



AEROSPACE ENGINEERING BULLETIN

AEB

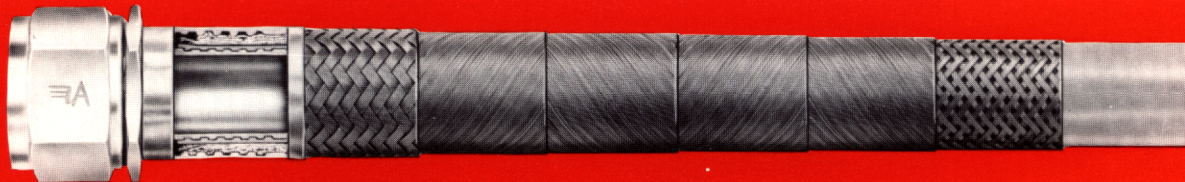
264B

Supersedes AEB-264A

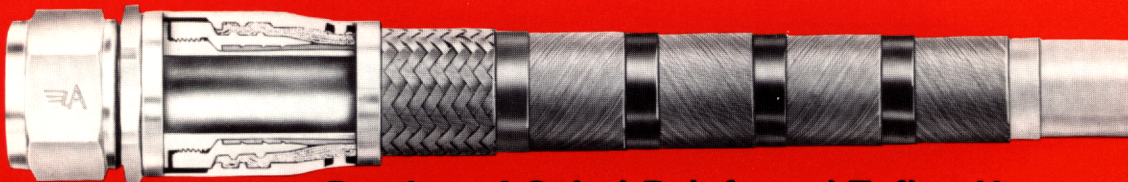
HOSE/FITTINGS

# AE313 4-Spiral Reinforced Teflon\* Hose Assemblies

Meets AS1339-Revision B and AS604-Revision A performance requirements



**New AE313 4-Spiral Reinforced Teflon Hose**



**Previous 4-Spiral Reinforced Teflon Hose**

- **Simpler construction**
- **Smaller envelope**
- **More flexible**
- **Lighter weight**

## Simpler Construction

The construction of the AE313 hose itself has been simplified. A unique process developed by Aeroquip permits elimination of the calender layers between wire wraps. The result is a more efficient use of the wire reinforcement layers and an almost 50% reduction in the minimum bend radius. In addition, AE313 hose assemblies use two-piece fittings instead of the three-piece fittings used on previous Teflon 4-spiral wire hose assemblies.

## Smaller Envelope Fittings

The flared and flareless fittings in straight, 45° and 90° elbow configurations (in the 1" size) of Aeroquip AE313 hose are smaller in O.D./length ranging from 20% to 65% compared to previous fittings.

## More Flexible

The minimum bend radius of the 1-inch (-16) hose is 5.00-inches (127mm) compared to 9.62-inches (244,3mm) for the previous hose style. This greater flexibility provides a significant advantage, especially in limited space installations.

\*Teflon is a DuPont trademark

# AE313 4-Spiral Wire Reinforced Teflon Hose

## Lighter Weight Fittings

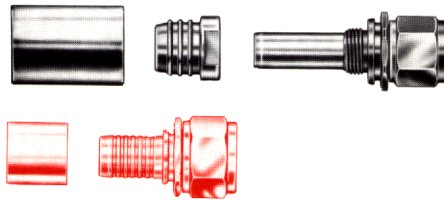
The overall weight of the AE313 hose assemblies are substantially reduced due to the simplified construction of the fittings. The AE313 fittings are up

to 39% lighter weight compared to fittings used on previous 4-spiral Teflon hose assemblies.



**Previous Fittings**

**AE313 Fittings**



### FLARED

### FLARELESS

AE313 flared fittings have an average weight savings of 34% vs. previous flared fittings.

AE313 flareless fittings have an average weight savings of 30.3% vs. previous flareless fittings.

fitting weight lbs. (kgs)	STRAIGHT	45° ELBOW	90° ELBOW
1.100 (0,500)			
1.000 (0,454)			
0.900 (0,408)			
0.800 (0,363)			
0.700 (0,317)			
0.600 (0,272)			
0.500 (0,227)			
0.400 (0,181)			
0.300 (0,136)			
0.200 (0,091)			
0.100 (0,045)			

fitting weight lbs. (kgs)	STRAIGHT	45° ELBOW	90° ELBOW
1.100 (0,500)			
1.000 (0,454)			
0.900 (0,408)			
0.800 (0,363)			
0.700 (0,317)			
0.600 (0,272)			
0.500 (0,227)			
0.400 (0,181)			
0.300 (0,136)			
0.200 (0,091)			
0.100 (0,045)			

NOTE: Both flared and flareless fittings for AE313 hose use the same socket. Socket weight is included with fittings.

## Increasing the capabilities of your AE313 Hose Assembly

The use of either Aeroquip integral firesleeve or integral chafe guard on AE313 hose assemblies pro-

TECTS against adverse environments and helps prolong service life.

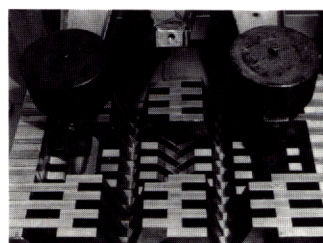
### AE413 Integral Silicone Covered Hose

### AE513 Integral Polyester Chafe Guard Covered Hose



AE413 hose meets the fire test requirements of TSO-C75 Types IIIA and IIIB and AS1055 Type IIa and IIb Class B.

This durable cover is an asbestos-free material extruded directly onto the outer wire braid to form a smooth, tight bond. The integral cover eliminates the need for fire sleeve attachment band clamps and eliminates fluid "wicking". The AE413 hose also has a smaller envelope than the conventional tubular firesleeve.

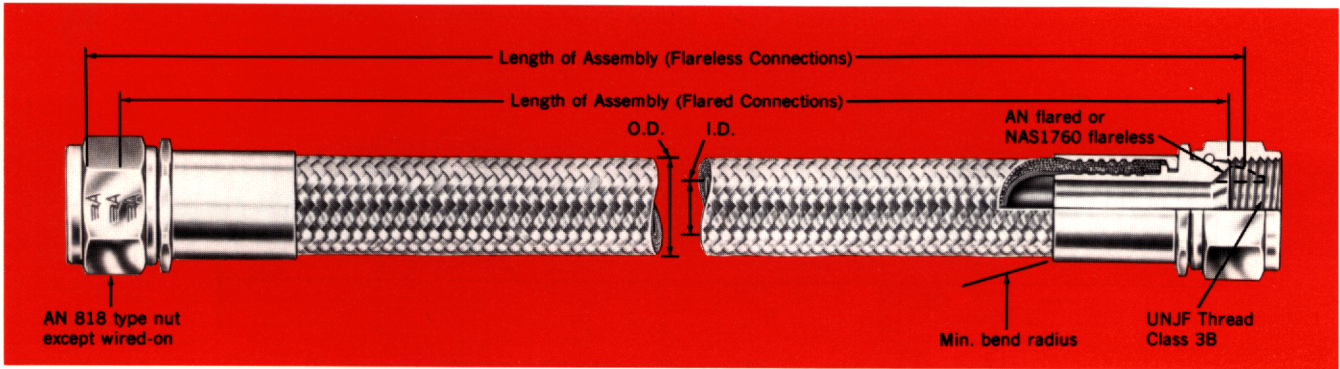


This tough polyester braid withstood 1,000,000 abrasion test cycles without exposing the wire braid.

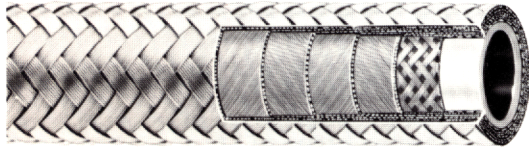
The Aeroquip chafe resistant cover is made integral with the hose by braiding polyester yarn onto the outer wire braid. The cover adds minimal weight and minimal increase in O.D. to the hose assembly and allows the same hose flexibility (minimum bend radius) as unsleeved hose. AS604 Rev. A performance capability is maintained with exception of an upper temperature limit of 300°F (+ 150°C).



# Hose Data



## AE313 Hose

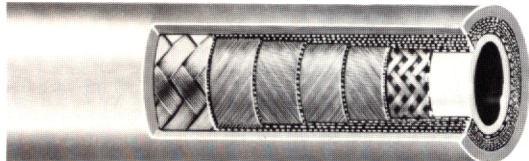


**Construction:** Extruded conductive Teflon inner tube with corrosion resistant steel wire inner braid. Multiple spirally applied corrosion resistant steel reinforcement and corrosion resistant steel outer braid.

**Operating Temperature Range:** -65°F to +400°F (-54°C to +204°C)

Dash Size	O.D. Tube Size (in/mm)	Hose I.D. Min. (in/mm)	Hose O.D. Max. (in/mm)	Maximum Operating Pressure (psi/bar)	Proof Pressure (psi/bar)	Minimum Burst Pressure (psi/bar)	Minimum Bend Radius (in/mm)	Weight (lbs./in. kg/m)
-16	1.00 25,4	.855 21,7	1.27 32,3	3000 207	6000 414	12000 828	5.00 127	.086 0,128

## AE413 Hose

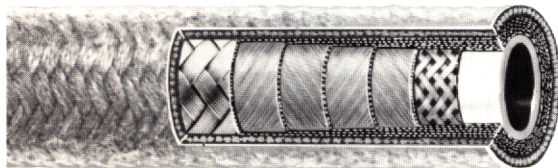


**Construction:** AE313 hose with an integral cover of asbestos free silicone rubber compound.

**Operating Temperature Range:** -65°F to +400°F (-54°C to +204°C)

Dash Size	O.D. Tube Size (in/mm)	Hose I.D. Min. (in/mm)	Hose O.D. Max. (in/mm)	Maximum Operating Pressure (psi/bar)	Proof Pressure (psi/bar)	Minimum Burst Pressure (psi/bar)	Minimum Bend Radius (in/mm)	Weight (lbs./in. kg/m)
-16	1.00 25,4	.855 21,7	1.52 38,6	3000 207	6000 414	12000 828	5.00 127	.113 0,168

## AE513 Hose

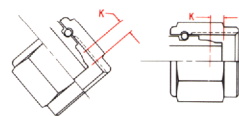


**Construction:** AE313 hose overlaid with a braided cover of tough polyester yarn.

**Operating Temperature Range:** -65°F to +300°F (-54°C to +150°C)

Dash Size	O.D. Tube Size (in/mm)	Hose I.D. Min. (in/mm)	Hose O.D. Max. (in/mm)	Maximum Operating Pressure (psi/bar)	Proof Pressure (psi/bar)	Minimum Burst Pressure (psi/bar)	Minimum Bend Radius (in/mm)	Weight (lbs./in. kg/m)
-16	1.00 25,4	.855 21,7	1.33 33,8	3000 207	6000 414	12000 828	5.00 127	.094 0,140

# Fitting Dimensions



K = gauge point location per NAS 1760; .30-inch (7,62 mm).

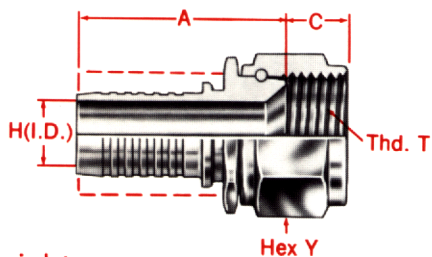


Socket  
AE25877 (code)

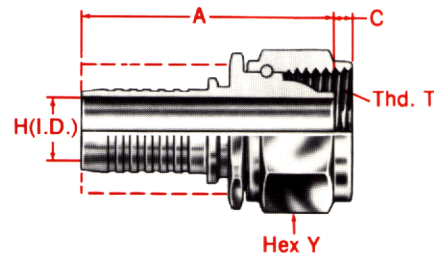
Socket must be ordered separately under Aeroquip part number AE25877 (letter size code same as nipple assembly).

## FLARED

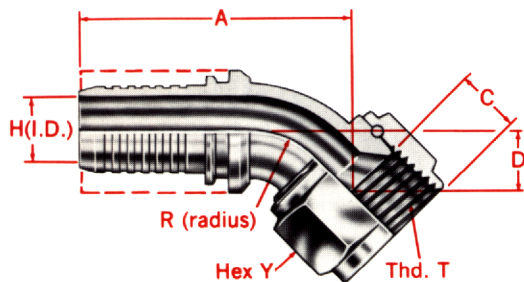
## FLARELESS



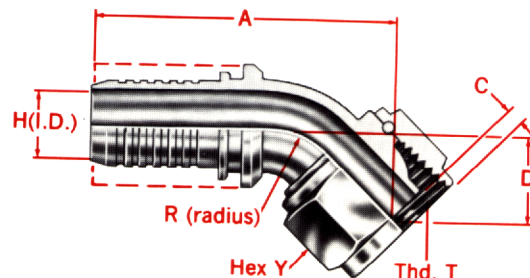
Straight



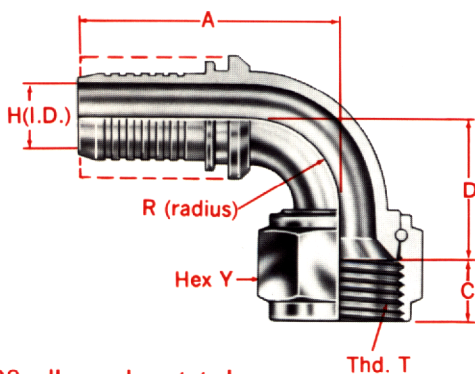
Straight



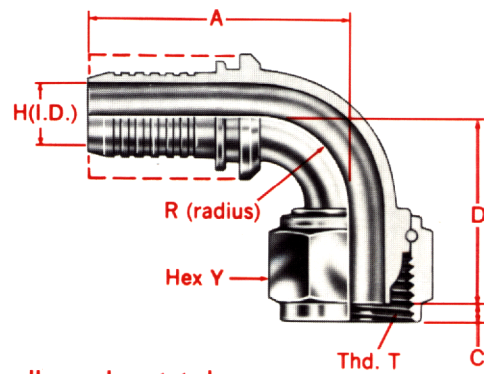
45° elbow bent tube



45° elbow bent tube



90° elbow bent tube



90° elbow bent tube

Configuration	Straight	45°	90°	Straight	45°	90°
Dash Size	-16	-16	-16	-16	-16	-16
Nipple Assembly	AE25966M	AE26335M	AE25968M	AE26237M	AE26336M	AE26337M
Max. A	<b>2.33</b> 59,18	<b>3.17</b> 80,52	<b>3.02</b> 76,71	<b>2.86</b> 72,64	<b>3.52</b> 89,41	<b>3.02</b> 76,71
C	<b>.60</b> 15,24	<b>.63</b> 16,00	<b>.63</b> 16,00	<b>.14</b> 3,56	<b>.13</b> 3,30	<b>.13</b> 3,30
Nom. D	—	<b>.715</b> 18,16	<b>1.579</b> 40,11	—	<b>1.069</b> 27,15	<b>2.079</b> 52,81
Min. H Thru Hole	<b>.72</b> 18,29	<b>.66</b> 16,76	<b>.66</b> 16,76	<b>.72</b> 18,29	<b>.66</b> 16,76	<b>.66</b> 16,76
R**	—	<b>.969</b> 24,61	<b>1.38</b> 35,05	—	<b>.969</b> 2,461	<b>1.38</b> 35,05
Thread T	<b>1.3125</b> 12UNJ-3B	<b>1.3125</b> 12UNJ-3B	<b>1.3125</b> 12UNJ-3B	<b>1.3125</b> 12UNJ-3B	<b>1.3125</b> 12UNJ-3B	<b>1.3125</b> 12UNJ-3B
Hex Y	<b>1.50</b> 38,1	<b>1.50</b> 38,10	<b>1.50</b> 38,10	<b>1.50</b> 38,10	<b>1.50</b> 38,10	<b>1.50</b> 38,10
Weight	<b>.419</b> 0,190	<b>.509</b> 0,231	<b>.581</b> 0,264	<b>.499</b> 0,226	<b>.559</b> 0,254	<b>.630</b> 0,286

Inches and lbs. in **bold type**. Millimeters and kgs. in light type.

Max. A: Maximum length of fitting including socket when fitting is assembled on hose.

Nom. D: Nominal drop dimensions. Tolerance is  $\pm .035''$  (0,889mm) on 90° and 45° bent tube fittings.

\*\*R: Radius of elbow measured to center-line.



# Hose Assemblies with AE313 Hose

Meets the requirements of AS1339 Rev. B and AS604 Rev. A

## FLARED

	A	B	Hose	Dash Size	Assembly Base No.	Nipple A Part No.	Nipple B Part No.
AS627			AE313	-16	AE1010732	AE25966M	AE25966M
AS628			AE313	-16	AE1010733	AE25966M	AE26335M
AS629			AE313	-16	AE1010734	AE25966M	AE25968M
AS630			AE313	-16	AE5020	AE26335M	AE26335M
AS631			AE313	-16	AE5022	AE26335M	AE25968M
AS632			AE313	-16	AE5021	AE25968M	AE25968M







## FLARELESS

	A	B	Hose	Dash Size	Assembly Base No.	Nipple A Part No.	Nipple B Part No.
AS621			AE313	-16	AE1010735	AE26237M	AE26237M
AS622			AE313	-16	AE1010736	AE26237M	AE26336M
AS623			AE313	-16	AE1010737	AE26237M	AE26337M
AS624			AE313	-16	AE5023	AE26336M	AE26336M
AS625			AE313	-16	AE5025	AE26336M	AE26337M
AS626			AE313	-16	AE5024	AE26337M	AE26337M







# Hose Assemblies with AE413 Hose

Meets the requirements of AS1339 Rev. B and AS604 Rev. A and Fire Test Requirements of AS1055 Type IIa and IIb Class B, TSO C75 Types IIIA and IIIB.

## FLARED

	A	B	Hose	Dash Size	Assembly Base No.	Nipple A Part No.	Nipple B Part No.
AS627			AE413	-16	AE1010740	AE25966M	AE25966M
AS628			AE413	-16	AE1010741	AE25966M	AE26335M
AS629			AE413	-16	AE1010742	AE25966M	AE25968M
AS630			AE413	-16	AE5030	AE26335M	AE26335M
AS631			AE413	-16	AE5032	AE26335M	AE25968M
AS632			AE413	-16	AE5031	AE25968M	AE25968M

## FLARELESS

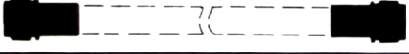
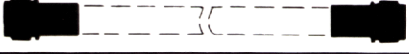
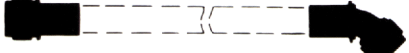
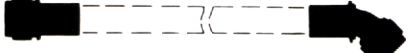
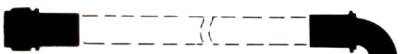
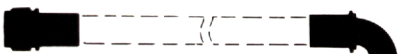
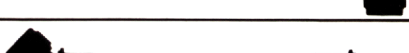
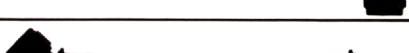
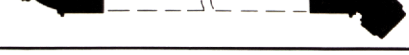
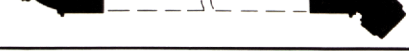
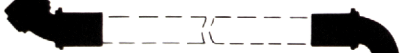
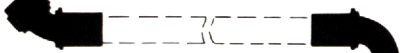
	A	B	Hose	Dash Size	Assembly Base No.	Nipple A Part No.	Nipple B Part No.
AS621			AE413	-16	AE1010743	AE26237M	AE26237M
AS622			AE413	-16	AE1010744	AE26237M	AE26336M
AS623			AE413	-16	AE1010745	AE26237M	AE26337M
AS624			AE413	-16	AE5033	AE26336M	AE26336M
AS625			AE413	-16	AE5035	AE26336M	AE26337M
AS626			AE413	-16	AE5034	AE26337M	AE26337M



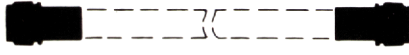
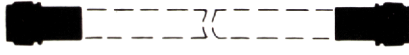
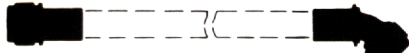
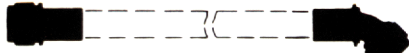
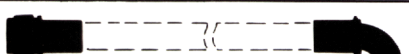
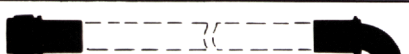


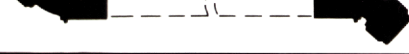
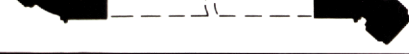
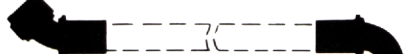
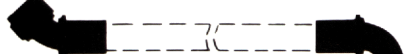
# Hose Assemblies with AE513 Hose

Meets the requirements of AS1339 Rev. B\* and AS604 Rev. A.\*

## FLARED

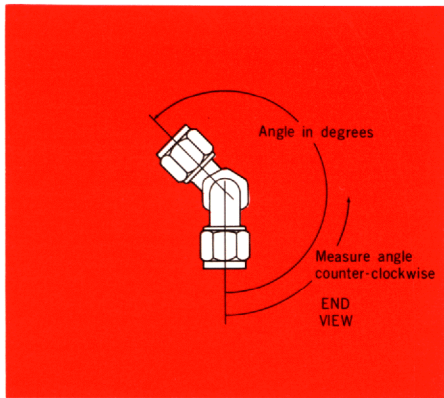
	A	B	Hose	Dash Size	Assembly Base No.	Nipple A Part No.	Nipple B Part No.
AS627			AE513	-16	AE1010758	AE25966M	AE25966M
AS628			AE513	-16	AE1010817	AE26966M	AE26335M
AS629			AE513	-16	AE1010818	AE25966M	AE25968M
AS630			AE513	-16	AE5063	AE26335M	AE26335M
AS631			AE513	-16	AE5065	AE26335M	AE25968M
AS632			AE513	-16	AE5064	AE25968M	AE25968M

## FLARELESS

	A	B	Hose	Dash Size	Assembly Base No.	Nipple A Part No.	Nipple B Part No.
AS621			AE513	-16	AE1010819	AE26237M	AE26237M
AS622			AE513	-16	AE1010820	AE26237M	AE26336M
AS623			AE513	-16	AE1010821	AE26237M	AE26337M
AS624			AE513	-16	AE5066	AE26336M	AE26336M
AS625			AE513	-16	AE5068	AE26336M	AE26337M
AS626			AE513	-16	AE5067	AE26337M	AE26337M

\*Except for upper temperature limit of +300°F (+150°C).

# How to Complete Hose Assembly Part Number



## Position Angle

On assemblies with an elbow fitting on each end, measure the position angle as shown above, and the index angle will follow the basic style hose assembly part number as indicated at the right. In all cases, the angle should be expressed in 3 digits. For example, 35° should be written as 035. If the angle desired is 0°, specify 000.

## Basic Assembly Numbers

The basic part numbers shown here represent standard configurations with materials, markings and cleaning requirements conforming to AS1339 and AS604. If your requirements differ from these standards, the hose assemblies you order will be assigned new numbers by Aeroquip.

## Sample Part Number

### Straight and single elbow assemblies

Basic style number | Hose letter code | Assembly length. Always four digits, last digit indicates fractional length in 1/8's of an inch.\*

**AE1010733 M 0184**

### Double elbow assemblies

Basic style number | Hose letter code | Position angle | Assembly length. Always four digits, last digits indicate fractional length in 1/8's of an inch.\*

**AE5025 M 0184-180**

\*Length can be measured to the gage point of NAS1760 or the end of the fitting but when defining the part number length use length to the gage point. "K" dimension shows the difference between overall length and length to gage point (reference page 4).



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