ABS0461

Issue 6
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CONNECTOR, FLEXIBLE

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1 Scope

This standard specifies the dimensions, tolerances, mass and required Characteristics of a flexible connector primarily for use in aerospace applications.

2 Normative References

ABS0605	Seal.
AMS4902	Titanium sheet, strip, and plate commercially - pure annealed.
AMS4921	Titanium bars, forgings and rings
DAN462	Standard parts and assemblies – welded, hot air pipes - Titanium
EN2424	Aerospace series - Marking of aerospace products [1)]
NSA8054	Joint expansion assembly

3 Required Characteristics

3.1 Configuration – Dimensions – Tolerances – Mass

3.1.1 Configuration shall be in accordance with the figure

3.1.2 Dimensions, tolerances and mass shall be in accordance with table 1.

3.1.3 Dimensions in inches (millimetres)

3.1.4 The housing, seals and sleeve will be called up separately on the assembly drawing(s), the housing will be component reference -1 and the sleeve will be component reference -2.

3.1.5 This connector assembly will provide an angular movement of ± 2½° from the centre line.

3.1.6 Do not use unassigned dash numbers.

3.1.7 As an alternative to the NSA8054 seal and airseal, ABS0605 or ABS0632 combination seals of the same size may be used.

3.2 Material

Titanium in accordance with AMS4902 or AMS4921 (AMS4921 may be used for seal rings at 2" diameter)

3.3 Assembly breakdown

To make a complete flexible connector assembly it is necessary to have additional parts in the appropriate sizes. A typical breakdown for a 2.00 in (50.8 mm) complete flexible connector assembly is as follows:-

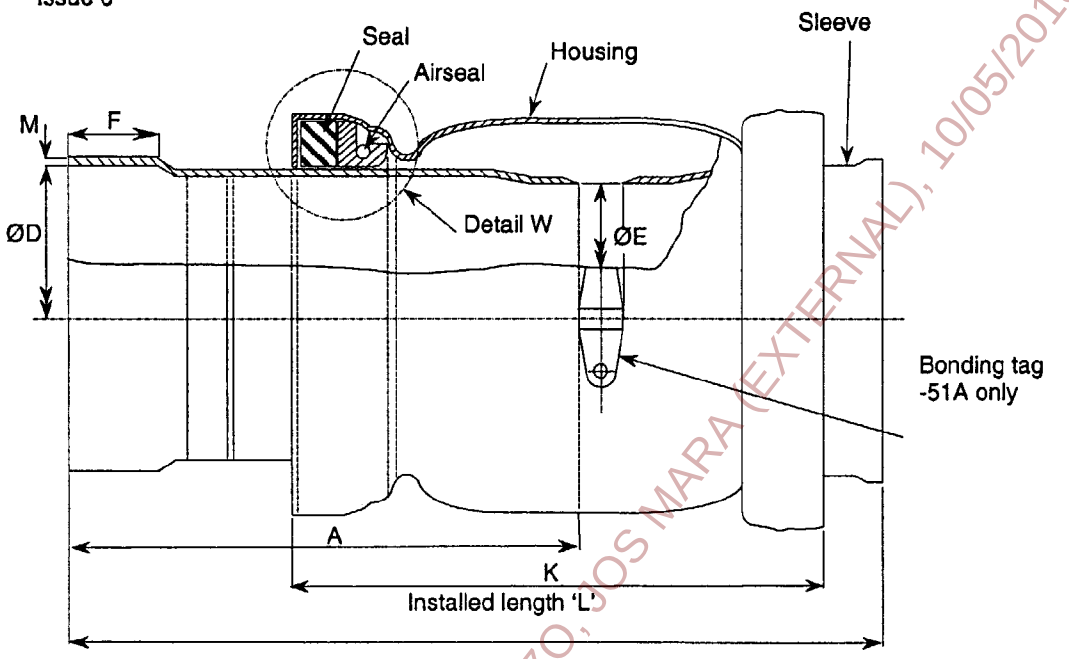
ABS0461-51-1or ABS0461-51-1A	Housing	1 off	
ABS0461-51-2	Sleeve	2 off	
NSA8054-32-08	Seal	2 off	See note 3.1.7
NSA8054-32-09	Airseal	2 off	See note 3.1.7

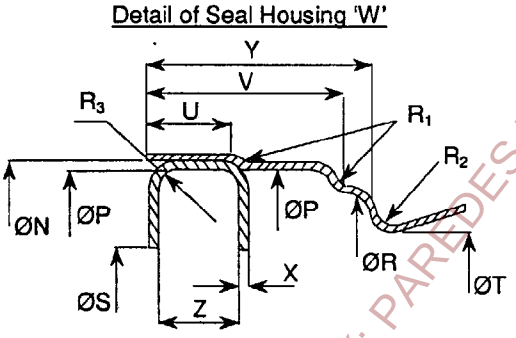
3.4 Operating conditions -

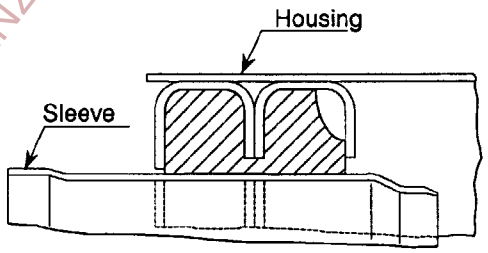
Normal working	(Gauge)	pressure	44	lbf/in²	(303 kPa)
Single failure	(Gauge)	pressure	85	lbf/in²	(586 kPa)
Double failure	(Gauge)	pressure	149	lbf/in²	(1027 kPa)

Normal operating temperature	393°F (200°C)
Single failure temperature	500°F at 85 lbf/in² (260°C at 586 kPa)
Double failure temperature	644°F at 44 lbf/in² (340°C at 303 kPa) Replace seals

1) Published as AECMA pre-standard at the date of publication of the present standard







Alternative configuration for Housing and sleeve

Table 1 Dimensions , Tolerances and Mass Dimensions in inch (mm)

Dash No		A Nom	ØD Max	ØD Min	ØE Max	ØE Min	F Nom	K Max	K Min	L Max	L Min	M Nom	Mass
51	in	2.37	2.010	2.000	1.774	1.760	0.50	3,78	3,72	5.53	5.45	0.04	8.9 oz
	mm	60,2	51,05	50,80	45,08	44,70	12,7	96,0	94,5	140,5	138,9	1,00	255 g
51A	in	2.37	2.010	2.000	1.774	1.760	0.50	7,08	7,02	8.84	8.78	0.04	----
	mm	60,2	51,05	50,80	45,08	44,70	12,7	179,8	178,3	224,5	223,0	1,00	

Table 1 Dimensions and Tolerances Continued Dimensions in inch (mm)

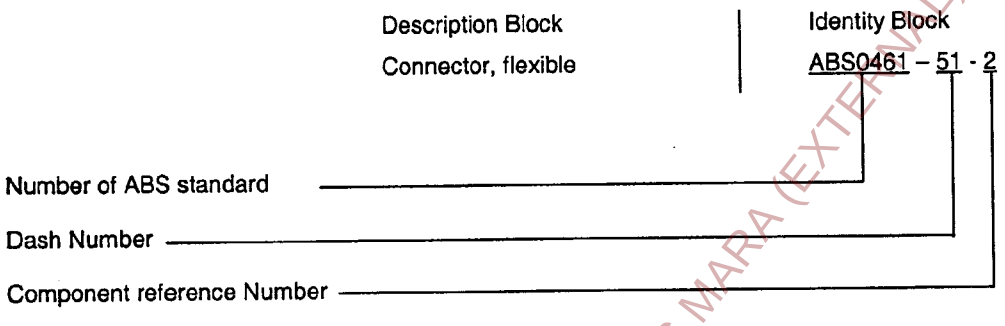
Dash No		ØN Max	ØN Min	ØP Max	ØP Min	ØR (Nom)	ØS (Nom)	ØT Max	ØT Min	U (Ref)
51	in	2.610	2.600	2.546	2.531	2.440	2.090	2.115	2.085	0.348
	mm	66,29	66,04	64,67	64,29	61,98	53,09	53,72	52,96	8,84
51A	in	2.610	2.600	2.546	2.531	2.440	2.090	2.115	2.085	0.348
	mm	66,29	66,04	64,67	64,29	61,98	53,09	53,72	52,96	8,84

Table 1 Dimensions and Tolerances Concluded Dimensions in inch (mm)

Dash No		V (Ref)	X Max	X Min	Y Max	Y Min	Z Max	Z Min	R_1	R_2 Max	R_2 Min	R_3
51	in	0.510	0.033	0.023	0.650	0.630	0.291	0.272	0.060	0.063	0.025	0.032
	mm	12,95	0,84	0,58	16,51	16,00	7,41	6,91	1,52	1,60	0,64	0,81
51A	in	0.510	0.033	0.023	0.650	0.630	0.291	0.272	0.060	0.063	0.025	0.032
	mm	12,95	0,84	0,58	16,51	16,00	7,41	6,91	1,52	1,60	0,64	0,81

4 Designation

Each flexible connector shall be designated as in the following example:



5 Marking

Each housing and sleeve shall be permanently and legibly marked with the full ABS number, the manufacturer's identification and optionally the manufacturer's part number in accordance with EN2424 Style A

6 Technical Specification

DAN462

RECORD OF REVISIONS

Issue	Clause modified	Description of modification
6 12/2000	All	Standard completely revised to bring it in line with ABS0742