```

GO

# SQL Info – Database Name : VJB

## List of Views

```
CREATE VIEW [dbo].[qry_Lot]
AS
SELECT      TOP (100) dbo.tbl_Lot.LotID, dbo.tbl_Machine.MachineID, dbo.tbl_Lot.LotName, dbo.tbl_Lot.LOQ, CAST(dbo.tbl_Lot.LOQ / (3600 / dbo.tbl_Product.CAV * dbo.tbl_Product.CYC)
AS DECIMAL(18, 1)) AS LOH, dbo.tbl_Lot.ProductName,
            dbo.tbl_Product.DES, dbo.tbl_Product.COL, dbo.tbl_Product.TOL, dbo.tbl_Product.CAV, dbo.tbl_Product.CYC, dbo.tbl_Product.CPH, dbo.tbl_Product.PPS,
dbo.tbl_Product.RTQ, dbo.tbl_Product.FUT, dbo.tbl_Product.STS,
            dbo.tbl_Product.ENS, dbo.tbl_Product.COC, dbo.tbl_Product.COA, dbo.tbl_Product.SPC, dbo.tbl_Product.POR, dbo.tbl_Product.P1, dbo.tbl_Product.P1Q,
dbo.tbl_Product.P2, dbo.tbl_Product.P2Q, dbo.tbl_Product.MB,
            dbo.tbl_Product.MBQ, dbo.tbl_Product.SA, dbo.tbl_Product.SAQ, dbo.tbl_Product.PA, dbo.tbl_Product.PAQ, dbo.tbl_Product.CA, dbo.tbl_Product.CAQ,
dbo.tbl_Product.CL, dbo.tbl_Product.CLQ, dbo.tbl_Product.IB,
            dbo.tbl_Product.IBQ
FROM          dbo.tbl_Lot LEFT OUTER JOIN
            dbo.tbl_Product ON dbo.tbl_Lot.ProductName = dbo.tbl_Product.ProductName LEFT OUTER JOIN
            dbo.tbl_Machine ON dbo.tbl_Lot.MachineName = dbo.tbl_Machine.MachineName
ORDER BY dbo.tbl_Lot.LotName

GO
```

# Production Lot Control And Traceability



# Login Page

RFID Fob Scan

\*\*\*\*\*

or alternatively

Username

Password

\*\*\*\*\*

Login



# Registration Page

First Name

User.forename

Surname

User.surname

Email (if applicable)

User.email

Username

User.username

Password

User.password

Register

2

# Job Bag Overview

Select Technology▼

Select Machine▼

Select Lot▼

## Master Data

Item Code	qry_Lot.ProductName
Description	qry_Lot.DES
Tool	qry_Lot.TOL
Cavities	qry_Lot.CAV

## Run Data

Lot Size	qry_Lot.LOQ
Cartons / Hour	qry_Lot.CPH
Pallets / Shift	qry_Lot.PPS
Lot Duration	qry_Lot.LOH

## Additional Information

Run To Quarantine	<input checked="" type="checkbox"/>
Functional Testing	<input type="checkbox"/>
Stratified Samples	<input checked="" type="checkbox"/>
Enhanced Sampling	<input type="checkbox"/>

C of C	<input type="checkbox"/>
C of A	<input checked="" type="checkbox"/>
SPC	<input type="checkbox"/>
Positive Release	<input type="checkbox"/>

## Primary Materials

	Code	%
Polymer 1	qry_Lot. P1	qry_Lot. P1Q
Polymer 2	qry_Lot. P2	qry_Lot. P2Q
Masterbatch	qry_Lot. MB	qry_Lot. MBQ
Slip Additive	qry_Lot. SA	qry_Lot. SAQ

## Packaging Materials

	Code	Pcs Per Unit
Pallet	qry_Lot. PA	qry_Lot. PAQ
Carton	qry_Lot. CA	qry_Lot. CAQ
Carton Liner	qry_Lot. CL	qry_Lot. CLQ
Inner Bag	qry_Lot. IB	qry_Lot. IBQ



Line Clearance

Lot 

Dropdown Box Selection P4

Product.atr.pdf (sized horizontally to fit – may need vertical scroll bar)

Log	Date / Act. Time	Tech RFID	Username	QC RFID	Username	
<input checked="" type="checkbox"/>	17/05/20 00:04	*****	Query	*****	Query	<input type="button" value="Save"/>
<input type="checkbox"/>						<input type="button" value="Save"/>
<input type="checkbox"/>						<input type="button" value="Save"/>
<input type="checkbox"/>						<input type="button" value="Save"/>
<input type="checkbox"/>						<input type="button" value="Save"/>
<input type="checkbox"/>						<input type="button" value="Save"/>
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<input type="checkbox"/>						<input type="button" value="Save"/>
<input type="checkbox"/>						<input type="button" value="Save"/>
<input type="checkbox"/>						<input type="button" value="Save"/>
<input type="checkbox"/>						<input type="button" value="Save"/>

# Authorisation To Run

Lot 

Dropdown Box Selection P4

Product.lic.pdf (sized horizontally to fit – may need vertical scroll bar)

Log	Date / Act. Time	Tech RFID	Username	QC RFID	Username	
<input checked="" type="checkbox"/>	17/05/20 00:04	*****	Query	*****	Query	<input type="button" value="Save"/>
<input type="checkbox"/>						<input type="button" value="Save"/>
<input type="checkbox"/>						<input type="button" value="Save"/>
<input type="checkbox"/>						<input type="button" value="Save"/>
<input type="checkbox"/>						<input type="button" value="Save"/>
<input type="checkbox"/>						<input type="button" value="Save"/>
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<input type="checkbox"/>						<input type="button" value="Save"/>
<input type="checkbox"/>						<input type="button" value="Save"/>
<input type="checkbox"/>						<input type="button" value="Save"/>
<input type="checkbox"/>						<input type="button" value="Save"/>

# Material Lot Control

Product

Dropdown Box Selection P4

Description

Product.des P4

Lot

Dropdown Box Selection P4

Date

Current Date

Lot Update	Date / Act. Time	Carton No	Polymer 1	Polymer 2	Masterbatch	Slip Additive	
<input type="checkbox"/>	17/05/20 00:04	123	106456	102342	29876	1602	Save
<input type="checkbox"/>	17/05/20 02:16	169	106456	104787	29876	1602	Save
<input checked="" type="checkbox"/>	17/05/20 04:17	236	145000	104787	29876	1602	Save
<input type="checkbox"/>							Save
<input type="checkbox"/>							Save
<input type="checkbox"/>							Save
<input type="checkbox"/>							Save
<input type="checkbox"/>							Save
<input type="checkbox"/>							Save
<input type="checkbox"/>							Save
<input type="checkbox"/>							Save
<input type="checkbox"/>							Save

4

Product Check Point

Product

Dropdown Box Selection P4

Description

Product.des P4

Lot

Dropdown Box Selection P4

Date

Current Date

Time Check	Date / Act. Time	Mc Running	Carton No	Active Cavities	Shot Weight (g)	Cycle Count	Rejects	
<input type="checkbox"/> 00:00	17/05/20 00:04	yes	123	15	34.5	2231	no	Save
<input type="checkbox"/> 02:00	17/05/20 02:16	no						Save
<input checked="" type="checkbox"/> 04:00	17/05/20 04:17	yes	145	16	37.9	2537	yes	Save
<input type="checkbox"/> 06:00								Save
<input type="checkbox"/> 08:00								Save
<input type="checkbox"/> 10:00								Save
<input type="checkbox"/> 12:00								Save
<input type="checkbox"/> 14:00								Save
<input type="checkbox"/> 16:00								Save
<input type="checkbox"/> 18:00								Save
<input type="checkbox"/> 20:00								Save
<input type="checkbox"/> 22:00								Save

# Cavitation Record

Checkpoint

checkpoint date / time

Full Cavitation

Product.cav P4

Lot

Product.lot P4

Defect		Reason	Action	Defect		Reason	Action	Defect		Reason	Action
<input checked="" type="checkbox"/>	Cavity 1	OE Flash	Toolroom Inspection	<input type="checkbox"/>	Cavity 13			<input type="checkbox"/>	Cavity 25		
<input checked="" type="checkbox"/>	Cavity 2	Blocked Gate	Unblock Gate	<input type="checkbox"/>	Cavity 14			<input type="checkbox"/>	Cavity 26		
<input type="checkbox"/>	Cavity 3			<input type="checkbox"/>	Cavity 15			<input type="checkbox"/>	Cavity 27		
<input type="checkbox"/>	Cavity 4			<input type="checkbox"/>	Cavity 16			<input type="checkbox"/>	Cavity 28		
<input type="checkbox"/>	Cavity 5			<input type="checkbox"/>	Cavity 17			<input type="checkbox"/>	Cavity 29		
<input type="checkbox"/>	Cavity 6			<input type="checkbox"/>	Cavity 18			<input type="checkbox"/>	Cavity 30		
<input type="checkbox"/>	Cavity 7			<input type="checkbox"/>	Cavity 19			<input type="checkbox"/>	Cavity 31		
<input type="checkbox"/>	Cavity 8			<input type="checkbox"/>	Cavity 20			<input type="checkbox"/>	Cavity 32		
<input type="checkbox"/>	Cavity 9			<input type="checkbox"/>	Cavity 21			<input type="checkbox"/>	Cavity 33		
<input type="checkbox"/>	Cavity 10			<input checked="" type="checkbox"/>	Cavity 22	OE Short	Increase Shot	<input type="checkbox"/>	Cavity 34		
<input type="checkbox"/>	Cavity 11			<input type="checkbox"/>	Cavity 23			<input type="checkbox"/>	Cavity 35		
<input type="checkbox"/>	Cavity 12			<input type="checkbox"/>	Cavity 24			<input type="checkbox"/>	Cavity 36		

Save

# Quality Record

Checkpoint

checkpoint date / time

Full Cavitation

Product.cav P4

Lot

Product.lot P4

Cavity	Observation	Action	Cavity	Observation	Action	Cavity	Observation	Action
<input type="checkbox"/> Cavity 1			<input type="checkbox"/> Cavity 13			<input type="checkbox"/> Cavity 25		
<input type="checkbox"/> Cavity 2			<input type="checkbox"/> Cavity 14			<input type="checkbox"/> Cavity 26		
<input checked="" type="checkbox"/> Cavity 3	Contamination	Check back initiated	<input type="checkbox"/> Cavity 15			<input type="checkbox"/> Cavity 27		
<input type="checkbox"/> Cavity 4			<input type="checkbox"/> Cavity 16			<input type="checkbox"/> Cavity 28		
<input type="checkbox"/> Cavity 5			<input type="checkbox"/> Cavity 17			<input type="checkbox"/> Cavity 29		
<input type="checkbox"/> Cavity 6			<input type="checkbox"/> Cavity 18			<input type="checkbox"/> Cavity 30		
<input type="checkbox"/> Cavity 7			<input type="checkbox"/> Cavity 19			<input type="checkbox"/> Cavity 31		
<input type="checkbox"/> Cavity 8			<input type="checkbox"/> Cavity 20			<input type="checkbox"/> Cavity 32		
<input type="checkbox"/> Cavity 9			<input type="checkbox"/> Cavity 21			<input type="checkbox"/> Cavity 33		
<input type="checkbox"/> Cavity 10			<input checked="" type="checkbox"/> Cavity 22	Short	Job Suspended	<input type="checkbox"/> Cavity 34		
<input type="checkbox"/> Cavity 11			<input type="checkbox"/> Cavity 23			<input type="checkbox"/> Cavity 35		
<input type="checkbox"/> Cavity 12			<input type="checkbox"/> Cavity 24			<input type="checkbox"/> Cavity 36		

Save

# Machine Downtime Record

Checkpoint

checkpoint date / time

Full Cavitation

Product.cav P4

Lot

Product.lot P4

Comment (free text)

Save

# Functional Test

Product

Dropdown Box Selection P4

Description

Product.des P4

Lot

Dropdown Box Selection P4

Date

Current Date

Log	Date / Act. Time	Carton No	Sample Size	Test Type	Result	Comment (free text)	
<input type="checkbox"/>	17/05/20 00:04	123	12	Tensile Test ▼	Pass ▼		Save
<input type="checkbox"/>	17/05/20 02:16	169	12	Leakage Test ▼	Pass ▼		Save
<input checked="" type="checkbox"/>	17/05/20 04:17	236	8	Leakage Test ▼	Fail ▼	Major leak in test chamber	Save
<input type="checkbox"/>				▼	▼		Save
<input type="checkbox"/>				▼	▼		Save
<input type="checkbox"/>				▼	▼		Save
<input type="checkbox"/>				▼	▼		Save
<input type="checkbox"/>				▼	▼		Save
<input type="checkbox"/>				▼	▼		Save
<input type="checkbox"/>				▼	▼		Save
<input type="checkbox"/>				▼	▼		Save
<input type="checkbox"/>				▼	▼		Save

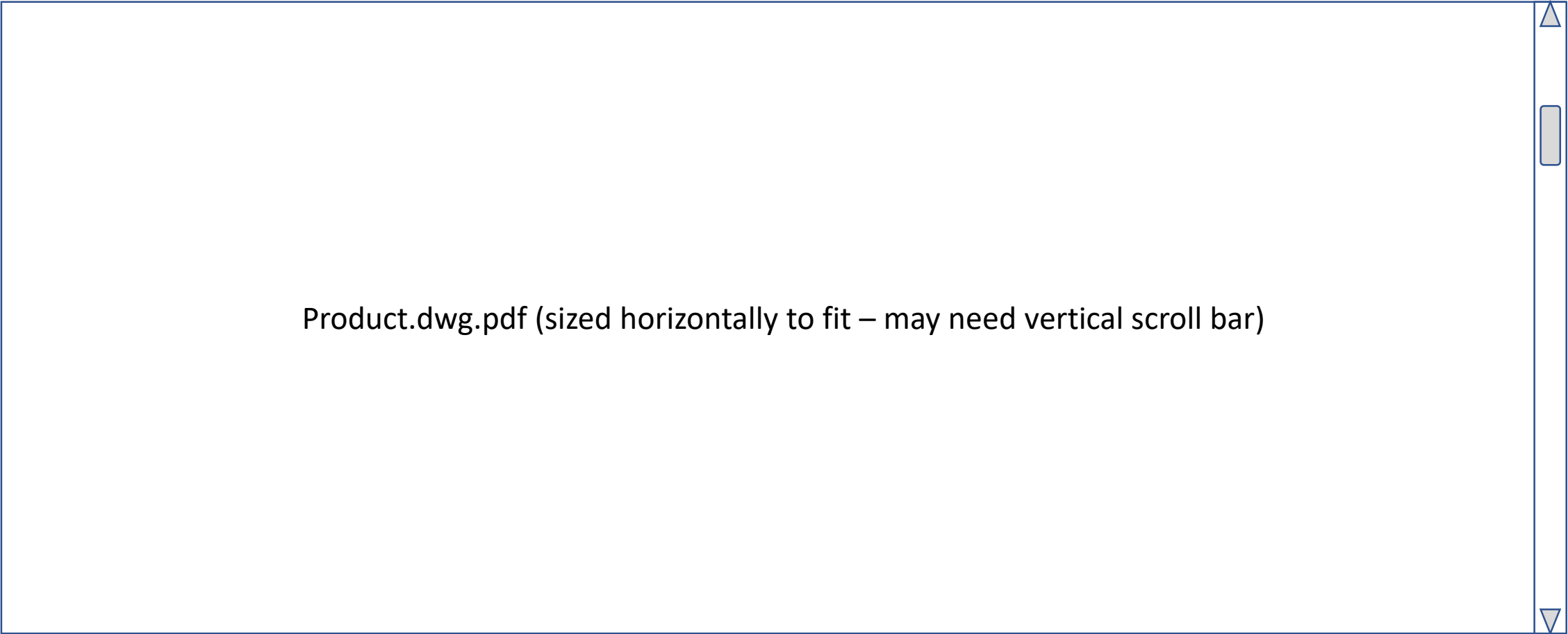
4



# Product Drawing

Product 

Dropdown Box Selection P4



# Product Quality Information Sheet

Product 

Dropdown Box Selection P4

Product.pqis.pdf (sized horizontally to fit – may need vertical scroll bar)

## Packing Specification

Product

Dropdown Box Selection P4

Product.ps.pdf (sized horizontally to fit – may need vertical scroll bar)

# Data Archive

Lot

Product Description

Data Query

Achieve Query