

Cascade

Thin-Wall Emitter Line



More
Crop
per
Drop™

JAIN
jainsusa.com

Cascade

Higher clogging resistance and superior performance

Cascade – Jain discrete Emitter Drip Tape is a premium product of modern drip technology. Cascade is manufactured with the most modern, state-of-the-art equipment and machinery featuring computerized continuous online quality control using powerful photo imaging technology. Flat emitters are designed and manufactured using The Cascade Labyrinth Technology**, which guarantees higher clogging resistance and superior performance.

0.13
gph



0.17
gph



0.22
gph



0.26
gph



0.37
gph



0.78
gph



Product Features

- Seamless drip tape with injection molded emitters
- Cascade is made with a special grade virgin polymer ensuring strength and durability
- All Cascade emitters have a turbulent flow and a cross-section flow path making the product highly clog resistant
- Consistency is ensured with an extremely low manufacturing variation (Cv)
- The most extensive range of emitter flow rates, emitter spacing, thicknesses and hose diameters; Cascade is designed to meet the needs of any row crop

Diameters: 5/8", 7/8", 1", 1 1/8" and 1 3/8"

Flow rates: .13 gph, .17 gph, .22 gph, .26 gph, .37 gph, .78 gph

Common emitter spacings*: 8", 12", 14", 16", 18", 20", 24"

Common wall thicknesses (mil)*: 6, 8, 10, 13, 15

- Highly flexible, making coiling and uncoiling an easy task during installation or retrieval
- Two yellow parallel stripes "Twin Stripes" helps with keeping the product upright and straight during installation
- Manufactured with precision laser drilled outlet holes
- Suitable for surface and sub-surface applications

*Other emitter spacings and wall thicknesses are available

**Applicable to select flow rates



Applications and Pressure vs. Flow



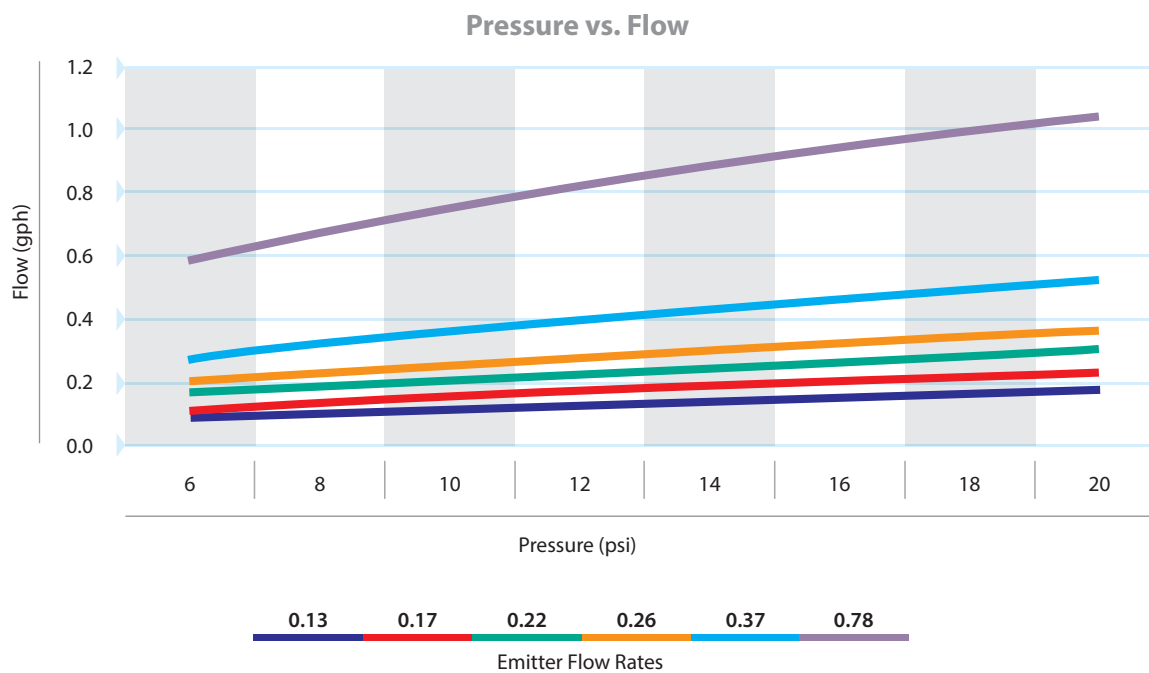
Applications

For short season row crops we recommend a wall thickness of 10 mil or less.

Crops: Onions, Garlic, Peppers, Strawberries, Broccoli, Lettuce, Corn, Beans, Artichokes

For longer run lengths and sub-surface irrigated row crops we recommend a wall thickness of 10 mil and above.

Crops: Tomatoes, Cotton, Melons, Alfalfa, Potatoes, Asparagus, Peanuts



Specifications

Emitter Specifications

Nominal Flow		Emitter Coefficient	Emitter Exponent	Barb Factor	Coefficient of Manufacturing Variation
(gph)	(lph)				
10 psi	0.7 bars	k	x	kd	Cv
0.13	0.53	0.044	0.48	0.1	< 3%
0.17	.64	0.056	0.48	0.1	< 3%
0.22	0.9	0.077	0.46	0.1	< 3%
0.26	0.95	0.088	0.48	0.1	< 3%
0.37	1.4	0.118	0.50	0.1	< 3%
0.78	2.95	0.275	0.45	0.1	< 3%

Tubing Specifications

Hose Diameter (inch)	Wall Thickness (Mil)	Inside Diameter (inch)	Max. Operating Pressure (psi)	Max. Flushing Pressure (psi)	Minimum Filtration (mesh)	Coil Lengths (feet)	Coils per Pallet
5/8"	6	0.625	14	21.0	120	12,000	16
5/8"	8	0.625	17	25.5	120	8,000	16
5/8"	10	0.625	21	31.5	120	6,700	16
5/8"	13	0.625	26	39.0	120	5,400	16
5/8"	15	0.625	30	45.0	120	4,000	16
7/8"	6	0.875	10	15.0	120	8,000	16
7/8"	8	0.875	12	18.0	120	6,000	16
7/8"	10	0.875	15	22.5	120	5,400	16
7/8"	13	0.875	19	28.5	120	4,000	16
7/8"	15	0.875	22	33.0	120	2,700	16
1"	10	0.990	15	23.0	120	4,500	16
1"	13	0.990	17	25.5	120	3,000	16
1"	15	0.990	19	28.5	120	3,000	16
1 1/8"	10	1.125	13	20.0	120	4,000	16
1 1/8"	13	1.125	15	22.5	120	3,000	16
1 1/8"	15	1.125	17	25.5	120	2,700	16
1 3/8"	15	1.375	14	21.0	120	2,700	16

$$Q = kP^x$$

Q = Flow (gpm)

k = Flow Constant

x = Emitter Exponent

P = Pressure (psi)



Ordering Guide and Dimensions

Ordering Guide

Product	Size	Thickness	Spacing	Emitter	Reel Lengths (feet)				
Model	inches	mil	inches	gph	5/8"	7/8"	1"	1 1/8"	1 3/8"
XX	XX	XX	XX	XX	XXX				
CD	5/8" (06)	06	8"	0.13	12,000	8,000	N/A	N/A	N/A
	7/8" (09)	08	12"	0.17	8,000	6,000	N/A	N/A	N/A
	1" (10)	10	14"	0.22	6,700	5,400	4,500	4,000	N/A
	1-1/8" (11)	13	16"	0.26	5,400	4,000	3,000	3,000	N/A
	1-3/8" (14)	15	20"	0.37	4,000	2,700	3,000	2,700	2,700

Example: CD 10 13 14 17 030

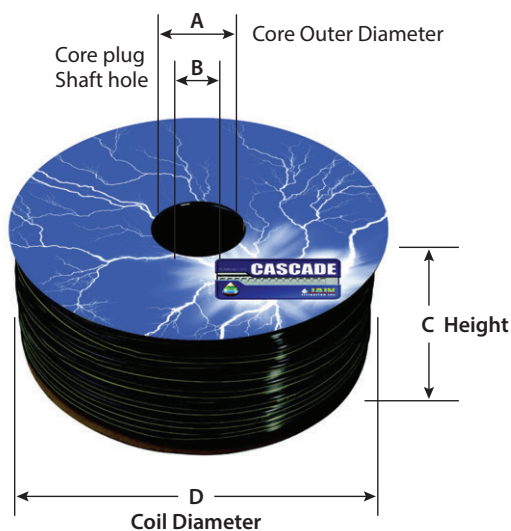
Model: CD10131417-036

Description: Cascade, 1" (10) ID, 13 mil, 14" Spacing, 0.17 gph/emitter, 3,000 ft./reel

Coil Dimensions

Size (inches)	Coil Sizes (inches)	A (inches)	B (inches)	C (inches)	D (inches)
CD058	22 x 9.5	5.11	1.5	9.5	22
CD078	22 x 11	5.11	1.5	11	22
CD100	22 x 11	5.11	1.5	11	22
CD118	22 x 11	5.11	1.5	11	22
CD138	22 x 11	5.11	1.5	11	22

* Other coil dimensions available.



Maximum Recommended Length and EU

Maximum Run Lengths for 5/8" @ 10 psi Inlet and 0% Slope

Dripper Spacing	12"			14"			16"			18"			20"			24"		
Flow Rate (gph)	90%	92%	94%	90%	92%	94%	90%	92%	94%	90%	92%	94%	90%	92%	94%	90%	92%	94%
0.13	861	746	592	958	831	658	1,050	911	722	1,139	987	782	1,224	1,060	840	1,384	1,200	950
0.17	736	638	506	819	711	563	898	779	618	974	843	669	1,045	907	719	1,184	1,026	812
0.22	622	540	429	693	601	478	760	660	524	824	716	567	885	769	610	1,002	870	690
0.26	548	475	377	611	529	419	670	580	460	726	629	498	780	675	535	882	764	606
0.37	435	377	298	485	420	333	532	460	364	576	500	395	619	537	424	700	606	480
0.78	277	241	191	310	269	214	339	295	234	368	320	254	395	344	272	446	388	308

Maximum Run Lengths for 7/8" @ 10 psi Inlet and 0% Slope

Dripper Spacing	12"			14"			16"			18"			20"			24"		
Flow Rate (gph)	90%	92%	94%	90%	92%	94%	90%	92%	94%	90%	92%	94%	90%	92%	94%	90%	92%	94%
0.13	1,497	1,298	1,029	1,671	1,449	1,149	1,836	1,592	1,262	1,994	1,728	1,370	2,144	1,859	1,474	2,430	2,106	1,670
0.17	1,279	1,109	880	1,428	1,238	982	1,568	1,360	1,078	1,703	1,476	1,170	1,832	1,589	1,259	2,078	1,800	1,426
0.22	1,082	939	746	1,208	1,049	833	1,327	1,152	915	1,440	1,251	993	1,550	1,345	1,069	1,758	1,526	1,210
0.26	953	826	655	1,063	922	732	1,168	1,014	803	1,269	1,100	872	1,365	1,184	939	1,548	1,342	1,064
0.37	756	655	519	845	732	579	928	803	636	1,008	872	690	1,084	939	744	1,230	1,064	842
0.78	481	418	332	537	467	371	591	514	408	642	558	443	690	600	477	784	680	540

Maximum Run Lengths for 1" (0.990) @ 10 psi Inlet and 0% Slope

Dripper Spacing	12"			14"			16"			18"			20"			24"		
Flow Rate (gph)	90%	92%	94%	90%	92%	94%	90%	92%	94%	90%	92%	94%	90%	92%	94%	90%	92%	94%
0.13	1,832	1,588	1,260	2,047	1,775	1,407	2,250	1,951	1,547	2,444	2,120	1,680	2,632	2,282	1,809	2,986	2,588	2,050
0.17	1,565	1,357	1,076	1,748	1,516	1,202	1,923	1,667	1,322	2,088	1,811	1,436	2,249	1,950	1,545	2,552	2,212	1,752
0.22	1,323	1,149	913	1,479	1,284	1,020	1,626	1,412	1,122	1,767	1,533	1,218	1,902	1,652	1,310	2,158	1,874	1,486
0.26	1,165	1,010	801	1,302	1,130	895	1,432	1,242	984	1,556	1,349	1,070	1,675	1,452	1,152	1,900	1,648	1,306
0.37	925	801	634	1,034	895	709	1,136	984	779	1,235	1,070	846	1,330	1,152	912	1,510	1,306	1,034
0.78	588	511	406	657	572	454	723	628	500	786	684	543	847	735	585	962	836	664

For more Run Length Options, please use our Run Length Calculator at www.JAINSUSA.com



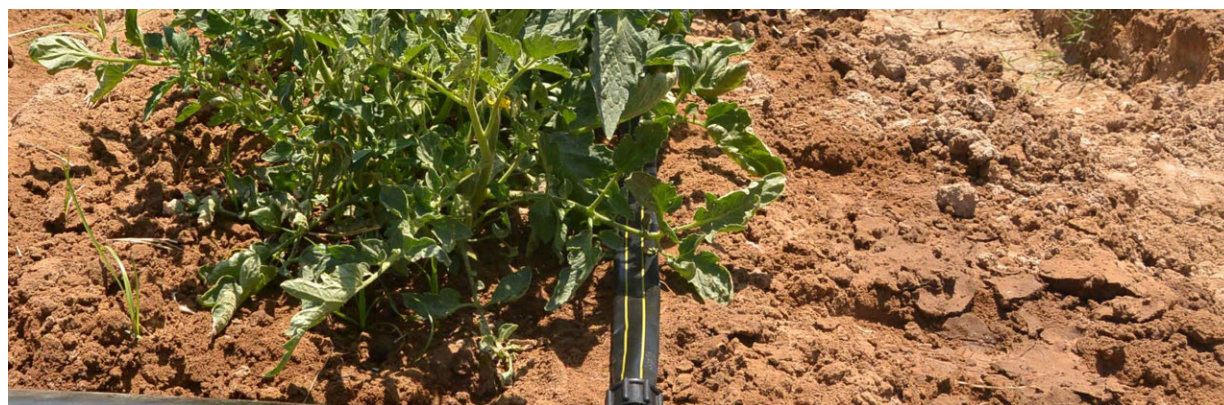
Maximum Run Lengths for 1-1/8" @ 10 psi Inlet and 0% Slope

Dripper Spacing	12"			14"			16"			18"			20"			24"		
Flow Rate (gph)	90%	92%	94%	90%	92%	94%	90%	92%	94%	90%	92%	94%	90%	92%	94%	90%	92%	94%
0.13	2,254	1,955	1,550	2,522	2,187	1,734	2,775	2,406	1,908	3,017	2,616	2,073	3,250	2,817	2,234	3,690	3,200	2,536
0.17	1,926	1,670	1,324	2,154	1,868	1,482	2,371	2,056	1,630	2,579	2,235	1,772	2,777	2,409	1,909	3,154	2,734	2,168
0.22	1,627	1,414	1,123	1,822	1,581	1,257	2,004	1,740	1,383	2,180	1,893	1,503	2,349	2,039	1,619	2,668	2,316	1,838
0.26	1,433	1,243	986	1,603	1,391	1,103	1,766	1,531	1,214	1,920	1,665	1,320	2,069	1,794	1,422	2,350	2,038	1,614
0.37	1,137	985	780	1,273	1,103	873	1,402	1,214	962	1,524	1,320	1,044	1,642	1,422	1,125	1,866	1,616	1,278
0.78	723	628	500	810	704	559	891	775	616	969	843	671	1,045	909	722	1,188	1,032	820

Maximum Run Lengths for 1-3/8" @ 10 psi Inlet and 0% Slope

Dripper Spacing	12"			14"			16"			18"			20"			24"		
Flow Rate (gph)	90%	92%	94%	90%	92%	94%	90%	92%	94%	90%	92%	94%	90%	92%	94%	90%	92%	94%
0.13	3,114	2,701	2,143	3,491	3,028	2,401	3,850	3,338	2,647	4,191	3,635	2,882	4,520	3,919	3,107	5,142	4,458	3,534
0.17	2,660	2,307	1,831	2,982	2,587	2,051	3,288	2,852	2,262	3,581	3,105	2,462	3,862	3,349	2,655	4,394	3,810	3,020
0.22	2,248	1,953	1,552	2,520	2,189	1,740	2,779	2,414	1,918	3,027	2,628	2,088	3,265	2,835	2,252	3,716	3,226	2,562
0.26	1,979	1,717	1,362	2,220	1,925	1,528	2,448	2,123	1,684	2,666	2,312	1,833	2,875	2,494	1,977	3,272	2,838	2,250
0.37	1,570	1,360	1,078	1,761	1,525	1,209	1,943	1,683	1,332	2,115	1,832	1,451	2,282	1,977	1,565	2,598	2,250	1,780
0.78	997	867	690	1,119	973	774	1,235	1,074	854	1,346	1,170	930	1,452	1,262	1,004	1,654	1,436	1,142

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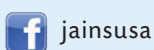
Installations

Mechanical Sub-Surface Installation

- Support both sides of roll with metal, plastic, or wooden backers
- Install emitters facing upward, using Cascade's "Twin Stripes" to guide placement
- Use adjustable braking mechanism to provide uniform tension on the roll
- Support the roll core with an insert plug
- Do not allow tape to rub against sharp objects or the side of the shank
- The shaft, reel, and backers should all turn simultaneously
- Position the bottom of the roll 35 inches away from the funneled injection shank opening
- Avoid all possible damage to tape from bolts, worn-out or rusty metal parts, kinks and stretching
- Allow extra drip tape at the beginning and end of the row for proper connections.
- Do not walk on top of the drip tape in order to avoid compacting dirt
- Leave end of drip tape open for initial flushing
- Flush main, sub-main, and manifold before connecting the lateral drip tape
- When using clear plastic mulch, drip tape must be buried to prevent sunburn caused by the magnifying glass effect

Surface Installation

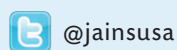
- Place tape on the windward side of the row
- Install emitters facing upward, using Cascade's "Twin Stripes" to guide placement
- Anchor drip tape every 20 feet with wire staple or with dirt
- Leave extra drip tape on the ends for proper connection
- Leave end of drip tape open for initial flushing
- Surface drip tape should be held at both ends with end holders
- When using clear plastic mulch, drip tape must be buried to prevent sunburn caused by the magnifying glass effect



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