

SME INITIATIVE COURSE MATERIALS

Electronic materials, mechanical parts and processes lists

Management of lists (clause 4.2.2 in ECSS-Q-70B)

- a. Each supplier shall document all the MMPP used in the project in accordance with the DRD in ECSS-Q-70B.
- b. The MMPP lists shall be provided in a form that is exchangeable, searchable and sortable and suitable for storage and retrieval (in accordance with business agreement).
- c. Each customer shall process the lists for suppliers as necessary to achieve the objectives of exchangeability, searchability, sortability, storability and retrievability for that set of lists, before releasing it for use by the higher level customer.
- d. These lists shall be updated during the course of the project.

ESA DMPL Tool

- The ESA DMPL tool was developed with the following objectives:
 - to have a database system common to all parties so that the information can be exchanged in a standard way.
 - The data is searchable at all times
 - Easy consolidation
 - Transparent relationship between DML, DPL and DMPL
- The DMPL tool enables you to organise your materials and processes files. The DMPL tool is controlled by the Prime contractor. The Prime contractor is the central body for distributing and inserting the DML, DMPL and DPL to the sub contractors and the customer.

Responsibilities

The prime contractor can only access the DML, DMPL and DPL screens for commenting and approval and can edit the preferred materials/parts and processes lists. He is also responsible for distribution and database setup.

The customer can only access the DML, DMPL and DPL screens for commenting and approval.

The Sub contractor, who own the data, is the only one who can edit the content of the DML, DMPL and DPL .

Main DML viewing screen

File Sort Help

Reviewer or editor: PRIME Project: example

Click on heading for Sorting Total # of records: 47 Record #: 11

Export to HTML Print DML Edit DML database Close Window

Item Number	Material Identification	Relevant Standard	Chemical Nature	Product Type	Supp. Just	Prime Appl	Cust. A
▶ 1.1.1.SUB1	AA1050		Al 99.5	plate			
1.3.1.SUB3	AA1100 H19	UNS 91050	Al 99.0	Peelable sheet			
1.9.1.SUB1	AA2024		Al Cu4.5 Mg1.5 Mn0.6	plate	A		
1.9.1.SUB3	AA2024-T81	QQ-A-250/4	Al Cu4.5 Mg1.5 Mn0.6	sheet			
1.9.2.SUB1	AA2024-T851		Al Cu4.5 Mg1.5 Mn0.6	bar	A		
1.12.1.SUB3	AA2219		Al Cu6	Forging		D	
1.25.1.SUB3	AA5052-H39	UNI 3574	Al Mg2.5	Plate			
1.37.1.SUB3	AA6061 T6, T651	UNI 6170	Al Mg1 Cu0.3	plate, rod	A	A	A
1.37.2.SUB3	AA6061 T6, T651	AAMS-QQ-A-250/11	Al Mg1 Cu0.3	plate	A	A	A
1.49.1.SUB1	AA7075-T73		AlZn6.5 Mg2.5 Cu1.5	bar	A		
1.49.1.SUB2	AA7075		AlZn6.5 Mg2.5 Cu1.5	bar			

Column 9.1 Reference

Corrosion: B MSFC-HDBK-527

SCC: A ECSS-Q-70-36

Flam:

Offgas:

Outgas:

Column 4 Manufact. or Distrib. (M/D) Name

Procurement Spec

Issue Revision Date

Summary of Process Parameters

alodine 1200

Use Name plate

Supplier Justification

Sorting Condition

Consolidate

Sort On	Corr	User	Radiation	Group 0
	SCC	SubSys	Ambiance	
	Flam	Equip	Temp	
	Offgas	Use	Special	
	Outgas	Last Ch		

Ascending Descending

Sorted on: consolidate

First Input: SUB1

Date: 18-2-2003

Last Change: SUB1

Date: 13-6-2003

Column 7 and 8

Radiation: L Area:

Ambiance: V Volume:

Temperature: T3 Mass: W1

Column 6.1

Subsystem: PWS

Equipment: NiCd Bat

User Code: SUB1

Prime Comments

Customer Comments

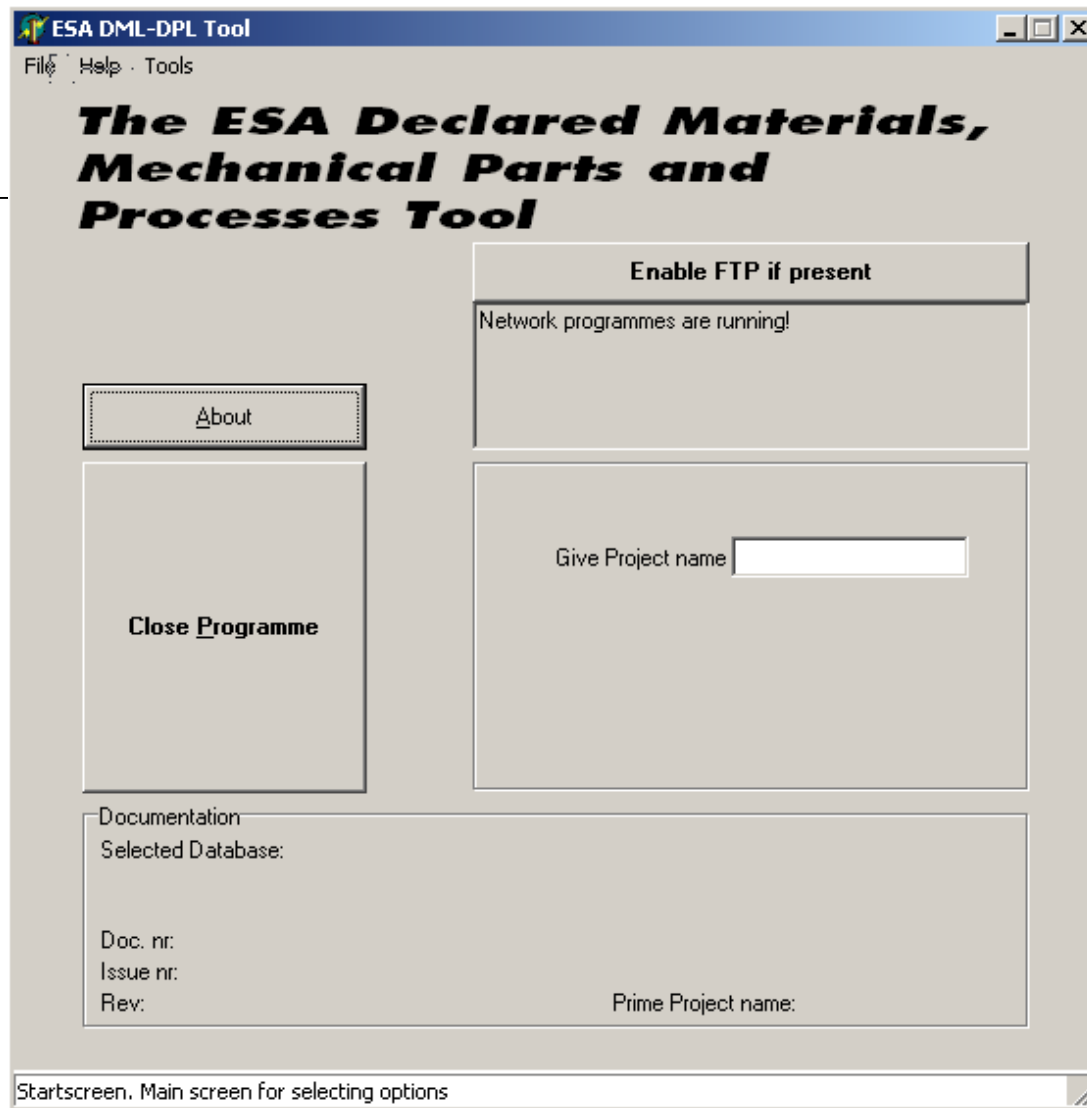
Approval Status

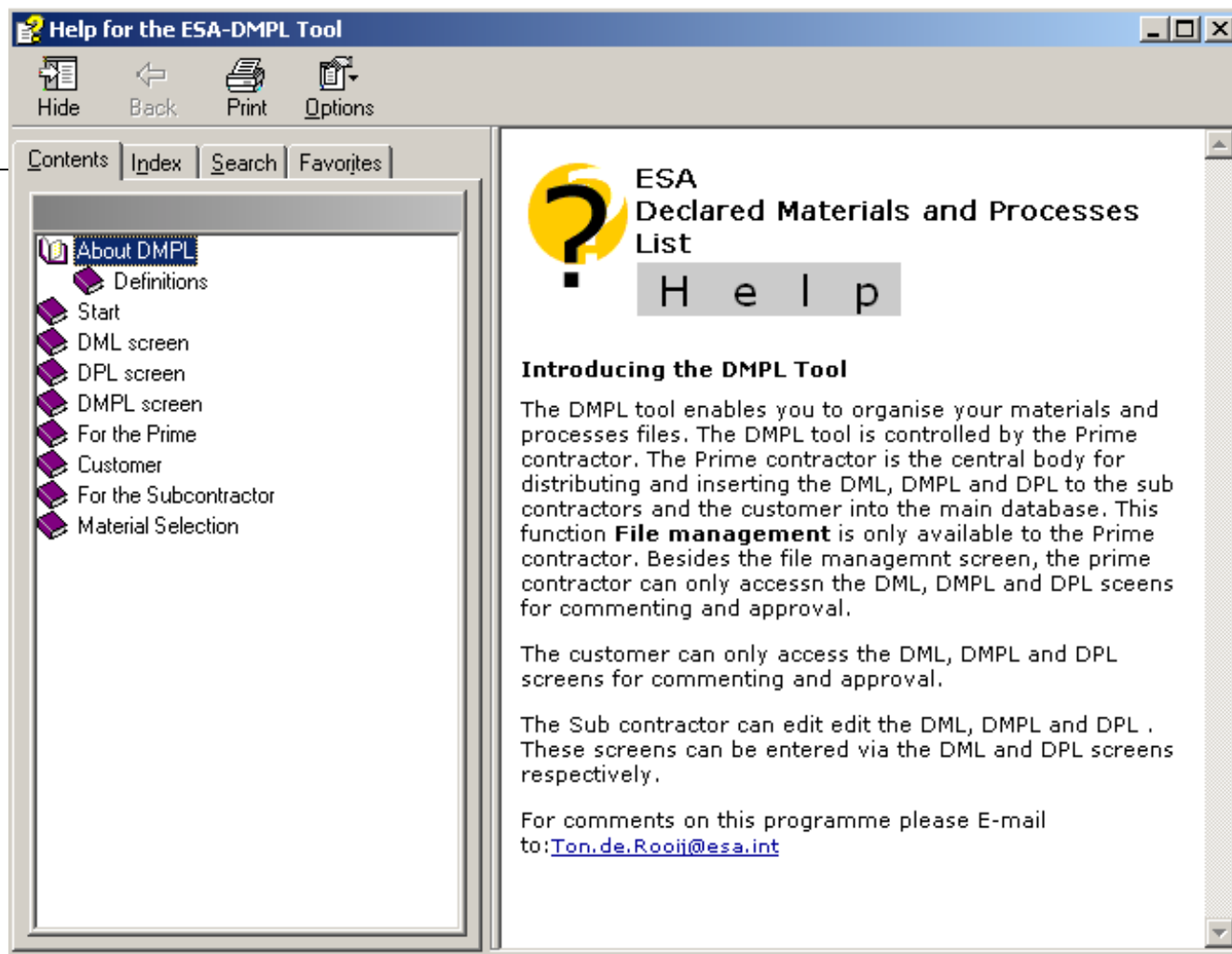
Supplier Approval: DML controller: prime

Prime Approval:

Customer Approval:

Main viewing screen for the declared materials List. Prime and Customer can edit.





Main DPL viewing screen

File Sort Help

Reviewer or editor: PRIME Project: example

Click on heading for Sorting Total # of records: 38 Record #: 11

Export to HTML Print DPL Edit DPL Database Close Window

Item Number	Process Identification	Process Description	Use	Crit.	Supp.Just	Prime App	Cust. A
9.1.1.SUB1	Chromate conversion coating		coating of nameplate	N	A		
6.1.1.SUB1	TIG welding			N	0		
13.2.1.SUB1	Heat treatment of Aluminium			N	0		
5.1.1.SUB2	Cleaning	Cleaning after machining	Mechanical parts	N	A	A	A
7.1.1.SUB2	Crimping	crimping of electrical connections		N			
8.1.1.SUB2	Hand soldering	Hand soldering of electrical connections		N			
5.1.1.SUB10	Cleaning	Cleaning Process	Verification	N		A	
5.1.2.SUB10	Cleaning	Drying Process	Drying verification	N		A	
12.3.1.SUB10	Swaging	swaging operation	Swaging of screw mechanism to retain ball	N		A	
9.4.1.SUB10	Passivation	Passivating of stainless steel	passivation of fasteners	N	A	A	A
15.4.1.SUB10	Marking by etching	Electro chemical etch	Metal part marking	N		D	

Column 3
Process Executor
in house

Process Specification

Issue Revision Date

Associated DML 1.9.1.SUB1

Column 5
Subsystem: PWS
Equipment: NiCd Bat
User Code: SUB1

Column 8
Criticality(N/C): N

Reason for Criticality

Supplier References
standard process

Prime Comments

Customer Comments

Sorting Condition

Consolidate

Sort On

User	SubSys	Special	Group
Equip	Last Ch		0

Ascending Descending

Sorted on:

Approval Status
Supplier Approval: A DPL controller: prime
Prime Approval:
Customer Approval:

First input: SUB1
Date: 19-3-2003
Last change: SUB1
Date: 24-7-2003

Main DPL viewing screen

Main DMPL viewing screen [Window Controls]

File Sort Help

Reviewer or editor: PRIME Project: example **Export to HTML** **Print DMPL** **Edit DMPL Database** **Close Window**

Click on heading for Sorting Total # of records: 5 Record #: 5

Item Number	Part Identification	Type Of Part	Elementary Function	Supp. Just	Prime Appr	Cust. Ap
▶ 52.1.1.SUB3	Blanc-aero/345	screw aisi 303/304, din 7985 A2-70, Uni 7687 A2	Structural part	A	A	
52.1.1.SUB1	igi6767	Screw aisi304		0		
51.1.1.SUB3	skf4331	washer	motor bearing washer	A	A	0
53.1.1.SUB3	skf5400	Ball bearing	motor bearing	A	A	0
52.3.1.SUB3	heli1200	Helicoil				

Column 4
Manufact. or Distrib. (M/D) Name
Limatola, Miri
Procurement Spec
P11GA01U, P11GA01L
Issue Revision Date
[] [] []

Column 7
Radiation: L Temperature:
Ambiance: V T3

Main Characteristics
surface passivation

Column 5
Subsystem: COMM
Equipment: AS
User Code: SUB3

Column 8
Criticality(N/C): []
Reason for Criticality

Supplier References
psu: Italsat, Olympus ERS

Prime Comments

Customer Comments

Sorting Condition

Consolidate

Sort On

User	SubSys	Special	Group
Equip	Last Ch		51

Ascending Descending

Sorted on:

Approval Status:
Supplier Approval: A DMPL controller: prime
Prime Approval: A
Customer Approval: []

[Navigation Buttons]

First input: SUB3
Date: 28-5-2003
Last change: PRIME
Date: 13-6-2003

The comments of the prime contractor

Sub Contractor DML Entry Screen

File Help

Navigation bar for adding, deleting and browsing database records

Back to Viewing screen

Copy Record

Paste Record

Material Information

Relevant Standard:

Material Identification: A286

Product Type:

Chemical Nature: Fe 25Ni 15Cr 2Ti 1.5Mn 1.3Mo

Summary of Process Parameters

passivated

Use

used in fastener application

Group	Item	Running #	User Code	Calc. Item Number
6	5	1	SUB10	6.5.1.SUB10

Column 3.1 Reference

Corrosion: A MSFC-HDBK.527

SCC: A ECSS-Q-70-36

Film:

Offgas:

Outgas:

Column 4

Manufacturer or Supplier Name:

Procurement Spec:

Issue Revision Date

Column 7 and 8

Radiation Area:

Ambiance Volume:

Temperature Mass:

Column 5.1

Subsystem:

Equipment:

Supplier Position

Supplier Justification:

Supplier Approval Status: W

Prime Position

Prime Comments: Procurement spec??? which equipment


Prime Approval Status: W

Customer Position

Customer Comments:

Customer Approval Status:

Position of Customer. Cannot be edited



Sub Contractor DML Entry Screen

File Help

Navigation bar for adding, deleting and browsing database records

Material Information

Relevant Standard

Material Identification

Product Type

Chemical Nature

Summary of Process Parameters

Use

Column 9.1

Reference

Corrosion

SCC

Flam

Offgas

Outgas

Column 4

Manufacturer or Supplier Name

Procurement Spec

Issue Revision Date

Column 7 and 8

Radiation Area

Ambiance Volume

Temperature Mass

Column 6.1

Subsystem

Equipment

Supplier Position

Supplier Justification

Supplier Approval Status:

Prime Position

Prime Comments

Prime Approval Status

Customer Approval Status

Group	Item	Running #	User Code	Calc.	Item Number
			PRIME		

Material Group

- Aluminium and aluminium alloys
- Copper and copper alloys
- Nickel and nickel alloys
- Titanium and titanium alloys
- Steels
- Stainless steels
- Filler metals: welding, brazing, soldering
- Miscellaneous metallic materials
- Optical materials
- Adhesives, coatings, varnishes
- Adhesive tapes
- Paints and inks
- Lubricants
- Potting compounds, sealants, foams
- Reinforced plastics

Sub Contractor DML Entry Screen

File Help

Navigation bar for adding, deleting and browsing database records

Back to Viewing screen

Copy Record

Paste Record

Material Information

Relevant Standard

Material Identification

Product Type

Chemical Nature

Summary of Process Parameters

Use

Column 9.1 Reference

Corrosion

SCC

Flam

Offgas

Outgas


Column 4 Manufacturer or Supplier Name

Procurement Spec

Group Item Planning # User Code Calc. Item Number

1

PRIME



Material Selection

Material Identification [click here for sorting]	Special Consideration
AA1145	
AA1200	
AA2011	T8: scc1, T3, T4: scc3
AA2014	All tempers scc3
AA2017	All tempers scc3
AA2024	T3 and T4 not for structural
AA2048	T62 plate scc2
AA2124	
AA2219	T6, T8: scc1
AA2419	T8: scc1, ESA
AA2618	T6, T8: scc1, ESA

Supplier Position

Supplier Justification

Supplier Approval Status:

DECLARED MATERIALS LIST (DML)											
Programme Name : example					Doc no. : DML-DPL-DMPL doc(03-02-2004+example__PRIME)			Date : 1-6-2004			
Group (Title):1 - Aluminium and aluminium alloys					Issue/Revision: 4/24			Page : 1			
1	2	3	4	5	6	7	8	9.1	9.2	9.3	10
Item no.	1) Material Identification 2) Relevant Standard	1) Chemical nature 2) Product type	1) Manufacturer or distributor (M or D) 2) Manufacturer / Distributor name 3) Procurement spec. Issue/Revision/Date	Summary of process	1) Subsystem 2) Equipment 3) Use	1) R 2) A 3) T	1) A 2) V 3) M	Acronym / Rating / Validation Reference for applicable properties	1) Justification for approval 2) Prime comments	Prim. appr. status	Customer approval status / comments
1.1.1.SUB1	1)AA1050 2)	1)Al99.5 2)plate	1) 2) 3) / /	alodine 1200	1)PWE 2)NiCd Bat 3)Nim e plate	L V T3	W1	Corr/B /MSFC-HDBK-527 Sec/ A /ECSS-Q-70-36 Fhm/ / Offg/ / Outg/ /	1) 2)		
1.3.1.SUB3	1)AA1100 H19 2)UNE 91050	1)Al99.0 2)Peelable sheet	1) 2)Atteweld hd 3)M71BA03Z / /		1)COMM 2)AS 3)Gasket used between waveguide flange skins	L V T3	W0	Corr/B /MSFC-HDBK-527 Sec/ A /ECSS-Q-70-36 Fhm/ / Offg/ / Outg/ /	1)ECSS-Q-70-36 SCC 1 NASA-MSFC-HDBK-527 Sec A 2)		
1.9.1.SUB1	1)AA2024 2)	1)Al Cu4.5 Mg1.5 Mn0.6 2)plate	1) 2) 3) / /	temper to T4	1)PWE 2)NiCd Bat 3)Nim e plate	L V T2	A2	Corr/B /MSFC-HDBK-527 Sec/ B /ECSS-Q-70-36 Fhm/ / Offg/ / Outg/ /	1)used on many projects 2)		
1.9.1.SUB3	1)AA2024-T81 2)QQ-A-250A	1)Al Cu4.5 Mg1.5 Mn0.6 2)sheet	1) 2)Aluminium Corporate 3)M07A011A33A / /	Cleaning with IPA	1)COMM 2)AS 3)Sandwich facesheet	L V T2	W2	Corr/B /MSFC-HDBK-527 Sec/ A /ECSS-Q-70-36 Fhm/ / Offg/ / Outg/ /	1)ECSS-Q-70-36 SCC 1 per Italstat 2)		

Demonstration

Project Name: example
Password: prime or sub3

Click there.  **ESA DMPL
Tool**

Files on cd-rom are read-only. After copying to hard-disk the read-only flag should removed.