

RATIONALE

AS4581 HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE FIVE-YEAR REVIEW POLICY.

AS4581

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user." SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

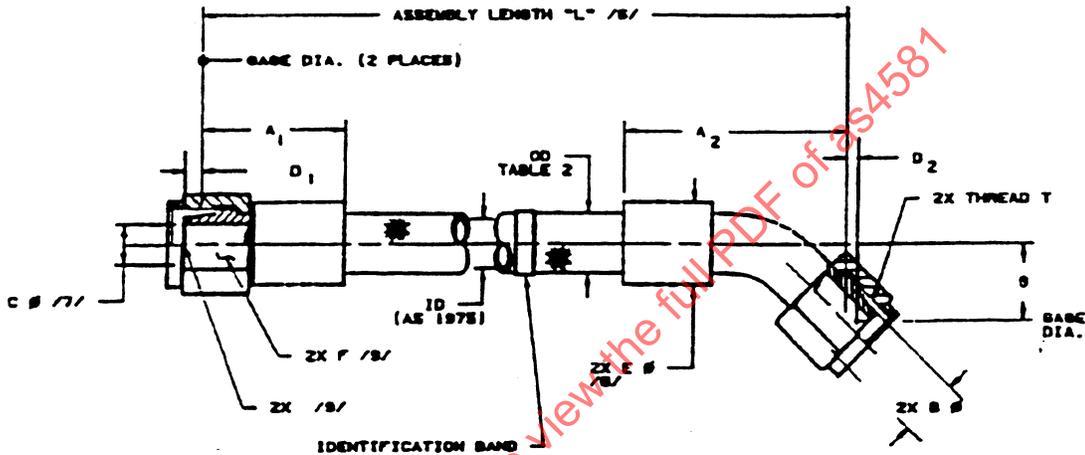
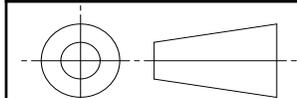


FIGURE 1 - HOSE ASSEMBLY, STRAIGHT TO 45° ELBOW

SAE values your input. To provide feedback on this Technical Report, please visit <http://www.sae.org/technical/standards/AS4581>

THIRD ANGLE PROJECTION



CUSTODIAN: G-3/G-3D

PROCUREMENT SPECIFICATION: AS1975 /2/



AEROSPACE STANDARD

HOSE ASSEMBLY, PTFE, PARA-ARAMID REINFORCED, STANDARD DUTY, 4000 PSI, 275 °F, TITANIUM FITTINGS, FLARELESS, STRAIGHT TO 45°

AS4581
SHEET 1 OF 6

TABLE 1 - ASSEMBLY DIMENSIONS

HOSE ASSEMBLY NO. & SIZE CODE	HOSE SIZE (REF)	/15/ FITTING TYPE (REF)	THREAD T PER AS8879 (REF)	HOSE ID MIN	A		B GAGE BASIC	C /7/ MIN STR FTG BORE AFTER ASSEMBLY	D ₁ (REF)	D ₂ (REF)
					MAX	MAX				
AS4581E	.250	-								
AS4581E	.250	S	.4375-20UNJF-3B	.212	1.630	2.160	.2930	.135	.16	.11
AS4581E	.250	E	.5625-18UNJF-3B	.212	1.695	2.200	.4120	.135	.16	.12
AS4581G	.375	R	.4375-20UNJF-3B	.298	1.820	2.620	.2930	.135	.16	.11
AS4581G	.375	S	.5625-18UNJF-3B	.298	1.835	2.460	.4120	.240	.16	.12
AS4581G	.375	E	.7500-16UNJF-3B	.298	1.915	2.770	.5600	.240	.19	.13
AS4581H	.500	R	.5625-18UNJF-3B	.391	2.145	2.695	.4120	.240	.16	.12
AS4581H	.500	S	.7500-16UNJF-3B	.391	2.165	2.740	.5600	.340	.19	.13
AS4581H	.500	E	.8750-14UNJF-3B	.391	2.675	3.050	.6730	.340	.20	.14
AS4581J	.625	R	.7500-16UNJF-3B	.485	2.860	3.665	.5600	.340	.19	.13
AS4581J	.625	S	.8750-14UNJF-3B	.485	2.905	3.785	.6730	.410	.20	.14
AS4581J	.625	E	1.0625-12UNJ-3B	.485	2.920	3.875	.8100	.410	.23	.16
AS4581K	.750	R	.8750-14UNJF-3B	.602	3.240	4.065	.6730	.410	.20	.14
AS4581K	.750	S	1.0625-12UNJ-3B	.602	3.205	4.065	.8100	.510	.23	.16
AS4581K	.750	E	1.3125-12UNJ-3B	.602	3.320	4.295	1.0620	.510	.30	.21
AS4581M	1.000	R	1.0625-12UNJ-3B	.852	3.690	4.645	.8100	.510	.23	.16
AS4581M	1.000	S	1.3125-12UNJ-3B	.852	3.740	4.645	1.0620	.760	.30	.21
AS4581M	1.000	E	1.5625-12UNJ-3B	.852	3.570	5.010	1.3160	.760	.04	.03
AS4581N	1.250	R	1.3125-12UNJ-3B	1.100	4.600	5.650	1.0620	.760	.30	.21
AS4581N	1.250	S	1.5625-12UNJ-3B	1.100	4.330	5.585	1.3160	.960	.04	.03
AS4581N	1.250	-	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
AS4581P	1.500	-								
AS4581P	1.500	S	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
AS4581P	1.500	-								

SAENORM.COM · Click to view the full PDF of as4581

TABLE 1 (CONTINUED)

HOSE ASSEMBLY NO. & SIZE CODE	HOSE SIZE (REF)	/15/ FITTING TYPE (REF)	E /8/ MAX WITHOUT SLEEVEING	F HEX (REF)	G MIN	G MAX	SPHERICAL BALL SIZE FOR DETERMINING MINIMUM HOSE ASSEMBLY ID /7/ IN STRAIGHT FITTING	SPHERICAL BALL SIZE FOR DETERMINING MINIMUM HOSE ASSEMBLY ID /7/ IN ELBOW FITTING
AS4581E	.250	-						
AS4581E	.250	S	.69	.56	.350	.475	.122	.115
AS4581E	.250	E	.69	.69	.375	.500	.122	.115
AS4581G	.375	R	.80	.56	.350	.475	.122	.115
AS4581G	.375	S	.80	.69	.375	.500	.216	.204
AS4581G	.375	E	.80	.88	.435	.560	.216	.204
AS4581H	.500	R	.97	.69	.375	.500	.216	.204
AS4581H	.500	S	.97	.88	.435	.560	.306	.289
AS4581H	.500	E	.97	1.00	.545	.670	.306	.289
AS4581J	.625	R	1.15	.88	.435	.560	.306	.289
AS4581J	.625	S	1.15	1.00	.545	.670	.369	.349
AS4581J	.625	E	1.15	1.25	.580	.705	.369	.349
AS4581K	.750	R	1.38	1.00	.545	.670	.369	.349
AS4581K	.750	S	1.38	1.25	.580	.705	.459	.434
AS4581K	.750	E	1.38	1.50	.715	.840	.459	.434
AS4581M	1.000	R	1.66	1.25	.580	.705	.459	.434
AS4581M	1.000	S	1.66	1.50	.715	.840	.684	.646
AS4581M	1.000	E	1.66	1.81	.750	.875	.684	.646
AS4581N	1.250	R	2.33	1.50	.715	.840	.684	.646
AS4581N	1.250	S	2.33	1.81	.750	.875	.864	.816
AS4581N	1.250	-	TBD	TBD	TBD	TBD	TBD	TBD
AS4581P	1.500							
AS4581P	1.500	S	TBD	TBD	TBD	TBD	TBD	TBD
AS4581P	1.500	-						

SAENORM.COM · Click to view the full PDF of as4581

TABLE 2 - HOSE AND SLEEVE OUTSIDE DIAMETER

SLEEVE CODE	SLEEVE MATERIAL	TEMP LIMIT °F	TOLERANCE	HOSE	HOSE	HOSE	HOSE	HOSE	HOSE	HOSE	HOSE
				SIZE /10/ .250	SIZE /10/ .375	SIZE /10/ .500	SIZE /10/ .625	SIZE /10/ .750	SIZE /10/ 1.000	SIZE /10/ 1.250	SIZE /10/ 1.500
-	BRAIDED HOSE ONLY PER AS1975	275	MAX MIN	.465 .405	.555 .495	.710 .650	.920 .850	1.075 .995	1.365 1.285	1.660 1.580	TBD TBD
A	FIRESLEEVE (AS1072 SIL FG) (5 min) /6/ /7/	275	MAX MIN	.840 .658	.970 .788	1.150 .968	1.380 1.198	1.590 1.318	1.750 1.568	1.950 1.768	TBD TBD
B	FIRESLEEVE INTEGRAL SILICONE (5 min) /11/ /12/	275	MAX MIN	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
C	PROTECTIVE SLEEVE SHRINK-ON (POLYOLEFIN AS1073 CODE B) /21/	275	MAX MIN	.520 .450	.620 .550	.795 .725	1.000 .920	1.170 1.060	1.460 1.350	TBD	TBD

TABLE 3 - ASSEMBLY LENGTH TOLERANCE

HOSE ASSEMBLY LENGTH	TOLERANCE
UNDER 18 in	±.125 in
18 THRU 36 in EXCLUSIVE	±.250 in
36 THRU 50 in EXCLUSIVE	±.500 in
50 in AND OVER	±1%

TABLE 4 - HOSE AND FITTING WEIGHTS

HOSE OR SLEEVE CODE	HOSE OR SLEEVE OR PART	UNITS	HOSE	HOSE	HOSE	HOSE	HOSE	HOSE	HOSE	HOSE
			SIZE .250	SIZE .375	SIZE .500	SIZE .625	SIZE .750	SIZE 1.000	SIZE 1.250	SIZE 1.500
-	BRAIDED HOSE ONLY PER AS1975	LB/IN (MAX)	.006	.008	.012	.020	.025	.040	.050	TBD
A	FIRESLEEVE AS1072 (5 min PER AS1055) /16/	LB/IN								
B	FIRESLEEVE INTEGRAL WITH HOSE (5 min PER AS1055) /16/	LB/IN								
C	PROTECTIVE SLEEVE SHRINK-ON (POLYOLEFIN AS1073, CODE B) /21/	LB/IN	.001	.001	.001	.002	.002	.003	TBD	TBD
NONE	FIRESLEEVE CLAMP	LB/EA (REF)	.020	.020	.021	.021	.025	.025	.032	TBD
NONE	FITTING END (STRAIGHT) TITANIUM /15/ /17/	R LB/EA (REF) S LB/EA (REF) E LB/EA (REF)	- .048 .068	.077 .081 .115	.118 .135 .193	.210 .248 .296	.382 .431 .546	.730 .760 .890	TBD TBD -	- TBD /9/ -
NONE	FITTING END (45°) TITANIUM /15/ /17/	R LB/EA (REF) S LB/EA (REF) E LB/EA (REF)	- .066 .088	.099 .110 .143	.132 .154 .209	.242 .285 .385	.419 .500 .655	.785 .890 .975	TBD TBD -	- TBD /9/ -



AEROSPACE STANDARD

HOSE ASSEMBLY, PTFE, PARA-ARAMID REINFORCED,
STANDARD DUTY, 4000 PSI, 275 °F, TITANIUM
FITTINGS, FLARELESS, STRAIGHT TO 45°

AS4581
SHEET 4 OF 6