

# *ThorburnFlex*



## **Rubber Chemical S&D Hose Assemblies**

Engineered Solutions For Pipe Motion

Canada   
[www.thorburnflex.com](http://www.thorburnflex.com)



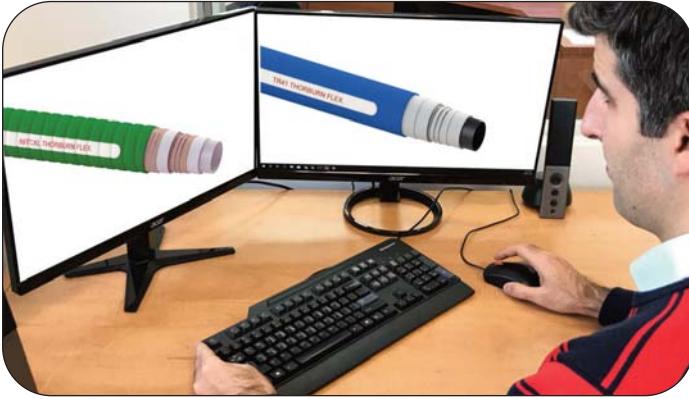
## Thorburn Rubber Chemical S&D Hose Assemblies



Thorburn's premium series of rubber chemical S&D transfer hose assemblies are robust yet light weight and flexible for ease of handling, These premium hose assemblies are designed to operate under demanding full vacuum (suction) and discharge service. Thorburn's rubber chemical hoses are made from the most advanced liner materials such as UHMWPE (Ultra-High Molecular Weight Polyethylene), XLPE (Cross Link Polyethylene), PTFE (Polytetrafluoroethylene), FEP (Fluoronated Ethylene Propylene), EPDM (Ethylene Propylene Diene Monomer), CSM (Chloro-sulphonated Polyethylene), FKM (Fluorine Kautschuk Matrial) providing service for 100's of demanding chemical transfer applications. Thorburn uses a 360° crimp attachment system for all its fitting to end joints. The end materials are standard 316 stainless steel available with CMTR's for full traceability. Also available are PTFE encapsulated fitting to end joints for chemical applications that 316SS material are not compatible. All Thorburn chemical S&D transfer hose assemblies are tested to 1.5 times design pressure with a minimum 4:1 safety factor and available with a Canadian CRN for added assurance.



## Thorburn In-House Design, Manufacturing & Testing



Thorburn's design team uses FEA & Solidworks to provide engineered pipe motion solutions

### Design & Materials

- ASME Code Sections I, II, III, VIII, IX, B31.1 & B31.3
- ISO 10380 Corrugated Metal Hose & Hose Assemblies
- NACE MRO175-2009/ISO 15156-2009 compliance
- FEA - Finite Element Analysis

### Welding and Fabrication Capabilities

- Arc, Pulse Arc, TIG, MIG, Core Wire
- Tube Welding, Track Welding, Automated Flame Cutting & Welding
- Rolls, Positioners, Turntables
- Automated Tube Welding DIN 6mm (1/4") to DIN 300mm (12")

### NDT/NDE Programs & Design Verification Testing

- Vacuum Testing 29.9" HG and Hydrostatic or Nitrogen Pressure Testing to 1,000 bar (15,000 psi)
- Impulse Testing to 680 bar (10,000 psi) at 204°C (400°F)
- Burst Testing up to 4,000 bar (60,000 psi)
- Seismic & Vibration Analysis in Acceptance with ASME Sec III
- Helium Mass Spectrometer Leak Testing

### Fabrication Certification

- Welders and welding procedures: ASME Section VIII, IX, B31.1, B31.3, CSA B51 and Section III NPT
- EN13480-2002: European Industrial Metallic Piping Standard & PED (Pressure Equipment Directive) 97/23/EC Module H
- Canadian Gas Association (CGA) Certification: Standards CAN/CGA-8.1-M86, CGA96, UL96, UL536
- Pressure Vessel Certification: CRN 0H0012. All Canadian Provinces & Territories
- Hose Assemblies Degreased, Cleaned and Capped
- CE Stamp(European Conformity)

### Quality Assurance Certification & Compliance

- CSA N299.1, ISO 9001, ASME B31.1, B31.3 Section III, ASME Section VIII, Div 1 "U", CSA B51, NCA 4000 NQA-1, CSA N285.0, ASME NPT, ISO IEC 17025
- PED 97/23/EC Module H

### Engineering Capabilities & Experience

Thorburn's design engineering expertise is supported by advanced FEA software that offers powerful and complete solutions for both routine and sophisticated engineering problems. Thorburn's engineers can analyse and provide innovative solutions for pipe and duct motion problems including dynamic vibration, nonlinear static, linear static, thermal gradient through material wall thickness, acoustic impedance and fatigue using a common model data structure and integrated solver technology.



Proof testing up to 6 hoses 1000 BAR



Flex-impulse testing up to 700 BAR @ 150°C



Burst testing up to 4000 BAR

## UHMW-PE S&D Model (N)59TCU



### Specification

**Temperature:**  
-40°C (-40°F) to 82°C (180°F)  
**Vacuum Rating:** Full

Thorburn's Model 59TCU has an Ultra High Molecular Weight Polyethylene (UHMWPE) tube. Designed to handle 98% of all chemicals\*, solvents and corrosive liquids in both pressure and suction service. It is highly abrasive resistant, 10X more than carbon steel, 5X PTFE and 2X XLPE. The UHMWPE liner is odorless, tasteless, non-toxic and FDA compliant to minimize bacterial growth and contamination. For use in transfer of food and liquid, pharmaceuticals, cosmetics, potable water and sanitary products.

### Applications

Transfer of acids, chemicals, solvents and petroleum products, loading and unloading, pumping suction, gravity flow or pressure discharge, pharmaceutical and food and beverage service.

### Construction

**Tube:** Smooth UHMW-PE firmly bonded to a black synthetic rubber  
**Reinforcement:** High tensile calendered fabric with a spring wire helix  
**Cover:** Black or green smooth specially compounded EPDM

Thorburn Part Number	Nom Hose ID		Nom Hose OD		Design Pressure		Min. Burst		Min. Bend Radius		Weight	
	DN	in	mm	in	MPa	psi	MPa	psi	mm	in	kg/m	lbs/ft
(N)59TCU08	15	1/2	23	0.91	1.38	200	5.52	800	51	2	0.35	0.24
(N)59TCU12	20	3/4	30	1.18	1.38	200	5.52	800	102	4	0.52	0.35
(N)59TCU16	25	1	40	1.57	1.38	200	5.52	800	152	6	0.90	0.60
(N)59TCU20	32	1 1/4	46	1.80	1.38	200	5.52	800	203	8	1.19	0.80
(N)59TCU24	40	1 1/2	53	2.09	1.38	200	5.52	800	254	10	1.61	1.08
(N)59TCU32	50	2	66	2.60	1.38	200	5.52	800	305	12	2.07	1.39
(N)59TCU40	65	2 1/2	78	3.07	1.38	200	5.52	800	356	14	2.82	1.89
(N)59TCU48	80	3	94	3.70	1.03	150	4.12	600	406	16	3.53	2.37
(N)59TCU64	100	4	118	4.65	1.03	150	4.12	600	457	18	5.22	3.50
(N)59TCU96	150	6	177	6.97	1.03	150	4.12	600	508	20	8.20	5.50

Notes: 1. Prefix (N) is used when a CRN is required 2. Safety factor is 4 to 1 3. Higher temperatures and pressures available upon request 4. Tighter bend radius available upon request  
**\*Not to be used with strong oxidizing agents such as nitric and chromic acids. For detailed chemical compatibility please see Thorburn's chemical resistant chart**

## Corrugated UHMW-PE S&D Model (N)59TCUXL



### Specification

**Temperature:**  
-40°C (-40°F) to 82°C (180°F)  
**Vacuum Rating:** Full

Thorburn's Model 59TCUXL has an Ultra High Molecular Weight Polyethylene (UHMW-PE) tube and is a revolutionary development in hose design and chemical resistance. It is the perfect light weight handling hose offering superb flexibility through its flat corrugating and excellent kink resistant construction.

### Applications

Transfer of acids, chemicals, solvents and petroleum products, loading and unloading, pumping suction, gravity flow or pressure discharge, pharmaceutical and food and beverage service.

### Construction

**Tube:** Smooth UHMW-PE firmly bonded to a green synthetic rubber  
**Reinforcement:** High tensile calendered fabric with a double spring wire helix  
**Cover:** Green or black corrugated specially compounded EPDM

Thorburn Part Number	Nom Hose ID		Nom Hose OD		Design Pressure		Min. Burst		Min. Bend Radius		Weight	
	DN	in	mm	in	MPa	psi	MPa	psi	mm	in	kg/m	lbs/ft
(N)59TCUXL16	25	1	37	1.46	1.03	150	4.12	600	127	5	0.67	0.47
(N)59TCUXL20	32	1 1/4	45	1.77	1.03	150	4.12	600	159	6.25	1.00	0.67
(N)59TCUXL24	40	1 1/2	51	2.01	1.03	150	4.12	600	191	7.5	1.19	0.80
(N)59TCUXL32	50	2	64	2.52	1.03	150	4.12	600	254	10	1.34	0.90
(N)59TCUXL40	65	2 1/2	79	3.10	1.03	150	4.12	600	318	12.5	2.14	1.44
(N)59TCUXL48	80	3	91	3.58	0.69	100	2.76	400	381	9	2.91	1.95
(N)59TCUXL64	100	4	118	4.64	0.69	100	2.76	400	508	12	3.70	2.48

Notes: 1. Prefix (N) is used when a CRN is required 2. Safety factor is 4 to 1 3. Higher temperatures and pressures available upon request 4. Tighter bend radius available upon request  
5. **For detailed chemical compatibility please see Thorburn's chemical resistant chart**

## PTFE S&D Model (N)TR40/(N)TR41



### Specification

#### Temperature:

-51°C (-60°F) to 150°C (300°F)

**Vacuum Rating:** Full

Thorburn's TR40/TR41 is specifically designed for full flow applications that require maximum flexibility and minimum weight. The smooth bore PTFE/FEP innercore is ideal to transfer caustic chemicals and high purity media. The TR40 is shielded by a tough abrasion resistant EPDM blended cover. Provides for greater handling, flexibility and abrasion resistance.

### Applications

An ideal transfer hose for corrosive chemicals, pharmaceutical, cosmetics, food and beverage, Clean and Sterilize in place (CIP/SIP) solutions, semi-conductor component processing, eliminates the risk of bacteria and leaching in plasma transfer.

### Construction

**Tube:** TR40 - Smooth PTFE or FEP firmly bonded to synthetic rubber.

TR41 - Added antistatic conductive carbon black.

**Reinforcement:** Multiple layers of high tensile calendared polyester and spring steel helix wire

**Cover:** Blue smooth specially compounded EPDM

Thorburn Part Number	Nom Hose ID		Nom Hose OD		Design Pressure		Min. Burst		Min. Bend Radius		Weight	
	DN	in	mm	in	MPa	psi	MPa	psi	mm	in	kg/m	lb/ft
(N)TR40(41)08	15	1/2	25	0.97	3.45	500	13.79	2000	76	3	0.52	0.35
(N)TR40(41)12	20	3/4	32	1.27	3.45	500	13.79	2000	102	4	0.92	0.62
(N)TR40(41)16	25	1	38	1.48	3.10	450	12.41	1800	178	7	1.15	0.75
(N)TR40(41)20	32	1 1/4	45	1.75	2.76	400	11.03	1600	229	9	1.46	0.98
(N)TR40(41)24	40	1 1/2	52	2.04	2.41	350	9.65	1400	254	10	1.79	1.20
(N)TR40(41)32	50	2	65	2.54	2.07	300	8.27	1200	356	14	2.23	1.50
(N)TR40(41)48	80	3	97	3.81	1.03	150	5.52	800	533	21	3.72	2.50
(N)TR40(41)64	100	4	127	5.00	1.03	150	5.52	800	990	39	5.21	3.50

Notes: 1. Prefix (N) is used when a CRN is required 2. Safety factor is 4 to 1 3. Higher temperatures and pressures available upon request 4. Tighter bend radius available upon request  
5. Available with PTFE lined end fittings 6. For detailed chemical compatibility please see Thorburn's chemical resistant chart

## High Pressure PTFE S&D Model (N)TR440/(N)TR441



### Specification

#### Temperature:

-55°C (-67°F) to 150°C (300°F)

**Vacuum Rating:** Full (107°C/225°F)

Thorburn's TR440/TR441 is specifically designed for high pressure full flow applications that require maximum flexibility and minimum weight. The smooth bore PTFE/FEP innercore is ideal to transfer caustic chemicals such as sulfuric acid and hydrochloric acid. The TR440/TR441 is shielded by a tough abrasion resistant EPDM blended cover.

### Applications

An ideal hose for ultra high pressure / temperature applications that benefit from a PTFE lining for its non-stick, low friction and chemically inert features such as the petro-chemical and mineral processing industries.

### Construction

**Tube:** TR440 - Smooth PTFE or FEP firmly bonded to synthetic rubber.

TR441 - Added antistatic conductive carbon black.

**Reinforcement:** Two steel wire braids or four ply steel wire

**Cover:** Black smooth specially compounded abrasion and ozone resistant EPDM

Thorburn Part Number	Nom Hose ID		Nom Hose OD		Design Pressure		Min. Burst		Min. Bend Radius		Weight	
	DN	in	mm	in	MPa	psi	MPa	psi	mm	in	kg/m	lb/ft
(N)TR440(441)06	10	3/8	21	0.83	34	5000	138	20000	127	5	0.82	0.55
(N)TR440(441)08	15	1/2	24	0.94	34	5000	138	20000	152	6	0.94	0.63
(N)TR440(441)12	20	3/4	32	1.26	34	5000	138	20000	229	9	1.60	1.08
(N)TR440(441)16	25	1	40	1.57	34	5000	138	20000	305	12	1.93	1.30
(N)TR440(441)20	32	1 1/4	47	1.85	28	4000	110	16000	381	15	3.02	2.03
(N)TR440(441)24	40	1 1/2	57	2.24	28	4000	110	16000	457	18	3.57	2.40
(N)TR440(441)32	50	2	80	3.15	21	3000	83	12000	610	24	7.80	5.24
(N)TR440(441)48	80	3	108	4.25	21	3000	83	12000	914	36	12.0	8.10
(N)TR440(441)64	100	4	139	5.47	21	3000	83	12000	1219	48	17.8	12.0

Notes: 1. Prefix (N) is used when a CRN is required 2. Safety factor is 4 to 1 3. Higher temperatures and pressures available upon request 4. Tighter bend radius available upon request  
5. For detailed chemical compatibility please see Thorburn's chemical resistant chart

## UHMWPE S&D Model (N)559TCU



### Specification

**Temperature:**  
-40°C (-40°F) to 82°C (180°F)  
**Vacuum Rating:** Full

Thorburn's Model 559TCU has an Ultra High Molecular Weight Polyethylene (UHMWPE) tube and is an extremely versatile high pressure hose with outstanding chemical resistancy. It will handle 98% of all existing chemicals. The hose is reinforced with four layers of spiraled wire in alternation directions or two steel wire braids to provide ultra high pressure applications.

### Applications

An ideal hose for ultra high pressure transfer service where UHMW is compatible such as petrochemical, water treatment and mineral processing industries.

### Construction

**Tube:** Transparent UHMWPE  
**Reinforcement:** Two steel wire braids or four ply steel wire  
**Cover:** Black smooth specially compounded abrasion and ozone resistant EPDM

Thorburn Part Number	Nom Hose ID		Nom Hose OD		Design Pressure		Min. Burst		Min. Bend Radius		Weight	
	DN	in	mm	in	MPa	psi	MPa	psi	mm	in	kg/m	lb/ft
(N)559TCU06	10	3/8	21	0.83	34	5000	138	20000	127	5	0.82	0.55
(N)559TCU08	15	1/2	24	0.94	34	5000	138	20000	152	6	0.94	0.63
(N)559TCU12	20	3/4	32	1.26	34	5000	138	20000	229	9	1.60	1.08
(N)559TCU16	25	1	40	1.57	34	5000	138	20000	305	12	1.93	1.30
(N)559TCU20	32	1 1/4	47	1.85	28	4000	110	16000	381	15	3.02	2.03
(N)559TCU24	40	1 1/2	57	2.24	28	4000	110	16000	457	18	3.57	2.40
(N)559TCU32	50	2	80	3.15	21	3000	83	12000	610	24	7.80	5.24
(N)559TCU48	80	3	108	4.25	21	3000	83	12000	914	36	12.0	8.10
(N)559TCU64	100	4	139	5.47	21	3000	83	12000	1219	48	17.8	12.0

Notes: 1. Prefix (N) is used when a CRN is required 2. Safety factor is 4 to 1 3. Higher temperatures and pressures available upon request 4. Tighter bend radius available upon request 5. For detailed chemical compatibility please see Thorburn's chemical resistant chart

## EPDM S&D Model (N)120SD



### Specification

**Temperature:**  
-40°C (-40°F) to 60°C (140°F)  
**Vacuum Rating:** Full (40°C/104°F)

Thorburn's Model 120SD is a light weight flexible hose designed for use in construction dewatering, liquid waste, cesspool cleaning, septic handling and agricultural applications. Also for use with liquid or dry chemical suction applications or general industrial use where high working pressures are not required. The external helix provides easy drag.

### Applications

An ideal chemical transfer hose for light weight, easy to handle, and dry/ liquid suction service for use in construction dewatering, liquid waste, cesspool cleaning, septic handling, agricultural and marine applications.

### Construction

**Tube:** Smooth acid resistant EPDM  
**Reinforcement:** External polyethylene helix  
**Cover:** Green Polyethylene helix and specially formulated rubber.

Thorburn Part Number	Nom Hose ID		Nom Hose OD		Design Pressure		Min. Burst		Min. Bend Radius		Weight	
	DN	in	mm	in	MPa	psi	MPa	psi	mm	in	kg/m	lbs/ft
(N)120SD16	25	1	34	1.34	0.34	50	1.39	200	51	2	0.34	0.23
(N)120SD20	32	1 1/4	43	1.70	0.34	50	1.39	200	76	3	0.51	0.34
(N)120SD24	40	1 1/2	51	2.00	0.34	50	1.39	200	76	3	0.60	0.40
(N)120SD32	50	2	64	2.50	0.34	50	1.39	200	127	5	1.00	0.67
(N)120SD40	65	2 1/2	79	3.10	0.34	50	1.39	200	152	6	1.37	0.92
(N)120SD48	80	3	91	3.60	0.28	40	1.10	160	178	7	1.67	1.10
(N)120SD64	100	4	119	4.70	0.24	35	0.97	140	279	11	2.74	1.84
(N)120SD96	150	6	175	6.90	0.14	20	0.55	80	508	20	4.57	3.07

Notes: 1. Prefix (N) is used when a CRN is required 2. Safety factor is 4 to 1 3. Higher temperatures and pressures available upon request 4. Tighter bend radius available upon request 5. For detailed chemical compatibility please see Thorburn's chemical resistant chart

## EPDM Lined Chemical S&D Model (N)59TCE



### Specification

#### Temperature:

-40°C (-40°F) to 107°C (225°F)

Vacuum Rating: Full

Thorburn's Model 59TCE is a quality grade EPDM hose that can be used for both suction and discharge service. Excellent for transferring mild chemicals to and from tank trucks, ships and industrial storage tanks. It has a dual purpose that being a high temperature ultra durable hot blower hose. All purpose cover is abrasion, heat, ozone and chemical resistant.

### Applications

General purpose versatile transfer hose ideal for liquid waste, strong oxidizing chemical transfer, vegetable and animal fats, keytones and alcohol. **Not suitable for aromatic hydrocarbons, solvent and mineral oils.**

### Construction

**Tube:** Black acid resistant EPDM

**Reinforcement:** High tensile calendered fabric with embedded helix wire

**Cover:** Black smooth weather and chemical resistant EPDM

Thorburn Part Number	Nom Hose ID		Nom Hose OD		Design Pressure		Min. Burst		Min. Bend Radius		Weight	
	DN	in	mm	in	MPa	psi	MPa	psi	mm	in	kg/m	lbs/ft
(N)59TCE08	15	1/2	23	0.91	1.40	200	5.52	800	130	5.0	0.25	0.17
(N)59TCE12	20	3/4	31	1.22	1.40	200	5.52	800	150	6.0	0.28	0.19
(N)59TCE16	25	1	40	1.56	1.40	200	5.52	800	200	8.0	1.24	0.83
(N)59TCE20	32	1 1/4	71	2.80	1.40	200	5.52	800	250	10.0	1.48	0.99
(N)59TCE24	40	1 1/2	52	2.06	1.40	200	5.52	800	300	12.00	1.86	1.25
(N)59TCE32	50	2	67	2.63	1.40	200	5.52	800	400	15.75	2.58	1.73
(N)59TCE40	65	2 1/2	83	3.25	1.40	200	5.52	800	500	20.0	3.65	2.45
(N)59TCE48	80	3	95	3.75	1.40	200	5.52	800	600	24.0	4.41	2.96
(N)59TCE64	100	4	122	4.80	1.40	200	5.52	800	800	32.0	7.00	4.20
(N)59TCE96	150	6	176	6.94	1.03	150	4.12	600	1200	47.0	11.61	7.79

Notes: 1. Prefix (N) is used when a CRN is required 2. Safety factor is 4 to 1 3. Higher temperatures and pressures available upon request 4. Tighter bend radius available upon request  
5. For detailed chemical compatibility please see Thorburn's chemical resistant chart

## Corrugated EPDM Lined Chemical S&D Model (N)59TCEXL



### Specification

#### Temperature:

-40°C (-40°F) to 107°C (225°F)

Vacuum Rating: Full

Thorburn's Model 59TCEXL is a light weight, quality grade EPDM hose that can be used for both suction and discharge service. Excellent for transferring mild chemicals to and from tank trucks, ships and industrial storage tanks. It has a dual purpose that being a high temperature ultra durable hot blower hose. All purpose cover is abrasion, heat, ozone and chemical resistant.

### Applications

General purpose versatile transfer hose ideal for liquid waste, strong oxidizing chemical transfer, vegetable and animal fats, keytones and alcohol. **Not suitable for aromatic hydrocarbons, solvent and mineral oils.**

### Construction

**Tube:** Black acid resistant EPDM

**Reinforcement:** High tensile calendered fabric with a double spring wire helix

**Cover:** Black corrugated weather and chemical resistant EPDM

Thorburn Part Number	Nom Hose ID		Nom Hose OD		Design Pressure		Min. Burst		Min. Bend Radius		Weight	
	DN	in	mm	in	MPa	psi	MPa	psi	mm	in	kg/m	lbs/ft
(N)59TCEXL16	25	1	36	1.4	1.03	150	4.12	600	127	5	0.71	0.48
(N)59TCEXL20	32	1 1/4	44	1.7	1.03	150	4.12	600	159	6.25	0.89	0.59
(N)59TCEXL24	40	1 1/2	48	1.9	1.03	150	4.12	600	191	7.5	1.03	0.69
(N)59TCEXL32	50	2	61	2.4	1.03	150	4.12	600	254	10	1.67	1.10
(N)59TCEXL40	65	2 1/2	74	3.0	1.03	150	4.12	600	318	12.5	2.17	1.46
(N)59TCEXL48	80	3	89	3.5	0.69	100	2.76	400	381	9	2.87	1.93
(N)59TCEXL64	100	4	117	4.6	0.69	100	2.76	400	508	12	4.43	2.98

Notes: 1. Prefix (N) is used when a CRN is required 2. Safety factor is 4 to 1 3. Higher temperatures and pressures available upon request 4. Tighter bend radius available upon request  
5. For detailed chemical compatibility please see Thorburn's chemical resistant chart

## CSM Lined Chemical S&D Model (N)59TCH



Thorburn's Model 59TCH is a multi purpose, high temperature chemical suction and discharge hose designed to transport a wide range of chemicals. The rugged all weather cover is chemical, ozone and abrasion resistant.

### Applications

General purpose petro-chemical transfer hose resistant to a wide range of chemicals, solvents, acids, and alcohols. **Not suitable for ketones, esters, chlorinated oxidizing acids, nitro and aromatic hydrocarbons.**

### Construction

**Tube:** Seamless CSM

**Reinforcement:** Multiple plies of polyester with spring helix

**Cover:** Black smooth weather and chemical resistant CSM

### Specification

#### Temperature:

-30°C (-22°F) to 107°C (225°F)

**Vacuum Rating:** Full

Thorburn Part Number	Nom Hose ID		Nom Hose OD		Design Pressure		Min. Burst		Min. Bend Radius		Weight	
	DN	in	mm	in	MPa	psi	MPa	psi	mm	in	kg/m	lbs/ft
(N)59TCH08	15	1/2	23	0.91	1.40	200	5.52	800	130	5.0	0.25	0.17
(N)59TCH12	20	3/4	31	1.22	1.40	200	5.52	800	150	6.0	0.28	0.19
(N)59TCH16	25	1	40	1.56	1.40	200	5.52	800	200	8.0	1.24	0.83
(N)59TCH20	32	1 1/4	71	2.80	1.40	200	5.52	800	250	10.0	1.48	0.99
(N)59TCH24	40	1 1/2	52	2.06	1.40	200	5.52	800	300	12.00	1.86	1.25
(N)59TCH32	50	2	67	2.63	1.40	200	5.52	800	400	15.75	2.58	1.73
(N)59TCH40	65	2 1/2	83	3.25	1.40	200	5.52	800	500	20.0	3.65	2.45
(N)59TCH48	80	3	95	3.75	1.40	200	5.52	800	600	24.0	4.41	2.96
(N)59TCH64	100	4	122	4.80	1.40	200	5.52	800	800	32.0	7.00	4.20
(N)59TCH96	150	6	176	6.94	1.03	150	4.12	600	1200	47.0	11.61	7.79

Notes: 1. Prefix (N) is used when a CRN is required 2. Safety factor is 4 to 1 3. Higher temperatures and pressures available upon request 4. Tighter bend radius available upon request  
5. For detailed chemical compatibility please see Thorburn's chemical resistant chart

## Corrugated CSM Lined Chemical S&D Model (N)59TCHXL



Thorburn's Model 59TCHXL is a light weight, multi purpose, high temperature chemical suction and discharge hose designed to transport a wide range of chemicals. The rugged all weather cover is chemical, ozone and abrasion resistant.

### Applications

General purpose petro-chemical transfer hose resistant to a wide range of chemicals, solvents, acids, and alcohols. **Not suitable for ketones, esters, chlorinated oxidizing acids, nitro and aromatic hydrocarbons.**

### Construction

**Tube:** Seamless CSM

**Reinforcement:** Multiple plies of polyester with a double spring wire helix

**Cover:** Black corrugated weather and chemical resistant CSM

### Specification

#### Temperature:

-40°C (-40°F) to 107°C (225°F)

**Vacuum Rating:** Full

Thorburn Part Number	Nom Hose ID		Nom Hose OD		Design Pressure		Min. Burst		Min. Bend Radius		Weight	
	DN	in	mm	in	MPa	psi	MPa	psi	mm	in	kg/m	lbs/ft
(N)59TCHXL16	25	1	36	1.4	1.03	150	4.12	600	127	5	0.71	0.48
(N)59TCHXL20	32	1 1/4	44	1.7	1.03	150	4.12	600	159	6.25	0.89	0.59
(N)59TCHXL24	40	1 1/2	48	1.9	1.03	150	4.12	600	191	7.5	1.03	0.69
(N)59TCHXL32	50	2	61	2.4	1.03	150	4.12	600	254	10	1.67	1.10
(N)59TCHXL40	65	2 1/2	74	3.0	1.03	150	4.12	600	318	12.5	2.17	1.46
(N)59TCHXL48	80	3	89	3.5	0.69	100	2.76	400	381	9	2.87	1.93
(N)59TCHXL64	100	4	117	4.6	0.69	100	2.76	400	508	12	4.43	2.98

Notes: 1. Prefix (N) is used when a CRN is required 2. Safety factor is 4 to 1 3. Higher temperatures and pressures available upon request 4. Tighter bend radius available upon request  
5. For detailed chemical compatibility please see Thorburn's chemical resistant chart



## FKM Acid S&D Model (N)59TCV



### Specification

**Temperature:**  
-40°C (-40°F) to 107°C (225°F)  
**Vacuum Rating:** Full

Thorburn's Model 59TCV is a premium quality acid and chemical hose designed to convey solvents, hydrocarbons and highly aromatic liquids. An ideal hose when high temperature transfer is required.

### Applications

An ideal transfer hose for aromatic, aliphatic and Halogenated hydrocarbons, acids, animal and vegetable oils. Not suitable for ketones, acetone, esters, amines, organic acids, acetic acid, MEK, ethyl acetate and highly polar chemicals.

### Construction

**Tube:** FKM chemical and heat resistant  
**Reinforcement:** Multi-ply calendered fabric with a spring wire helix  
**Cover:** Black smooth FKM Grade A

Thorburn Part Number	Nom Hose ID		Nom Hose OD		Design Pressure		Min. Burst		Min. Bend Radius		Weight	
	DN	in	mm	in	MPa	psi	MPa	psi	mm	in	kg/m	lbs/ft
(N)59TCE08	15	1/2	23	0.91	1.40	200	5.52	800	130	5.0	0.25	0.17
(N)59TCE12	20	3/4	31	1.22	1.40	200	5.52	800	150	6.0	0.28	0.19
(N)59TCV16	25	1	40	1.56	1.40	200	5.52	800	200	8.0	1.24	0.83
(N)59TCV20	32	1 1/4	71	2.80	1.40	200	5.52	800	250	10.0	1.48	0.99
(N)59TCV24	40	1 1/2	52	2.06	1.40	200	5.52	800	300	12.00	1.86	1.25
(N)59TCV32	50	2	67	2.63	1.40	200	5.52	800	400	15.75	2.58	1.73
(N)59TCV40	65	2 1/2	83	3.25	1.40	200	5.52	800	500	20.0	3.65	2.45
(N)59TCV48	80	3	95	3.75	1.40	200	5.52	800	600	24.0	4.41	2.96
(N)59TCV64	100	4	122	4.80	1.40	200	5.52	800	800	32.0	7.00	4.20
(N)59TCV96	150	6	176	6.94	1.03	150	4.12	600	1200	47.0	11.61	7.79

Notes: 1. Prefix (N) is used when a CRN is required 2. Safety factor is 4 to 1 3. Higher temperatures and pressures available upon request 4. Tighter bend radius available upon request  
5. For detailed chemical compatibility please see Thorburn's chemical resistant chart

## FKM Corrugated Acid S&D Model (N)59TCVXL



### Specification

**Temperature:**  
-40°C (-40°F) to 107°C (225°F)  
**Vacuum Rating:** Full

Thorburn's Model 59TCVXL is a premium light weight, quality acid and chemical hose designed to convey solvents, hydrocarbons and highly aromatic liquids. An ideal hose when high temperature transfer is required.

### Applications

An ideal transfer hose for aromatic, aliphatic and Halogenated hydrocarbons, acids, animal and vegetable oils. Not suitable for ketones, acetone, esters, amines, organic acids, acetic acid, MEK, ethyl acetate and highly polar chemicals.

### Construction

**Tube:** FKM chemical and heat resistant  
**Reinforcement:** Multi-ply calendered fabric with a double spring wire helix  
**Cover:** Black corrugated FKM Grade A

Thorburn Part Number	Nom Hose ID		Nom Hose OD		Design Pressure		Min. Burst		Min. Bend Radius		Weight	
	DN	in	mm	in	MPa	psi	MPa	psi	mm	in	kg/m	lbs/ft
(N)59TCEXL16	25	1	36	1.4	1.03	150	4.12	600	127	5	0.71	0.48
(N)59TCEXL20	32	1 1/4	44	1.7	1.03	150	4.12	600	159	6.25	0.89	0.59
(N)59TCEXL24	40	1 1/2	48	1.9	1.03	150	4.12	600	191	7.5	1.03	0.69
(N)59TCEXL32	50	2	61	2.4	1.03	150	4.12	600	254	10	1.67	1.10
(N)59TCEXL40	65	2 1/2	74	3.0	1.03	150	4.12	600	318	12.5	2.17	1.46
(N)59TCEXL48	80	3	89	3.5	0.69	100	2.76	400	381	9	2.87	1.93
(N)59TCEXL64	100	4	117	4.6	0.69	100	2.76	400	508	12	4.43	2.98

Notes: 1. Prefix (N) is used when a CRN is required 2. Safety factor is 4 to 1 3. Higher temperatures and pressures available upon request 4. Tighter bend radius available upon request  
5. For detailed chemical compatibility please see Thorburn's chemical resistant chart

## XLPE S&D Model (N)59TC



**Specification**  
**Temperature:**  
 -40°C (-40°F) to 82°C (180°F)  
**Vacuum Rating:** Full

Thorburn's Model 59TC with a Cross Linked Polyethylene (XLPE) tube is an extremely versatile chemical hose with outstanding chemical resistancy, which allows it to handle nearly every type of chemical and solvent in both suction and discharge applications. This versatility largely eliminates the need for specialized hoses in processing, loading, unloading and storage applications.

**Applications**

General purpose transfer hose for a broad range of chemicals and solvents.

**Construction**

**Tube:** Smooth clear Cross Linked Polyethylene firmly bonded to a black synthetic rubber

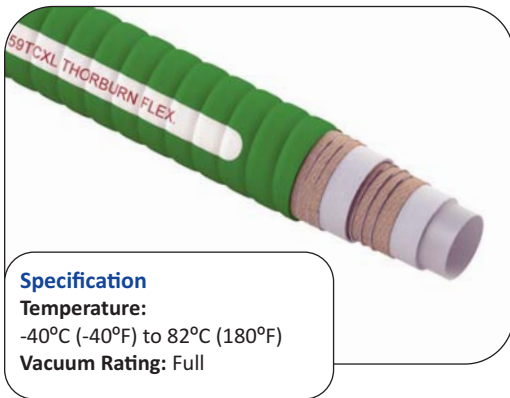
**Reinforcement:** High tensile calendered fabric with a spring wire helix

**Cover:** Black or green smooth specially compounded EPDM

Thorburn Part Number	Nom Hose ID		Nom Hose OD		Design Pressure		Min. Burst		Min. Bend Radius		Weight	
	DN	in	mm	in	MPa	psi	MPa	psi	mm	in	kg/m	lbs/ft
(N)59TC08	15	1/2	23	0.91	1.38	200	5.52	800	51	2	0.35	0.24
(N)59TC12	20	3/4	30	1.18	1.38	200	5.52	800	102	4	0.52	0.35
(N)59TC16	25	1	40	1.57	1.38	200	5.52	800	152	6	0.90	0.60
(N)59TC20	32	1 1/4	46	1.80	1.38	200	5.52	800	203	8	1.19	0.80
(N)59TC24	40	1 1/2	53	2.09	1.38	200	5.52	800	254	10	1.61	1.08
(N)59TC32	50	2	66	2.60	1.38	200	5.52	800	305	12	2.07	1.39
(N)59TC40	65	2 1/2	78	3.07	1.38	200	5.52	800	356	14	2.82	1.89
(N)59TC48	80	3	94	3.70	1.03	150	4.12	600	406	16	3.53	2.37
(N)59TC64	100	4	118	4.65	1.03	150	4.12	600	457	18	5.22	3.50
(N)59TC96	150	6	177	6.97	1.03	150	4.12	600	508	20	8.20	5.50

Notes: 1. Prefix (N) is used when a CRN is required 2. Safety factor is 4 to 1 3. Higher temperatures and pressures available upon request 4. Tighter bend radius available upon request 5. Not to be used with strong oxidizing agents such as nitric and chromic acids 6. For detailed chemical compatibility please see Thorburn's chemical resistant chart

## Corrugated XLPE S&D Model (N)59TCXL



**Specification**  
**Temperature:**  
 -40°C (-40°F) to 82°C (180°F)  
**Vacuum Rating:** Full

Thorburn's Model 59TCXL with a Cross Linked Polyethylene (XLPE) tube is a revolutionary development in hose design and chemical resistance. It is the perfect lightweight handling hose offering superb flexibility through its flat corrugating and excellent kink resistant construction.

**Applications**

General purpose transfer hose for a broad range of chemicals and solvents.

**Construction**

**Tube:** Smooth clear cross linked Polyethylene firmly bonded to a green synthetic rubber

**Reinforcement:** High tensile calendered fabric with a double spring wire helix

**Cover:** Green or black corrugated specially compounded EPDM

Thorburn Part Number	Nom Hose ID		Nom Hose OD		Design Pressure		Min. Burst		Min. Bend Radius		Weight	
	DN	in	mm	in	MPa	psi	MPa	psi	mm	in	kg/m	lbs/ft
(N)59TCXL16	25	1	37	1.46	1.03	150	4.12	600	127	5	0.67	0.47
(N)59TCXL20	32	1 1/4	45	1.77	1.03	150	4.12	600	159	6.25	1.00	0.67
(N)59TCXL24	40	1 1/2	51	2.01	1.03	150	4.12	600	191	7.5	1.19	0.80
(N)59TCXL32	50	2	64	2.52	1.03	150	4.12	600	254	10	1.34	0.90
(N)59TCXL40	65	2 1/2	79	3.10	1.03	150	4.12	600	318	12.5	2.14	1.44
(N)59TCXL48	80	3	91	3.58	0.69	100	2.76	400	381	9	2.91	1.95
(N)59TCXL64	100	4	118	4.64	0.69	100	2.76	400	508	12	3.70	2.48

Notes: 1. Prefix (N) is used when a CRN is required 2. Safety factor is 4 to 1 3. Higher temperatures and pressures available upon request 4. Tighter bend radius available upon request 5. For detailed chemical compatibility please see Thorburn's chemical resistant chart

## Hose End Fittings



**(01)** Male Pipe Hex NPT



**(02)** Female JIC



**(03)** Sanitary Triclamp Flange



**(04)** Male Camlock



**(05)** Female Camlock  
A variety of Camlock adapters  
also available



Fixed Flange Raised Face  
**(06)** ANSI 150  
**(07)** ANSI 300



Fixed Plate Flange  
**(08)** ANSI 150  
**(09)** ANSI 300



Swivel Flange  
**(10)** ANSI 150, **(11)** ANSI 300  
**(12)** PN6, **(13)** PN10, **(14)** PN16,  
**(15)** PN25



Swivel Flange Encapsulated  
**(16)** ANSI 150  
**(17)** ANSI 300



**(18)** Sanitary Triclamp Flange  
Encapsulated  
Also available in miniature



**(19)** Female Camlock Encapsulated  
A variety of Camlock adapters  
also available



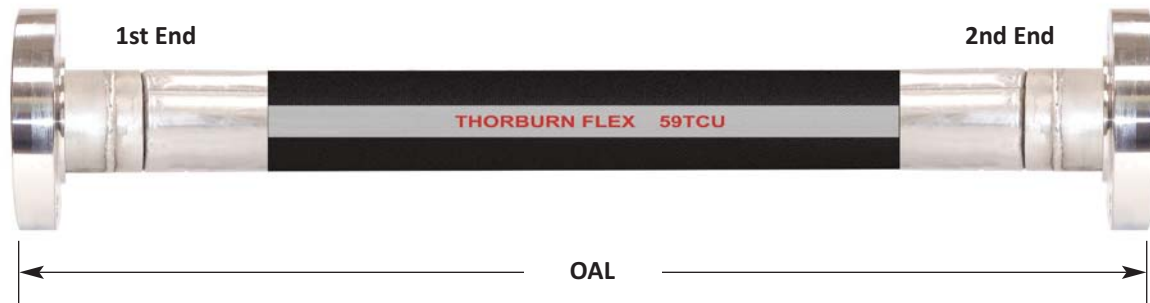
**(20)** Male Camlock Encapsulated

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ISIR Romania | CNCAN Romania | EN 13480-2002 | HAF 604 China | TSG China

## How To Order Thorburn Chemical S&D Hose Assemblies



Hose Type	Hose Size	1st End	1st End Material	2nd End	2nd End Material	OAL
<b>59TC</b>	<b>32</b>	<b>10</b>	<b>S6</b>	<b>10</b>	<b>S6</b>	<b>120</b>
(N)59TC (N)59TCXL (N)59TCU (N)59TCUXL (N)59TCE (N)59TCEXL (N)59TCH (N)59TCHXL (N)59TCV (N)59TCVXL (N)TR40 (N)TR41 (N)TR440 (N)TR441 (N)120SD (N)559TCU	06 = 3/8" 08 = 1/2" 12 = 3/4" 16 = 1" 20 = 1 1/4" 24 = 1 1/2" 32 = 2" 40 = 2 1/2" 48 = 3" 64 = 4" 96 = 6"		S6 = 316 Stainless Steel YY = Specify other material		S6 = 316 Stainless Steel ZZ = Specify other material	Overall Length (Inches) Add suffix mm for millimeters
<p><b>End Fitting Codes</b></p> <ul style="list-style-type: none"> <li>01 Hex Male Pipe NPT</li> <li>02 Female JIC</li> <li>03 Sanitary Triclamp</li> <li>04 Male Camlock</li> <li>05 Female Camlock</li> <li>06 150 lbs Flange Raised Face</li> <li>07 300 lbs Flange Raised Face</li> <li>08 150 lbs Fixed Plate Flange</li> <li>09 300 lbs Fixed Plate Flange</li> <li>10 150 lbs Swivel Flange</li> <li>11 300 lbs Swivel Flange</li> <li>12 PN6 Swivel Flange</li> <li>13 PN10 Swivel Flange</li> <li>14 PN16 Swivel Flange</li> <li>15 PN25 Swivel Flange</li> <li>16 150 lbs Swivel Flange Encapsulated</li> <li>17 300 lbs Swivel Flange Encapsulated</li> <li>18 Sanitary Triclamp Encapsulated</li> <li>19 Female Camlock Encapsulated</li> <li>20 Male Camlock Encapsulated</li> <li>21 XX = Specify</li> <li>22 WW = Specify</li> </ul>						



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