

CTPA HILCON L - Hilcon L Convolved Tubing, Polyimide 6, Halogen Free and Low Smoke

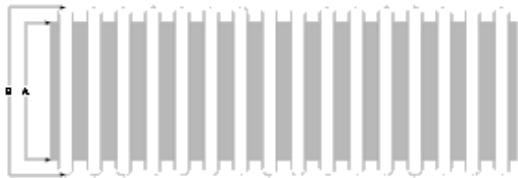


Corrugated tubes are made of a Polyimide 6, which is modified with a special heat stabilizer in order to achieve a particularly high heat deflection temperature. Hilcon-L corrugated tubes are both halogeneous and cadmium free and UV steady as well as being Halogen free and Low Smoke.



Chemical Stabilities (in the direct contact)

Gasoline's with 23°C	Well steadily
Brake Fluids with 23°C	Well steadily
Antifreeze (+H2O) with 23°C	Well steadily
Cleaning agent with 23°C	Well steadily
Lubricant and fat with 23°C	Well steadily
Acids (strongly diluted)	Moderately steadily
Acids generally	inconsistently



Standard Colours & Colour Codes

Black - 0

Grey - 8

A ID	B OD	SLIT	UN-SLIT
mm	mm	ORDERING DESCRIPTION	
5.0	7.1	HILCON-LS-6-colour code-CLS	HILCON-L-6-colour code-CLS
6.8	10.0	HILCON-LS-8-colour code-CLS	HILCON-L-8-colour code-CLS
8.6	11.4	HILCON-LS-10-colour code-CLS	HILCON-L-10-colour code-CLS
10.0	13.0	HILCON-LS-12-colour code-CLS	HILCON-L-12-colour code-CLS
12.8	15.8	HILCON-LS-16-colour code-CLS	HILCON-L-16-colour code-CLS
16.8	21.2	HILCON-LS-20-colour code-CLS	HILCON-L-20-colour code-CLS
21.5	25.4	HILCON-LS-25-colour code-CLS	HILCON-L-25-colour code-CLS
23.4	28.3	HILCON-LS-28-colour code-CLS	HILCON-L-28-colour code-CLS
29.2	34.5	HILCON-LS-32-colour code-CLS	HILCON-L-32-colour code-CLS
36.2	42.4	HILCON-LS-40-colour code-CLS	HILCON-L-40-colour code-CLS
47.9	54.5	HILCON-LS-50-colour code-CLS	HILCON-L-50-colour code-CLS

Properties/Technical data

Continuous temperature	-40°C till + 140°C
Brief application temperature	+ 160°C
Density (DIN 53 479)	1,12 till 1,15 g/m ³
Moisture absorption	2,5 till 3%
Yield point (DIN 53 455)	40 - 70 Mpa
Elongation (DIN 53 455)	50 - 200%
E-Modul (DIN 53 457)	1200 - 2000 MPa
Dielectric strength (DIN 53 453)	Without break
Tensile impact strength (DIN 53 453)	Without break
In flammability	FMVSS 302 Type B (v< 100mm/min) UL 94 - HB

Tolerances for A & B

Nominal size 4,5 till 14	+/- 0,20mm
Nominal size 15 till 29	+/- 0,30mm
Nominal size 32 till 50	+/-0,40mm

CTPA HILCON L - Hilcon L Convoluted Tubing, Polyimide 6, Halogen Free and Low Smoke



Mechanical Properties

Test Type	Methods / Standards	Requirements	Value
Crush Strength	IEC61386-1	<25% crush >90% recovery	>125N
Tensile Strength	IEC61386-1	Fitting Pull off (Hinged Fitting)	100N
Impact Strength @ 23 °C	IEC61386-1	No Cracks <20% deformation min value	>20J
Impact Strength @-5 °C	IEC61386-1	No Cracks. <20% deformation min value	>6J
Dynamic Bend radius @-5 °C	IEC61386-23	5000 cycles minimum (CTPA20 Conduit)	4xOD
Cold Bend @ -40 °C	NFR13-903	2xOD	Pass

Thermal Properties

Test Type	Methods / Standards	Requirements	Value
Minimum Temperature		Permanent Use - Static	-40°C
Minimum Temperature	IEC61386-23	Dynamic Use	-5°C
Maximum Temperature		Permanent Use	120°C
Short Term Temperature		Temporary Use	150°C
Short Term Temperature	IEC61386-23	Dynamic Use (5000 Cycles)	150°C

Chemical Resistance Chart

Key:

Suitable :

Limited Suitability :

Unsuitable :

Not Tested :

● Astm No.1	● Diesel oil	● Methyl Bromide	● Sulphur Dioxide (Gas)
● Astm No.2	● Diethylamine	● MEK	● Sulphuric Acid (10%)
● Astm No.3	● Ethanol	● Nitric Acid (10%)	● Sulphuric Acid (70%)
● Acetic Acid (10%)	● Ether	● Nitric Acid (70%)	● Toluene
● Acetone	● Ethylamine	● Oxalic Acid	● Transformer Oil
● Aluminium Chloride	● Ethylene Glycol	● Ozone (Gas)	● 1,1,1-Trichloroethane
● Aniline	● Ethyl Ethanoate	● Paraffin oil	● Trichloroethylene
● Benzaldehyde	● Freon 32	● Petrol	● Turpentine
● Benzene	● Hydrochloric Acid (10%)	● Phenol	● Vegetable Oil
● Carbon tetrachloride	● Hydrochloric Acid (36%)	● Sea Water	● Vinyl Acetate
● Chlorine water	● Hydrogen Peroxide (35%)	● Silver Nitrate	● Water
● Chloroform	● Hydrogen Peroxide (87%)	● Skydrol	● White Spirit
● Citric Acid	● Lactic Acid	● Sodium Chloride	● Zinc Chloride
● Copper Sulphate	● Lubricating oil	● Sodium Hydroxide (10%)	
● Cresol	● Methanol	● Sodium Hydroxide (60%)	

Flammability

Test Type	Method / Standard	Requirement	Result	Unit
Oxygen Index	ISO 4589-2	% Oxygen to support combustion	23.0	%
Flammability	UL94	Vertical (V0,V2) or Horizontal (HB)	HB	
Flammability	IEC 61386-1	1Kw Burner @ 45° Vertical burn	Pass	Pass/Fail
Flammability	FMVSS3042	≤100mm/min	10	mm/min

Toxicity

Test Type	Method / Standard	Requirement	Result	Unit
Halogen Free		<0.5%	Pass	Pass/Fail
Phosphorous Free		<0.5%	Pass	Pass/Fail
Sulphur Free		<0.5%	Pass	Pass/Fail