

Technology Update

MAXIMIZING EZ-PATH CAPACITY

Traditional cable pathways require space for the cables as well as space for the firestop materials. Adding cables requires removing and reinstalling firestop materials. Removing these materials means that the interior of the pathway is larger which facilitates pulling cables. The potential downside is that once removed, these materials often are not reinstalled or too many cables are added which may not allow for sufficient firestopping materials to be reinstalled.

The EZ-Path[®] system provides a safer and more fail-safe solution in that its firestop materials are built-in and occupy their own reserved space within the pathway. No need to remove and reinstall materials. Nor is there any concern for over-loading the device since it is tested and approved for a 100% visual fill. Since materials are not removed, the pathway dimensions are consistent. This requires installers to get used to some changes in their cable pulling methods. The purpose of this Tech Update is to provide information that will help you better utilize this unique product.

Factors Influencing Capacity: EZ-Path's rectangular shape allows for a very efficient utilization of cable loading area. Cables tend to nest which compacts the bundle significantly. However cable size and shape as well as cable bundle size can greatly influence this and reduce the potential capacity. Most EZ-Path users quickly adapt their cable pulling methods to achieve higher capacities.

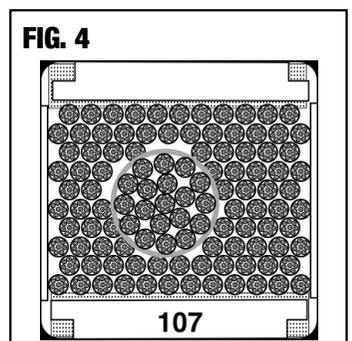
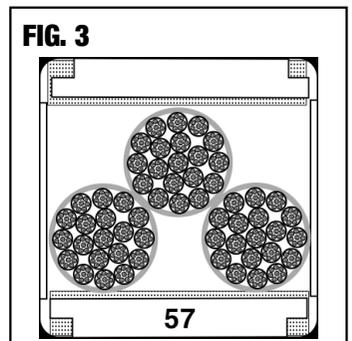
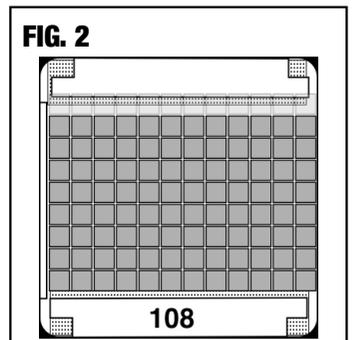
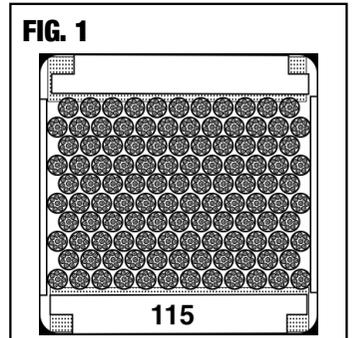
Optimum Capacity: Figure 1 illustrates tightly loaded cables. This capacity can be achieved by adding small numbers of cables at a time and being sure to remove cable ties.

Calculated Capacity: Figure 2 shows how the estimator is programmed. Each cable at any given diameter is considered a non-nesting square. Rows are added to fit the loading area. Partial squares are not allowed as indicated by the gray row at the top. With relatively small cables as shown here, this method reduces the capacity by about 6%.

Larger Cables: Figure 3 shows three larger cables installed. If you were to simply calculate the cross sectional area of these cables and divide this into the cross sectional area of the sleeve, you might assume that 5 cables could be installed. The calculator is programmed to recognize that this can't be done and reduces the potential loading in this case by 46%.

Larger Cable Bundles: Figure 3 also illustrates that pulling bundles of the same size will also reduce potential capacity.

Cable Shape: Variations in the shapes of cables can and will influence the total potential loading. If the cables cannot be tightly compacted, capacity will be reduced.



Maximizing Loading: Here are some tips to improve cable loading potential.

1. Install spare capacity and then distribute cables across all available pathways leaving the maximum void space above previously installed cables.
2. Size bundles so as not to exceed the height of this remaining void space.
3. Remove any cable ties in the pathway area that may prevent natural distribution of cables or displacement capabilities as additional cables are added.
4. Reduce bundle size as the pathway fills.
5. Consider pulling bundles through the sleeve within the previously installed cables (See Figure 4). This will displace cables as well as making the cable bundle slide through with greater ease.
6. Use your initial installations to determine best cabling methods required to achieve optimal loading based upon the size and type of cable you are using. Base your estimations on these test installations. NOTE: Desktop tests using short cable lengths are inaccurate and will typically allow fewer cables to be installed.

IMPORTANT NOTICE: The information herein is theoretical and is provided for informational purposes only. Variations in cable size and shape, as well as cable bundle size and other factors may influence these calculations. Therefore, THE ACCURACY OF THIS INFORMATION CANNOT BE GUARANTEED.

PATHWAY CAPACITIES

Select cable size from the Cable Diameter columns on the left to determine the maximum capacity of pathways

Cable Diameter		Pathway Cable Capacity		
mm	inches	EZD22	EZD33	EZD44+
3	0.118	70	368	868
3.5	0.138	54	266	648
4	0.157	35	204	483
4.5	0.177	28	165	399
5	0.197	24	130	323
5.5	0.216	20	108	255
6	0.236	15	88	210
6.5	0.256	12	70	182
7	0.275	12	63	156
8	0.314	6	48	110
9	0.354	6	35	90
12.5	0.491	2	20	42
15	0.590	2	12	30
18	0.708	1	6	20
20	0.786	1	6	16
25	0.983	0	4	9
30	1.179	0	2	6
35	1.376	0	2	4

IMPORTANT NOTICE: The above information is theoretical and is provided for estimation purposes only. Cable types, shapes and diameters may vary and influence these calculations. Therefore, THE ACCURACY OF THIS INFORMATION CANNOT BE GUARANTEED.

NOTE: See tips on first page for maximizing pathway capacity.

