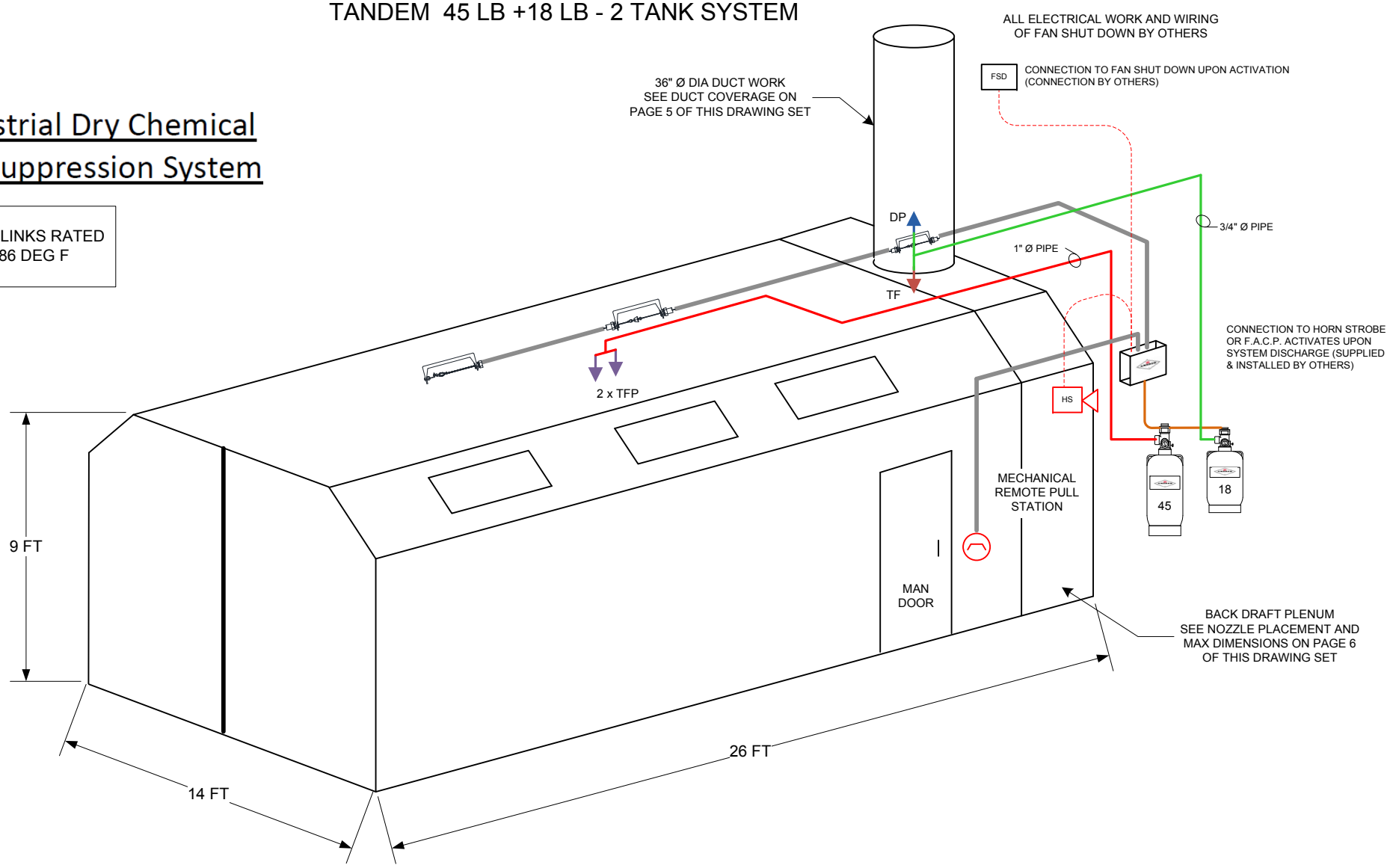
TANDEM 45 LB +18 LB - 2 TANK SYSTEM

Industrial Dry Chemical Fire Suppression System

FUSIBLE LINKS RATED AT 286 DEG F



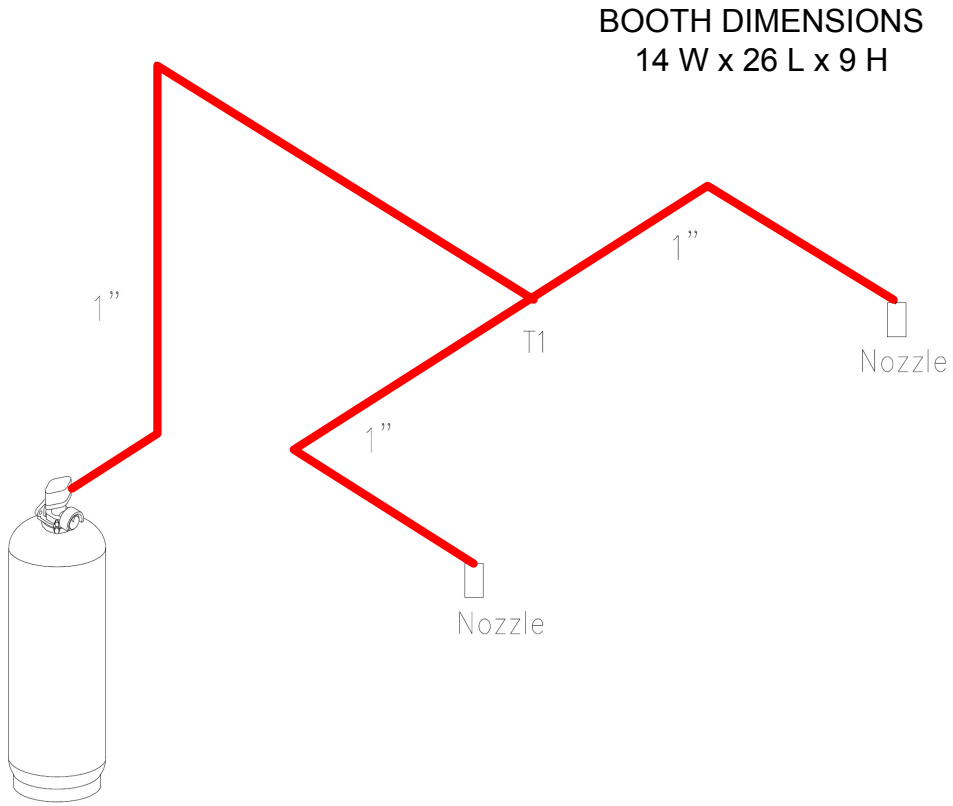
PIPE SIZES

- 1" Ø PIPE
- 3/4" Ø PIPE

↓	TFP NOZZLE
↓	TF NOZZLE
↓	D/P NOZZLE

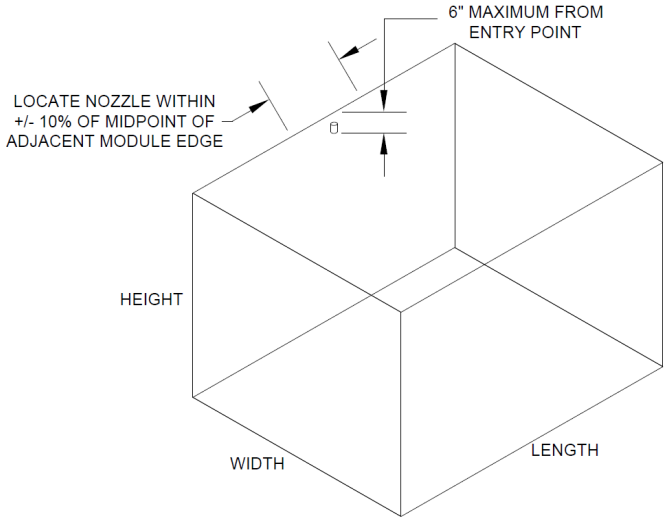
PRE-ENGINEERED SYSTEM SHOP DRAWING ONLY – NOT TO SCALE

3A.4.1.2 Module Perimeter Work Area Cov

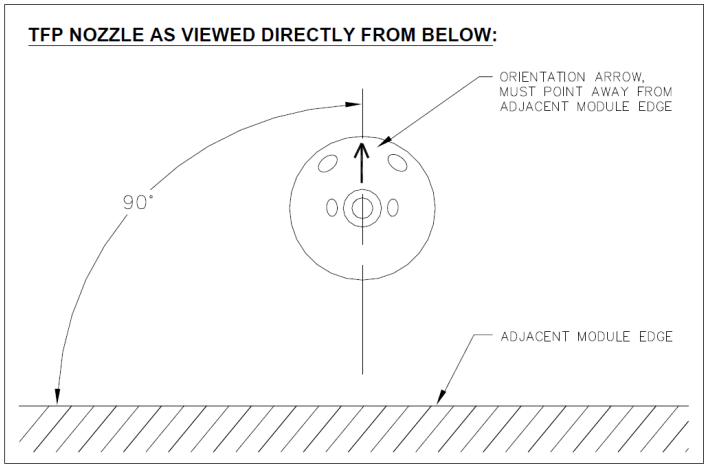


Module Perimeter Work Area, VPSB, IS45ABC, Two TFP Nozzles				
	Pipe Size, in	Maximum Length, ft	Maximum # of Elbows	# of Tees Allowed
Cylinder to T1	1	36	4	1
T1 to Nozzle	1	10	2	0
Total 1” Pipe	--	56	--	--
The maximum nozzle height above the agent cylinder is 20 feet.				

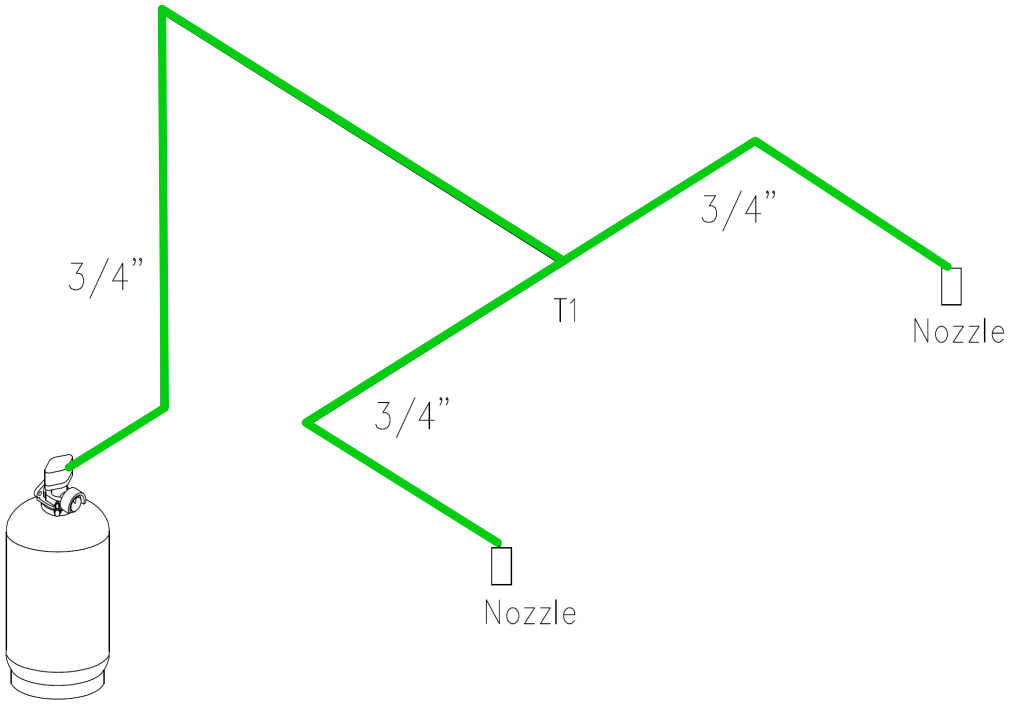
3A.4.1.2 Module Perimeter Work Area Coverage,



TFP NOZZLE AS VIEWED DIRECTLY FROM BELOW:



3A.4.4 Piping Limitations, Plenum and Duct, VPSB (continued)



Vehicle Paint Spray Booths, DUCT and STANDARD Plenum Coverages, IS18ABC, Two Nozzles						
Cylinder Size	Nozzle Quantity	Nozzle Type	Piping Section	Pipe Size, in.	Maximum Length, ft.	Maximum # of Elbows
IS18ABC	2	Any of the following combinations: - one 3-Way and one D/P; - two D/P’s; - two TF’s; - one TF and one D/P	Cylinder to T1	¾	36	4
			T1 to Nozzle	¾	16	3
The maximum elevation of the D/P, TF and 3-way nozzles above cylinder is 23’4”.						

DUCT PROTECTION – UTILIZING ONE(1) DP NOZZLE

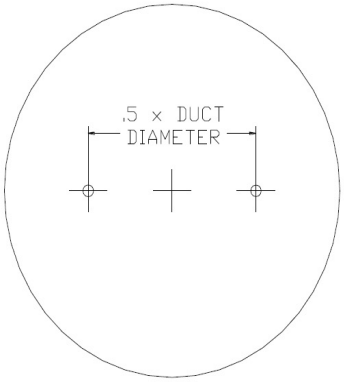
3A.4.3 Duct Coverage, VPSB

The D/P Nozzle will protect either round or rectangular ducts up to 28 feet in length. Any change in duct direction or additional length requires an additional D/P nozzle. The duct nozzle must be centered at the duct entrance, pointed in the direction of air flow. The tip of the duct nozzle must be within 6" of the duct entrance.

Round Ducts

Maximum Diameter, Single Nozzle = 46 Inches
Maximum Diameter, Two Nozzles = 52 Inches
(nozzle spacing: .5 x duct diameter, located on the same plane)

Spacing for two nozzles, protecting a duct diameter larger than 46", up to 52" maximum

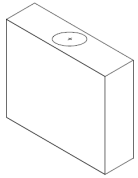


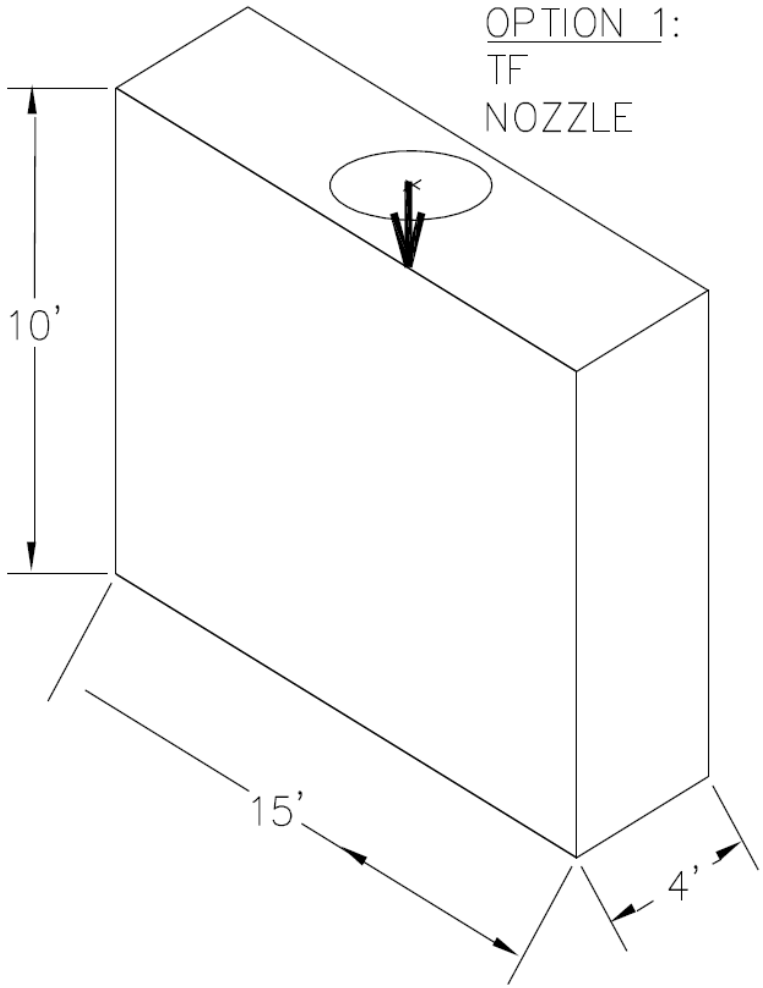
Rectangular Ducts

The following table shows sample maximum rectangular dimensions, based on the following two requirements:
Maximum Perimeter = 144.5 Inches
Maximum Diagonal = 46 Inches

Rectangular Ducts	
Side 1, Inches	Side 2, Inches, Maximum
12	44.4
14	43.8
16	43.1
18	42.3
20	41.4
22	40.4
24	39.2
26	37.9
28	36.5
30	34.8
32	33.0
32.5	32.5
34	31.0
36	28.6
38	25.9
40	22.7
42	18.7
44	13.4

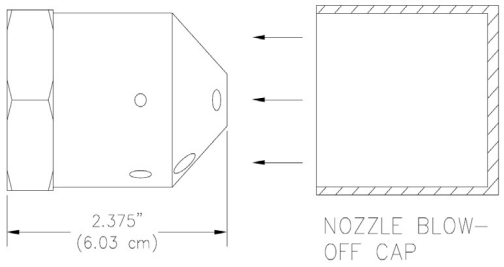
BACK DRAFT PLENUM PROTECTION – UTILIZING ONE(1) TF NOZZLE

Backdraft (Option 1) 	TF	4’ x 15’ x 10’	Volume = 600ft^3 Area = 60ft^2 Side = 15’	12” x 12” Square, Centered at Ceiling	0” to 6”	Vertical, Pointing Downward



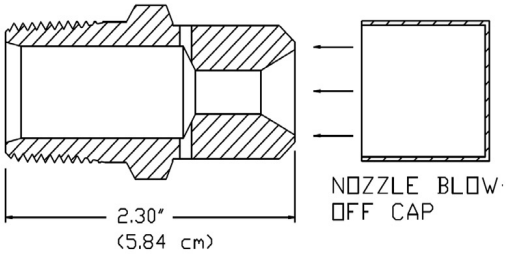
MAX BACK DRAFT PLENUM SIZE

DISCHARGE NOZZLES



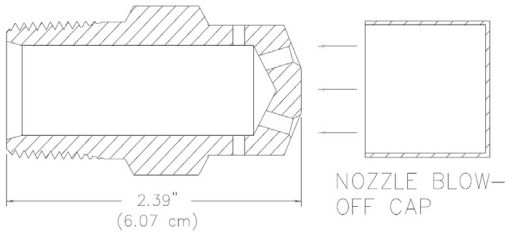
Total Flood, Perimeter, TFP (P/N 17809)

This nozzle is designed to protect the Work Area in a Vehicle Paint Spray Booth. It is also used in Total Flood applications. It is to be installed at the upper perimeter of the module being protected. The TFP nozzle contains a 1" FPT as opposed to the ¾" MPT as found on all the other IS nozzles (see Chapter 3A).



Duct and Plenum (D/P) Nozzle, (P/N 16190)

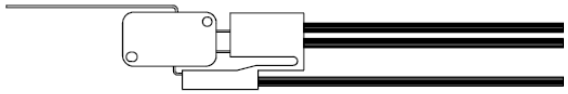
This nozzle is designed to protect exhaust ducts and certain plenums in Vehicle and Open Front Spray Booths (see Chapter 3A).



Total Flood (TF) Nozzle (P/N 16172)

This nozzle is designed for Total Flooding Application of Dry Chemical Agent into an enclosure with no more than 5% total uncloseable openings. See Chapter 3A for other limitations. It is also used in Vehicle Paint Spray Booth and Open Front Spray Booth applications (see Chapter 3A).

MICRO SWITCH - SPDT



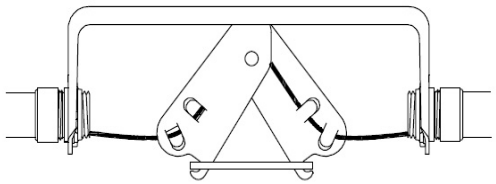
RED: COMMON
YELLOW: N.O.
BLACK: N.C.

Part Number	Contacts	Rating
12524	SPDT Single-Pole, Double-Throw	21A 1HP 125m 250, 277 VAC 2HP 250, 277 VAC

Warning: Power to electrical appliances should never be run through the Microswitch. The switch should be used to operate a separate, contractor-supplied, electrical contactor or magnetic switch of sufficient rating to handle the power requirements of the appliances. All electrical field wiring should be performed by a licensed electrician.

Detector – MRM Installations (Item 23): P/N 12508

Each Detector in the Amerex Industrial System is comprised of three parts. The Detector Bracket, Detector Linkage, and the Fusible Link or Job Link (ordered separately). The Bracket serves as support for the Linkage and is attached to a rigid surface. The Linkage supports the Link and a continuous Cable under tension. At a predetermined temperature, the Link will separate, relieving tension on the Cable and actuating the system.



All piping must be Schedule 40, hot-dipped galvanized steel pipe, and all fittings must be 150 lb. class. Examples of acceptable fitting materials include hot-dipped galvanized malleable iron, ductile iron, or steel. Couplings and unions may be used where necessary, and reducing bushings or reducing tees can be used for changes in pipe diameter.
Note: Black steel pipe and fittings can be used in relatively noncorrosive atmospheres.

All pipe must be reamed and blown clear. Dirt and/or cutting oil must be removed from the inside of all pipe and fittings before assembly. Assemble all pipe and fittings tight – 3 turns past hand-tight is recommended. The use of Teflon tape, joint sealant, or pipe compound is not necessary on the Distribution Piping Network and must not be used.

Secure all piping to a rigid surface using appropriate hangers and/or clamps in accordance with accepted plumbing techniques. Once Discharge nozzles are installed, ensure that the plastic blow-off caps are in place.

The flow of the mixture of dry chemical and gas does not strictly follow general hydraulic principles because it is a two-phase flow. Changes in direction of flow cause separation of expellant gas and dry chemical. To provide proper distribution of dry chemical upon splitting the stream, special attention must be given to the method in which an approach is made to a tee after a change in direction. Certain acceptable methods are shown below, which are taken from NFPA 17, the Standard for Dry Chemical Extinguishing Systems: