

TrueFog,USA

Performance Fogging Systems - Mantua Plant

Title: **PRODUCT STANDARD**
3R30 TrueFlex Hose

Product: **3R30**
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TRUE FOG, USA - PRODUCT STANDARD

3R30 TRUEFLEX HOSE

Changes:(C90-8581;3/12/90)(C97-4009;1/15/97)(C97-4540;8/5/97)(C99-6137;2/26/99)

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1.0 SCOPE

This standard covers a thermoplastic hydraulic hose for use with petroleum, water base and synthetic hydraulic fluids within a temperature range of -40°F to 200°F (-40°C to 93°C) and fire resistant fluids within a temperature range of -40°F to 150°F (-40°C to 66°C). This product will meet or exceed the performance criteria set forth in this standard and is intended for use in general hydraulic applications. Operating temperatures or pressures in excess of those recommended in this standard may materially reduce the life of the hose.

#2.0 CONSTRUCTION


Tube The tube is a coextrusion with an inner nylon and outer polyurethane layer extruded in a continuous process.

Reinforcement The reinforcement for sizes -03 through -06 is two contrahelically wound plies of synthetic fiber. The reinforcement for the -08 size is single braid of synthetic fiber. The reinforcing material is bonded to the tube.

Cover The hose cover is a smooth, seamless, perforated thermoplastic polyurethane that is bonded to the reinforcement. The standard color is black, however other colors are available upon special request.

3.0 PRODUCT IDENTIFICATION

The product is identified by marking that appears longitudinally on the cover of the product. The standard ink color is white. The text of the standard marking is shown in the following example; however private marking of the product is available upon special request.

TrueFlex 3R30-04 1/4" W.P. 1500 P.S.I. (103 BAR) 

In addition to the marking text the product is lot numbered for manufacturing traceability.

4.0 DIMENSIONS AND PRESSURES

TABLE 1

Nom. I.D.	Hose Dash Size	Nom. I.D.	Max. O.D.	Min.* Bend Radius	Max. Oper. Press	Min. Burst Press	Weight Per 100 Ft. (Lb.)
3/16	-03	.21	.423	1.0	1750	7,000	4.8
1/4	-04	.27	.487	1.25	1500	6,000	5.3
3/8	-06	.40	.637	2.0	1250	5,000	8.1
1/2	-08	.51	.818	3.0	1000	4,000	14.1

* The minimum radius an unsupported hose can be bent without causing it to kink.

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5.0 QUALIFICATION TESTS

To meet the qualification requirements for this hose standard, the hose and/or hose assemblies made using this hose and all applicable couplings shall conform to the following tests and requirements.

5.1 Dimensional Test and Visual Examination:

All hose shall conform to the dimensions detailed in Table 1 of this standard and all hose shall be visually examined per the latest issue of SAE J343.

5.2 Proof Test:

The hose or hose assembly shall show no indication of failure or leakage when pressurized to two times the working pressure listed in Table 1. This test shall be performed in accordance to the most current issue of SAE J343.

5.3 Change in Length Test:

The change in length shall not exceed $\pm 2\%$ when tested per the latest issue of SAE J343.

5.4 Burst Test:

The hose shall not leak or fail at a pressure less than four times the maximum working pressure listed in Table 1. This test shall be conducted in accordance to the latest issue of SAE J343.

5.5 Leakage Test:

The hose or hose assembly shall show no signs of leakage or failure when pressurized to 2.8 times the maximum working pressure listed in Table 1. This test shall be conducted in accordance to the latest issue of SAE J343.

5.6 Cold Flex Test:

The hose shall show no indication of cover cracks or leakage when bent 180° around a mandrel diameter of twice the SAE 100R7 minimum bend radius. The assemblies shall be tested at -40°F (-40°C) in accordance with the latest issue of SAE J343.

5.7 Oil Resistance Test:

A sample of hose tube and cover material shall be tested according to the latest issue of SAE J343. The change in volume of the test specimen shall be between -15% and +35% after 70 hours immersion at 212°F (100°C).

5.8 Ozone Resistance Test:

A sample of hose tube and cover material shall be tested according to the latest issue of SAE J343. After exposure to an air/ozone mixture for 70 hours with ozone at a partial pressure of 50 mPa there shall be no evidence of cracking or deterioration when viewed with a seven-power magnification while still in the stressed position.

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Hose assemblies, when tested at 125% of working pressure, with 200°F (93°C) circulating Texaco Regal R&O 46 test fluid, shall withstand a minimum of 150,000 impulse cycles without indication of leakage or failure. The assemblies are to be installed in the test cabinet in a 180° bend configuration at the minimum bend radius for SAE 100R7 hoses. This test shall be performed according to the latest issue of SAE J343.

6.0 INSPECTION TESTS

The following tests are to be performed on samples representing each production lot of hose. A production lot is defined as one shifts' production (8-12 hr). Requirements shall be the same as the corresponding qualification tests:

1. Dimensional Test and Visual Examination per SAE J343.
2. Proof Test per SAE J343.
3. Change in Length Test per SAE J343.
4. Burst Test per SAE J343.

7.0 VOLUMETRIC EXPANSION

The volumetric expansion of TrueFlex 3R30 series hose is shown in Chart 1. The curves are based on limited testing of each hose size according to the latest issue of SAE J343.

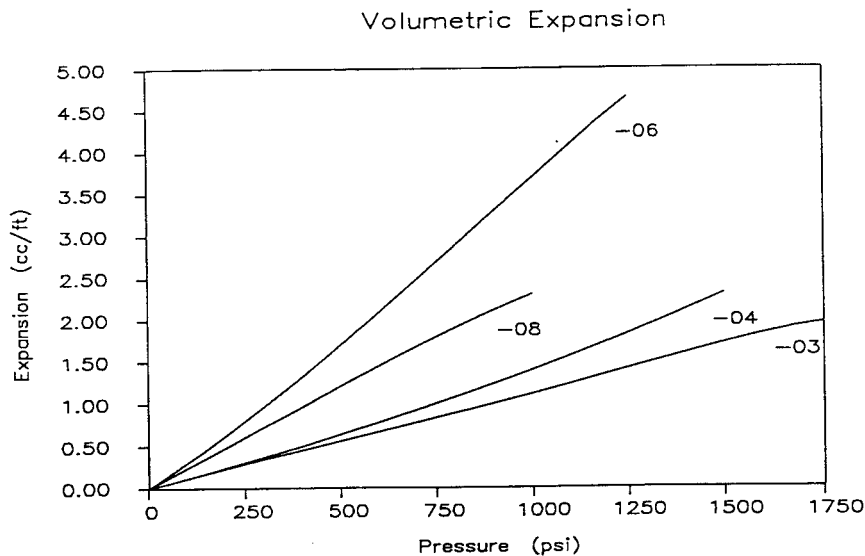


Chart 1

8.0 HOSE ASSEMBLY INFORMATION

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8.1 Coupling Information:

Couplings and assembly equipment from other manufacturers may not be interchangeable with TrueFlex hose. Therefore, unless explicitly stated by TrueFog, USA Engineering, only the couplings and assembly equipment listed in Table 2 should be used:

TABLE 2

Hose Dash Size	Nom. I.D.	Coupling* Part Number	Die** Part Number	Insert Depth	Swage Dia.	Bell Length
-03	3/16	3903-03XXX	4540-30300	25/32	.488	.812
-04	1/4	3903-04XXX	4540-3W400	1-1/16	.550	.688
-06	3/8	3903-06XXX	4540-3W600	1-1/4	.675	.700
-08	1/2	3903-08XXX	4540-30800	1-1/2	.846	.750

TABLE 2a
Crimped Couplings & Finger Flat Crimp

Hose Dash Size	Nom. I.D.	Coupling* Part Number	Crimp Dia.	Crimp Length
-04	1/4	5903-04XXX	.502/.516	.70

* The last three digits of the coupling part number describe the end style of the coupling and are found in the TrueFog, USA Hydraulic Hose Catalog. The 3903 Style coupling is a plated steel coupling, other materials are available and are listed in the TrueFog, USA Hydraulic Hose Catalog. For special coupling materials and configurations not listed in the catalog contact TrueFog, USA Engineering.

** Refer to the TrueFog, USA Hydraulic Hose Catalog for the pusher that corresponds to the particular style of end connection.

8.2 Hose Assembly Procedure:

All hose assemblies are to be made according to the instructions in the TrueFog, USA Hydraulic Hose Catalog.

8.3 Spring and Vinyl Guards:

Spring and vinyl guards are available for these products for the purpose of reducing the stress caused by excessive bending at the coupling/hose interface. Please consult the TrueFog, USA Hydraulic Hose Catalog for the appropriate part number.

8.4 Hose Routing:

Guidelines for routing the hose assemblies for proper installation can be found in the TrueFog, USA Hydraulic Hose Catalog.

9.0 REFERENCED TEST PROCEDURES

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This standard uses the following Test Procedures and Standards in whole or in part for evaluation of the product.

SAE J517 Hydraulic Hose

SAE J343 Tests and Procedures for 100R Series Hydraulic Hose and Hose Assemblies.

ASTM D-380 Standard Methods of Testing Rubber Hose.

ASTM D-622 Standard Methods of Testing Rubber Hose for Automotive Air and Vacuum Brake System.

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WARNING

SAFETY PRECAUTIONS FOR
TRUEFLEX HOSE ASSEMBLIES

YOUR PERSONAL SAFETY MAY DIRECTLY OR INDIRECTLY BE AFFECTED IF THE HOSE ASSEMBLY HAS BEEN ABUSED.

The following **WARNINGS** pertain to the more common abuses of this hose and hose assemblies.

1. **INSPECT** the hose assembly before each use.
2. **REPLACE** the hose assembly immediately if:
 - A. The jacket of the hose appears abnormal.
 - B. You have reason to believe it may be abnormal.
 - C. There is any fluid leakage.
 - D. The couplings are damaged.
 - E. The hose is damaged.
 - F. The reinforcement is visible through the jacket.
3. DO NOT **EXCEED** the maximum recommended working pressure of the hose.
4. DO NOT **KINK** the hose assembly.
5. DO NOT **BEND** the hose assembly beyond its minimum recommended bend radius.
6. DO NOT **EXPOSE** to temperatures in excess of the maximum temperature rating of the hose or the fluid being conveyed.
7. DO NOT USE AS A **STRENGTH MEMBER** for pulling or lifting equipment.
8. DO NOT EXPOSE HOSE TO **FLUIDS** other than those outlined in the TrueFog, USA Chemical Resistance Chart or specifically approved by TrueFog, USA Engineering.
9. Use ONLY TrueFlex **COUPLINGS**.

Use ONLY **ASSEMBLY EQUIPMENT** and procedures approved by TrueFog, USA

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