



Eaton Synflex - Mantua Plant

10585 Main Street
Mantua, Ohio 44255

Title: **PRODUCT STANDARD**
3630 Low Pressure PVC Hose

Product: **3630**
Revision: 6/20/05
Page No.: 1 of 8

PRODUCT STANDARD
3630
LOW PRESSURE PVC HOSE

Changes:(C89-8087;7/31/89)(C90-8572,8577;3/6/90)(C90-8738;7/16/90)(C91-8953;2/11/91)(C91- 9120;6/14/91)(C91-9391;11/11/91)
(C91-9450;11/26/91)(C92-9592;3/5/92)(c97-4239;4/7/97)(C99-6165;3/12/99)(C04-9666;6/7/04)(C05-10391;6/20/05)



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Product: **3630**
Revision: 6/20/05
Page No.: 2 of 8

1.0 SCOPE:

This standard covers a thermoplastic hose for use with water and air within a temperature range of -15°F to 150°F (-20°C to 66°C) when used with our 3903 series couplings and -15°F to 130°F (-20°C to 54°C) when used with our 390C series couplings. For the sizes -03 through -08 and -12 the working pressure is 300 PSI @ 70°F. This product will meet or exceed the performance criteria set forth in this standard and is intended for use in in-plant 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 smooth, seamless polyvinyl chloride (PVC) tube.

Reinforcement The reinforcement is a synthetic fiber contra-helicly spiraled around the tube for all sizes. The reinforcing material is bonded to the tube.

Cover The hose cover is a smooth, seamless, perforated thermoplastic PVC that is bonded to the reinforcement. The standard color is gray, 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 blue. The text of the standard marking is shown in the following example; however private marking of the product is available upon special request.

"SYNFLEX® 3630-04 1/4" WP 300 PSI MADE IN USA EATON"

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



Title: **PRODUCT STANDARD**
3630 Low Pressure PVC Hose

Product: **3630**
Revision: 6/20/05
Page No.: 3 of 8

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	.188	.397	.500	250/300*	1,000	4.45
1/4	-04	.258	.488	.625	250/300*	1,000	6.14
5/16	-05	.311	.548	.750	250/300*	1,000	7.82
3/8	-06	.375	.637	1.000	250/300*	1,000	10.40
1/2	-08	.500	.792	1.250	250/300*	1,000	14.92
5/8	-10	.625	.946	1.875	250	1,000	20.50
3/4	-12	.751	1.095	2.500	250/300*	1,000	25.62
1	-16	1.00	1.391	3.500	250	1,000	31.37

*PSI @ 70°F, at other temperatures 250 PSI

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 ±3% when tested per the latest issue of SAE J343.



Title: **PRODUCT STANDARD**
3630 Low Pressure PVC Hose

Product: **3630**
Revision: 6/20/05
Page No.: 4 of 8

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 tested at -15°F (-26°C) in accordance with 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 hrs). 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 ADDITIONAL HOSE INFORMATION:

Title: **PRODUCT STANDARD**
3630 Low Pressure PVC HoseProduct: **3630**
Revision: 6/20/05
Page No.: 5 of 8

8.0 HOSE ASSEMBLY INFORMATION

8.1 Coupling Information:

Couplings and assembly equipment from other manufacturers may not be interchangeable with Synflex hose. Therefore, unless explicitly stated by Synflex Engineering, only the couplings and assembly equipment listed in Table 2 through 4 should be used:

Table 2 - STEEL COUPLING, SWAGED

Nom. I.D.	Hose Dash Size	Coupling* Part Number	Die** Part Number	Insert Depth	Swage Dia.	Bell Length
3/16	-03	3903-03XXX	4540-30300	25/32	.488	.812
1/4	-04	3903-04XXX	4540-30400	1-1/16	.568	.688
3/8	-05	3903-05XXX	4540-30500	1-1/8	.631	.750
1/2	-06	3903-06XXX	4540-30600	1-1/4	.694	.750
3/4	-08	3903-08XXX	4540-30800	1-1/2	.848	.750
1	-12	3903-12XXX	4540-31200	1-7/16	1.110	.750
1	-16	390H-16XXX	4540-B1600	#2-1/16	1.455	.805

* The last three digits of the coupling part number describe the end style of the coupling and are found in the Synflex Hydraulic Hose Catalog. The 3903 and 390H Style coupling is a plated steel coupling, other materials are available and are listed in the Synflex Hydraulic Hose Catalog. For special coupling materials and configurations not listed in the catalog contact Synflex Engineering.

** Refer to the Synflex Sales Catalog for the pusher that corresponds to the particular style of end connection.

Table 3 - 390C BRASS COUPLING, SWAGED

Nom. I.D.	Hose Dash Size	Coupling* Part Number	Die** Part Number	Insert Depth	Swage Dia.	Bell Length
3/16	-03	390C-0310X	4540-00001	1/2	.423	.180
1/4	-04	390C-0410X	4540-00002	1	.510	.425
3/8	-06	390C-0610X	4540-00003	1	.668	.350



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Title: **PRODUCT STANDARD**
3630 Low Pressure PVC Hose

Product: **3630**
Revision: 6/20/05
Page No.: 6 of 8

Table 4 - 390C BRASS COUPLING, CRIMPED

Nom. I.D.	Hose Dash Size	Coupling & Part Number	Die*** Part Number	Insert Depth	Crimp Dia.
3/16	-03	390C-03XXX	4548-03750	1/2	.392 Ref.
1/4	-04	390C-04XXX	4548-05000	1	.502 Ref.
3/8	-06	390C-06XXX	4548-06000	1	.610 Ref.
1/2	-08	390C-08XXX	4548-07500	1	.773 Ref.
3/4	-12	390C-12XXX		7/8	1.095 ± .010

* The 390C coupling is a two part coupling consisting of a barbed stem insert part number 3980-XXXXX, and a brass ferrule part number 3981-XXXXX. The individual component part numbers are listed in the Synflex Hydraulic Hose Catalog. The last three digits of the coupling part number describe the end style of the coupling and are found in the Synflex Hydraulic Hose Catalog. The 390C Style coupling is a type 360 alloy brass coupling. For special coupling materials and configurations not listed in the catalog contact Synflex Engineering.

** Contact Synflex Engineering for the pusher that corresponds to the particular style of end connection.

*** Sizes -03 through -08 use a Synflex Model 4549-0100 crimper. Size -12 uses a power crimper with flat crimp dies that will have a minimum gap between dies when crimped to the specified diameter.

8.2 Hose Assembly Procedure:

All hose assemblies are to be made according to the instructions in the Synflex 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 Synflex 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 Synflex Hydraulic Hose Catalog.



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Title: **PRODUCT STANDARD**
3630 Low Pressure PVC Hose

Product: **3630**
Revision: 6/20/05
Page No.: 7 of 8

9.0 REFERENCED TEST PROCEDURES:

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

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

Changes: (C89-8087;7/31/89)(C90-8572,8577;3/6/90)(C90-8738;7/16/90)(C91-8953;2/11/91)(C91- 9120;6/14/91)(C91-9391;11/11/91)
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Product: **3630**
Revision: 6/20/05
Page No.: 8 of 8

WARNING

SAFETY PRECAUTIONS FOR
SYNFLEX 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 cover 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 cover.
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 Synflex Chemical Resistance Chart or specifically approved by Synflex Engineering.
9. Use ONLY Synflex **COUPLINGS**.
10. Use ONLY **ASSEMBLY EQUIPMENT** and procedures approved by Synflex.
11. DO NOT use this hose assembly to convey potable, water, fluids, air or breathing gases for human or animal consumption.

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