

THE HIGHEST PERFORMING DRIPLINE IN THE INDUSTRY

TECHLINE[®] COPPER



THREE Levels of Protection Against Root Intrusion

1 NEW CUPRON[®] COPPER STRIPE

Copper oxide is integrated into the dripline stripe providing the first level of protection.

2 CUPRON[®] COPPER EMITTER

Copper oxide is embedded into the emitter providing the second level of protection.

3 PHYSICAL ROOT BARRIER

Offset flow path, extra large bath area and raised outlets provide the third level of protection.

MAXIMUM DEFENSE AGAINST ROOT INTRUSION

Roots are one of the biggest threats against a high performing drip system, they can enter the outlet hole reducing or blocking flow. Cupron® copper oxide (Cu_2O) technology effectively deters roots from entering the dripline. During manufacturing, the copper oxide is infused into the emitter and stripe of the dripline through a patent-pending process which ensures that the copper will remain embedded for the life of the product. It will not wash off, wear off or leach out.

Netafim sets the bar for innovation in drip irrigation with Techline Copper. Cupron® copper oxide-based technology allows for maximum performance. The integration of copper oxide in the external stripe and internal emitter, and the unique patented emitter design with physical root barrier provides three levels of protection, giving your system the best defense against root intrusion, inside and out.



WIDE COPPER STRIPE SHIELDS AGAINST ROOT INTRUSION

- Wide stripe design makes it easy to identify the dripline as Techline Copper
- Embedded Cupron® provides a layer of defense against root intrusion
- Cupron® copper oxide (Cu_2O) technology will not wash out, wear off or leach out. Remaining effective throughout the life of the product
- Cupron® copper oxide is approved for use by the EPA ensuring peace of mind

RELIABILITY WITH THE INDUSTRY'S LONGEST WARRANTY

Netafim stands behind Techline Copper with an unprecedented warranty to be free of emitter plugging due to root intrusion for a period of 17 years from the date of original delivery.

17 YEARS

POWER OF CUPRON® COPPER OXIDE ANTIMICROBIAL TECHNOLOGY

Copper is used in many industries for its antimicrobial properties and is recognized by the United States Environmental Protection Agency (US EPA) as the first antimicrobial metal. It is an essential nutrient for humans and bacteria, but in specific concentrations, it can serve as an antimicrobial agent.

Cupron's proprietary technology is impregnated at specific concentrations to our patent-pending process ensuring it remains effective throughout the life of the product.



TECHLINE DRIPLINES

HIGHEST PERFORMING DRIPLINES IN THE INDUSTRY

Netafim Techline driplines provide a wide range of CV emitter options to address a variety of installation requirements from flat surfaces, slopes to subsurface.

CV CHECK VALVE
High check valve holds back 8.5' of water for distribution uniformity

ANTI-SIPHON

Prevents debris from entering the emitter outlet at system shut-down. Surface and subsurface installations don't require air relief valves

PRESSURE COMPENSATING

Delivers precise, equal amounts of water over a broad pressure range

LARGE AND EFFECTIVE FILTER AREA

Prevents penetration of coarse particles inside flow path. Superb clog resistance for efficient irrigation.

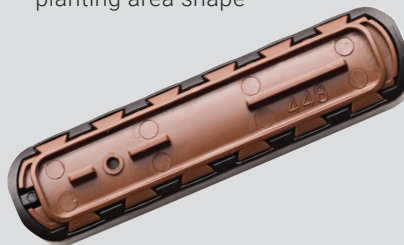
CONTINUOUS SELF FLUSHING EMITTER
Flushes debris as it's detected

ONE PIECE DRIPLINE CONSTRUCTION

Reliable, easy installation

FLEXIBLE UV RESISTANT TUBING

Bending radius of 7" adapts to any planting area shape



LASER ETCHING

Model number laser etched on dripline



17 YEAR WARRANTY

Free of emitter plugging due to root intrusion from the date of original delivery. Refer to the Landscape & Turf Catalog for details.

MORE PROTECTION AGAINST CLOGGING

The large surface area of the filter increases longevity and prevents dirt particles from settling in the dripper.

APPLICATIONS

- Subsurface or on-surface Turf, shrubs, trees and flowers
- Sports turf, tennis courts, golf courses
- Slopes
- Curved, angular or narrow planting areas
- High traffic/high liability areas
- Areas subject to vandalism
- At-grade windows
- Green walls, green roofs
- Raised planters

SPECIFICATIONS

- Emitter flows: 0.33, 0.53, 0.77, 1.16 GPH
- Emitter spacings: 12", 18", 24" (24" spacing available on 1,000 coils only)
- Maximum system pressure: 58 psi
- Minimum pressure: 21.8 psi
- Tubing diameter: 0.66" OD; 0.56" ID, 0.05" wall
- Coil lengths: 100', 250', 500', 1,000'
- Recommended filtration: 120 mesh
- Diaphragm: molded silicon

RECYCLED CONTENT

Techline Copper qualifies for LEED credit 4.2 as it contains a minimum of 20% polyethylene post-consumer recycled material.



TECHLINE COPPER
MADE WITH POST CONSUMER RECYCLED MATERIAL



GENERAL GUIDELINES

SOIL	TURF												SHRUB & GROUNDCOVER											
	CLAY			LOAM			SANDY			COARSE			CLAY		LOAM		SANDY		COARSE					
EMITTER FLOW	0.33 GPH			0.53 GPH			0.77 GPH			1.16 GPH			0.33 GPH		0.53 GPH		0.77 GPH		1.16 GPH					
EMITTER SPACING	18"			12"			12"			12"			18"		18"		12"		12"					
LATERAL (ROW) SPACING	18"	20"	22"	12"	18"	20"	12"	14"	16"	12"	14"	16"	18"	21"	24"	18"	21"	24"	16"	18"	20"	16"	18"	20"
BURIAL DEPTH	Bury evenly throughout the zone from 4" to 6"												On-surface or bury evenly throughout the zone to a maximum of 6"											
APPLICATION RATE (INCHES/HOUR)	0.24	0.21	0.19	0.85	0.56	0.51	1.23	1.05	0.92	1.86	1.60	1.40	0.24	0.20	0.18	0.38	0.32	0.28	0.92	0.82	0.74	1.40	1.24	1.12
TIME TO APPLY ¼" OF WATER (MINUTES)	64	71	78	18	27	30	12	14	16	8	9	11	64	74	85	40	46	53	16	18	20	11	12	13

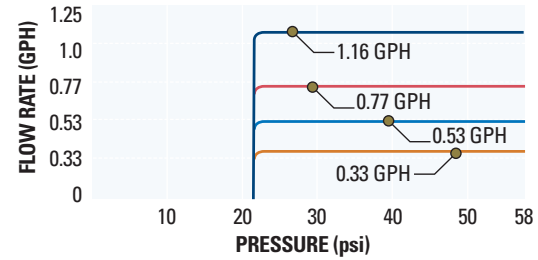
Following these maximum spacing guidelines, emitter flow selection can be increased if desired by the designer. 1.16 GPH flow rate available for areas requiring higher infiltration rates, such as coarse sandy soils.

TECHNICAL INFORMATION

FLOW PER 100 FEET

EMITTER SPACING	0.33 EMITTER		0.53 EMITTER		0.77 EMITTER		1.16 EMITTER	
	GPH	GPM	GPH	GPM	GPH	GPM	GPH	GPM
12"	33.0	0.55	53.0	0.88	77.0	1.28	116.0	1.93
18"	22.0	0.37	35.3	0.59	51.3	0.86	77.3	1.29
24"	16.5	0.28	26.5	0.44	38.5	0.64	58.0	0.97

FLOW RATE VS. PRESSURE

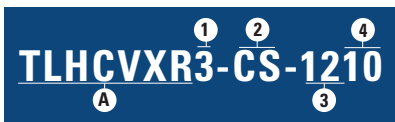


Techline Copper emitters open at 21.8 psi and close at 3.64 psi.

MAXIMUM LENGTH OF A SINGLE LATERAL (FEET)

EMITTER SPACING	12"				18"				24"		
	0.33	0.53	0.77	1.16	0.33	0.53	0.77	1.16	0.77	1.16	
INLET PRESSURE	25 psi	237	173	136	103	335	246	192	146	244	184
	30 psi	327	240	187	142	464	341	266	203	338	258
	35 psi	385	282	221	168	546	401	314	239	400	304
	40 psi	429	315	247	187	611	449	351	267	446	340
	45 psi	467	342	268	203	663	488	381	290	486	370
	50 psi	499	366	287	218	710	521	408	311	520	396
	55 psi	528	387	303	230	752	552	432	329	550	418
	60 psi	554	406	318	241	788	579	453	345	578	440

SPECIFYING & ORDERING INFORMATION



SAMPLE MODEL NUMBER

A Techline HCVXR-CS = TLHCVXR Dripline

1 **EMITTER FLOW RATE**
 0.33 GPH = 3
 0.53 GPH = 5
 0.77 GPH = 7
 1.16 GPH = 11

2 **COPPER STRIPE**
 = CS

3 **EMITTER SPACING**
 12" = 12
 18" = 18
 24" = 24

4 **COIL LENGTH**
 100' = 01
 250' = 025
 500' = 05
 1,000' = 10

ORDERING INFORMATION

FLOW RATE	FLOW CODE	EMITTER SPACING	COIL LENGTH	*MODEL NUMBER
0.33	3	12"	100'	TLHCVXR X -CS-1201
			250'	TLHCVXR X -CS-12025
			500'	TLHCVXR X -CS-1205
0.53	5	12"	1,000'	TLHCVXR X -CS-1210
			100'	TLHCVXR X -CS-1801
0.77	7	18"	250'	TLHCVXR X -CS-18025
			500'	TLHCVXR X -CS-1805
1.16	11	18"	1,000'	TLHCVXR X -CS-1810
			24"	1,000'

BLANK TUBING

COIL LENGTH	MODEL NUMBER
100'	TLHCVXR-CS001
250'	TLHCVXR-CS0025
500'	TLHCVXR-CS005
1,000'	TLHCVXR-CS010

* Substitute **X** in the Model Number with Flow Code



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