



2018 Defense Standardization Program Workshop

July 11, 2018

Michael Thompson
Director, Aerospace Product Group

PRE-PROFESSIONAL DEVELOPMENT

A full continuum of preK-16 STEM outreach programming servicing over 75,000 students every year.



PROFESSIONAL DEVELOPMENT

400+ course portfolio delivered through eLearning online and classroom courses on an individual and corporate level



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35,000+ aerospace and ground vehicle standards



MEDIA

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Over 137,000 members worldwide collaborating while using multiple exclusive benefits to advance personally and professionally



SAE Standards

The aerospace, automotive and commercial vehicle industries depend on SAE’s globally accepted standards to test, design and build the mobility products of today, and to advance the technologies and regulations of tomorrow.

SAE Ground Vehicle Standards	2000+
SAE Aerospace Material Specifications	2700+
(Redlines Available)	
SAE Aerospace Standards.....	4900+
(Redlines Available)	
SAE Historical Standards	35,000+
SAE ITC Engine & Airframe (E&A) Standards.....	3,258+
SAE Aerospace 2D/3D CAD Models.....	500

Board Approves Investment in SAE Information Technologies

MarkLogic Search Solution



Only MarkLogic allows you to remove the complexity of database and search engine infrastructure and create multiple applications from the same search systems.

Content Management System
— enhances the management
of hundreds of thousands of
pieces of content




Taxonomy Application —
makes content more
discoverable and linkable

XML Conversion of Content — allows
content to be produced in a variety of
formats; also facilitates, eBook, redlines
and 3D outputs.



Digitization of historical
standards and papers expands
offerings from 35,000 titles to
more than 150,000

Importance of XML

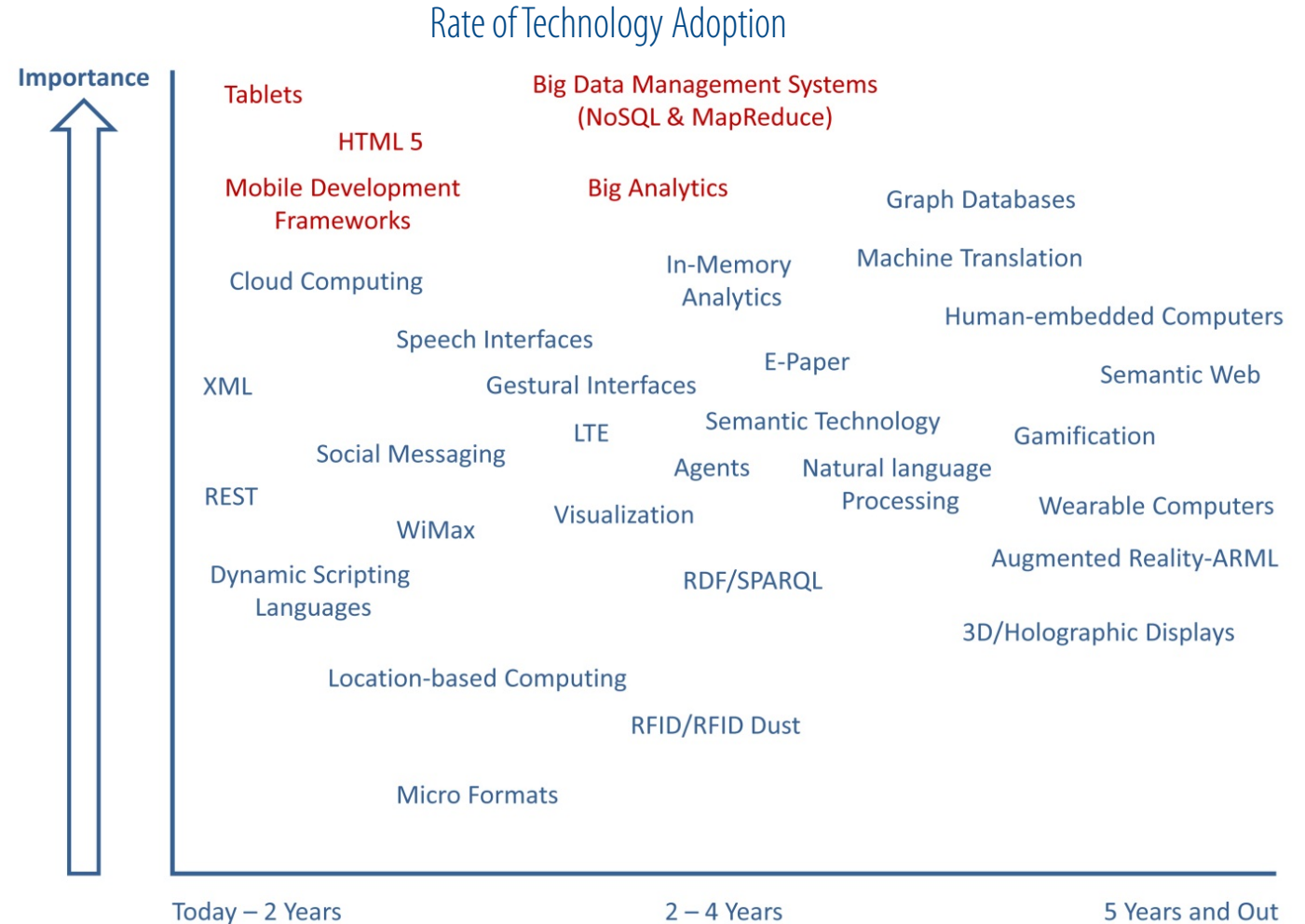
- 
- Supports Modular Content
 - Enables Interoperability
 - Content Optimized for Different Outputs
 - Platform and Software Independent
 - Open Standard – will remain relevant into the future

The Necessity of Integration

“Integration of relevant, mission-critical content into workflow is of high value to engineers and scientists.”

“Engineers and scientists are using applications directly relevant to their tasks.”

Outsell's End-User Study for Engineering and Science Professionals



SAE Redline Standards

EXPORT DOWNLOAD PRINT FAVORITE SHARE VIEW/ANNOTATE

Plating, Electroless Nickel

Revised
Published December 12, 2013 by SAE International in United States


Standard
AMS2404G

Sector: Aerospace
Topic: Metallurgy, Metals, Nickel, Materials properties, Quality control
Issuing Committee: AMS B Finishes Processes and Fluids Committee
Rationale: AMS2404G result of SAE International Technical Committee B-11, Finishes Committee
Language: English

8 versions available
Select and compare one revision to the

Revision History*

2013-12-12
2008-12-15
2003-06-05
1997-04-01
1984-07-01
1977-01-15
1966-09-30
1957-09-15



AMS2404AMS2404B

AERONAUTICAL MATERIAL SPECIFICATIONS AEROSPACE MATERIAL SPECIFICATION

Issued 1957-09

Superseding AMS 2404A

ELECTROLESS NICKEL PLATING

AMS B Finishes Processes and Fluids Committee

1 ACKNOWLEDGMENT:

A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.

21 APPLICATION SCOPE:

Primarily intended to provide hard, ductile, wear-resistant, and corrosion-resistant surfaces for operation at moderate temperatures (up to 1000 F) and to provide uniform build-up on complex shapes.

1.1 Purpose:

This specification covers the engineering requirements for electroless deposition of nickel on various materials and the properties of the deposit.

Data Sets Associated with Standards

EXPORT DOWNLOAD PRINT FAVORITE SHARE VIEW/ANNOTATE

SAE

AMS 4348D

Page 4 of 12

Newer Version Available

Core, Honeycomb,
5052, 350 (177)

Reaffirmed
Published November 3, 2011 b

Sector: **Aerosp**
Issuing Committee: **AMS D**
Language: **English**

Data Sets - Support Doc

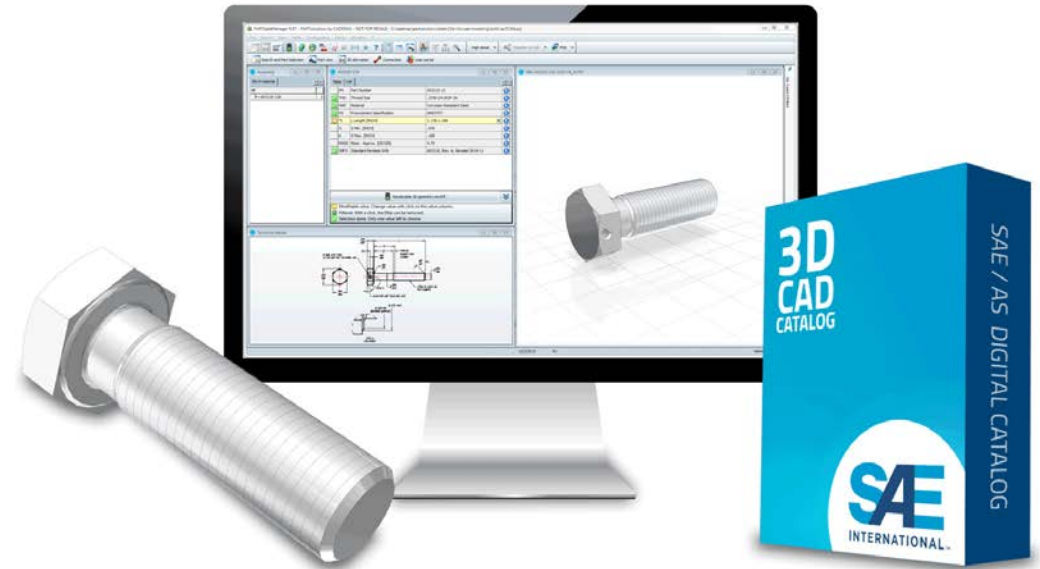
Title
[Unnamed Dataset 1]
TABLE 1A
TABLE 1B
TABLE 2
[Unnamed Dataset 5]
TABLE 3

TABLE 1A - CORE PROPERTIES, INCH-POUND UNITS

Cell Size Inch	Nominal Foil Thickness	Nominal Density pounds	Plate Shear Strength psi, min individual	Plate Shear Strength psi, min individual	Plate Shear Modulus ksi, min average	Plate Shear Modulus ksi, min average	Flatwise Compressive Strength	Flatwise Compressive Strength	Flatwise Compressive Strength psi, min (Individual) Stabilized
1/8	0.0007	0.0011	3.1	90	155	16.0	31.0	200	215
	0.0010	0.0015	4.5	168	285	25.0	51.0	375	405
	0.0015	0.0022	6.1	272	455	37.0	77.0	650	680
1/8	0.0020	0.0029	8.1	400	670	50.0	112.0	1000	1100
5/32	0.0007	0.0011	2.6	70	120	12.0	24.0	150	160
	0.0010	0.0015	3.8	125	215	20.0	41.0	285	300
	0.0015	0.0022	5.3	215	370	31.0	64.0	490	535
	0.0020	0.0029	6.9	328	540	42.0	91.0	770	800
	0.0025	0.0034	8.4	420	690	52.0	115.0	1070	1180
5/32	0.0007	0.0011	2.0	46	80	9.0	17.0	90	100
	0.0010	0.0015	3.1	90	155	16.0	31.0	200	215
	0.0015	0.0022	4.4	160	280	24.0	50.0	360	385
	0.0020	0.0029	5.7	244	410	34.0	70.0	560	600
	0.0025	0.0034	6.9	328	540	42.0	91.0	770	800
	0.0030	0.0042	8.1	400	670	50.0	112.0	1000	1100
3/16	0.0007	0.0011	1.6	32	60	6.0	13.0	60	70
	0.0010	0.0015	2.3	57	100	11.0	21.0	120	130
	0.0015	0.0022	3.4	105	180	18.0	35.0	240	250
	0.0020	0.0029	4.3	155	265	24.0	48.0	350	370
	0.0025	0.0034	5.2	200	360	30.0	62.0	500	510
	0.0030	0.0042	6.0	265	445	36.0	75.0	630	660
	0.0040	0.0053	7.9	390	650	49.0	108.0	970	1050
3/8	0.0007	0.0011	1.0	20	32	4.0	7.0	20	20
	0.0010	0.0015	1.6	32	60	6.0	13.0	60	70
	0.0015	0.0022	2.3	57	100	11.0	21.0	120	130
1/4	0.0020	0.0029	3.0	85	145	15.0	30.0	190	200
	0.0025	0.0034	3.7	115	200	20.0	40.0	270	285
	0.0030	0.0042	4.2	150	255	23.0	47.0	335	355
	0.0040	0.0053	5.4	228	380	32.0	66.0	500	535
	0.0050	0.0065	6.5	300	500	39.0	84.0	700	750
0.0030	0.0042	6.0	265	445	36.0	75.0	630	660	
0.0040	0.0053	7.9	390	650	49.0	108.0	970	1050	

Aerospace 2D/3D Parts Standards

- 500 AS Parts Standards
- Generates a 2D/3D preview
- Configure parameters (diameter, length...)
- Results in a fully defined SAE AS Part Number
- Assurance of quality through the use of authorized CAD models
- Can be saved into more than 150 native and neutral CAD and graphic formats
- Reduced modeling & design cycle times
- Elimination of duplicated efforts
- Increased & improved engineering productivity
- Quality assured by implementing SAE certified CAD models
- Increased consistency and standardization in parts used on projects
- Greater accuracy on bills of materials (BOM)



AS3618

SAE International is a not-for-profit organization that provides technical information and standards for the automotive, aerospace, and defense industries. The use of this report is entirely the sole responsibility of the user. SAE invites your written comments and suggestions.

REVISED TO PROVIDE A PART NUMBERING SYSTEM WHICH WILL ALLOW THE USER OF THIS STANDARD TO SELECT ELONGATED FERRULES ONLY, OR ELONGATED FERRULES, WITH A SAFETY CABLE (KIT).

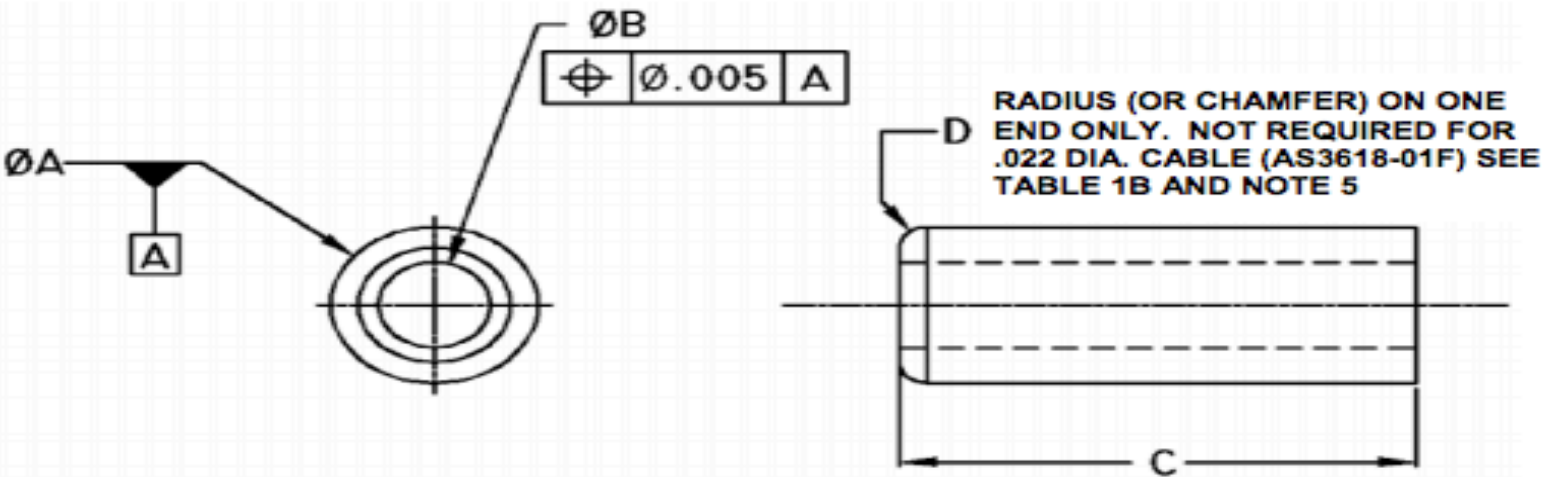


FIGURE 1 - SAFETY CABLE - ELONGATED FERRULE

TABLE 1A - DIMENSIONS A-C

PART NUMBER	Ø A INCH	Ø B INCH	C INCH	USE WITH SAFETY CABLE SIZE: SEE NOTES 2&3
AS3618-01F	.089-.091	.029-.032	.185-.200	.022-.026
AS3618-02F	.104-.106	.043-.049	.305-.325	.032-.038
AS3618-03F	.104-.106	.051-.057	.305-.325	.040-.046
AS3618-04F	.149-.151	.080-.083	.365-.385	.062-.072

SEE TABLE 2 FOR SAFETY CABLE KIT PART NUMBERS.

Aerospace 2D/3D Parts Standards

▼ Summary & Details

Scope & Rationale

Table of Contents

Topic(s)

2D3D

Data Sets

References

Revisions

EXPOR

Part Number: AS3618-01FA

Type

Ferrule

B Diameter

.029-.032

INCH

L Length of Cable

+.50/-.50

INCH

LG2D

0


INCH

3D Preview

2D View

Download

Help



Generate

powered by PARTsolutions®

Product Dimensional Data

Part Number	No.	Material	A Diameter	C	Safety Cable Size	D Radius/Chamfer	
	INCH		INCH	INCH	INCH	INCH	
AS3618-01F	1	Corrosion and Heat Resistant Steel	.089-.091	.185-.200	.022-.026	No Radius/Chamfer Required	AS36:

Reaffirmed Published

Sector:

Issuing Co

Language:

Rational

AS3218A F




DIMENSIO

MICROMET

ANSI Y14.5

☒ Highlight Keywords

Standard AS3218A



ION RESISTANT STEEL AMS 7330

TO BE 32 MICROINCHES (0.8

DIMENSIONING AND TOLERANCING:

Aerospace 2D/3D Parts Standards

Part Number: AS3618-01FA

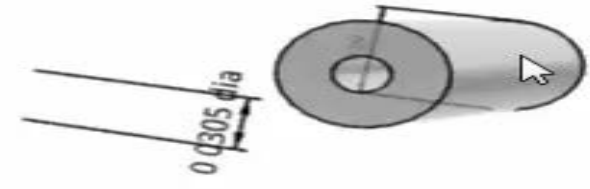
Type
Ferrule

B Diameter
.029-.032
INCH

L Length of Cable
+.50/-.50
0.0
INCH

LG2D
0
INCH

3D Preview 2D View Download Help

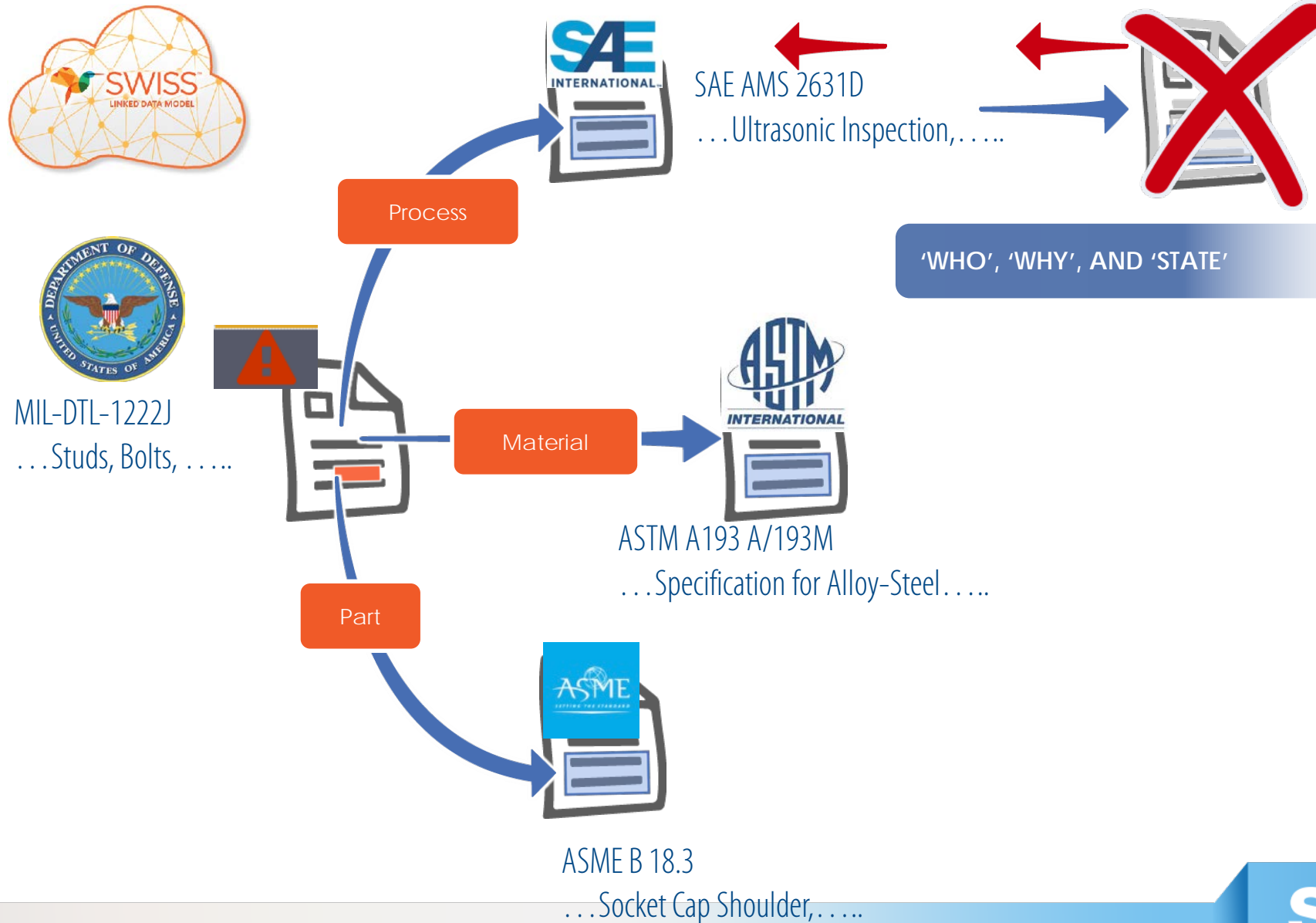


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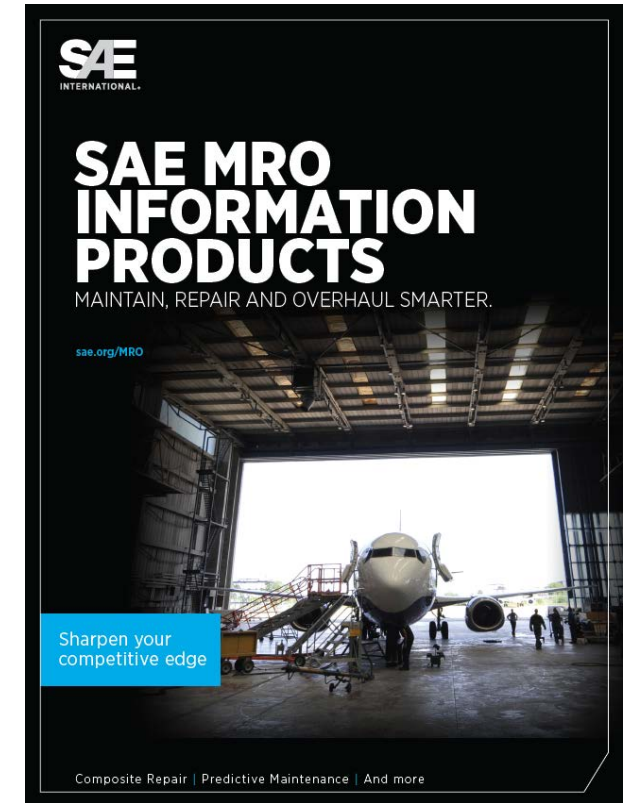
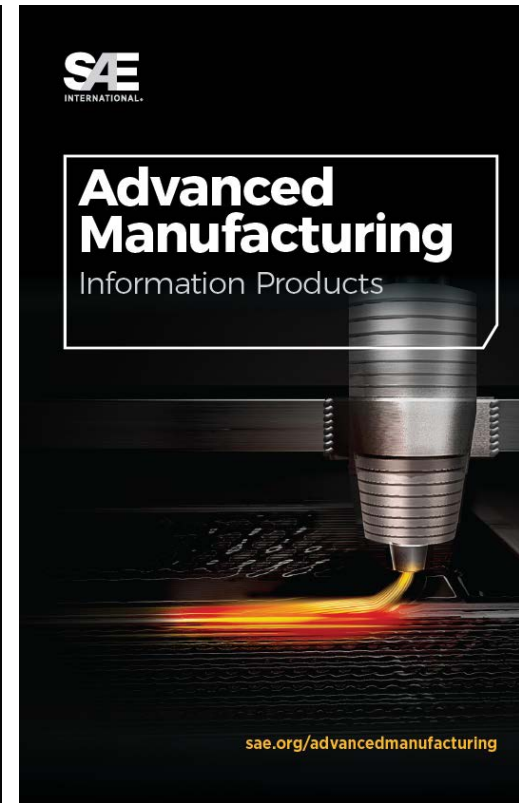
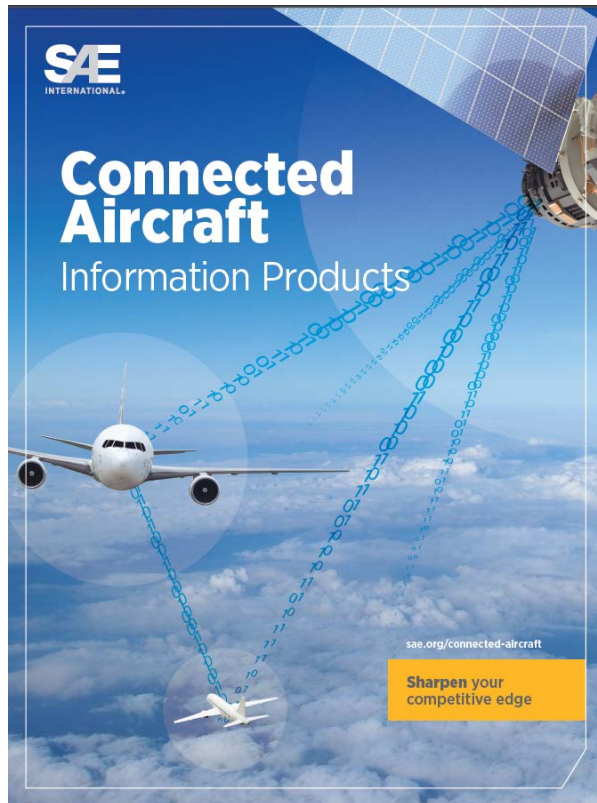
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Product Dimensional Data							
Part Number	No.	Material	A Diameter	C	Safety Cable Size	D Radius/Chamfer	
	INCH		INCH	INCH	INCH	INCH	
AS3618-01F	1	Corrosion and Heat Resistant Steel	.089-.091	.185-.200	.022-.026	No Radius/Chamfer Required	AS3

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Thank you!