MULETAPE®

Polyester MULETAPE® Selection Guide

The original flat, woven, polyester pulling and measuring tape, essential for safely and efficiently installing fiber optic, coaxial, and copper cables in underground conduit or duct.

Features & Benefits:

- Flat, woven tape design provides duct burn-through resistance
- Lubricated for reduced friction and lower pulling force
- Low elongation tape construction for enhanced worker safety
- Available from 200 to 6,000 lbs. break load strengths (91-2722kg)
- Easily spliced using conventional methods or the **MULEKNOT™**
- Indelibly printed with permanent sequential footage or meter markings for accurate cable pull measurements

General Guidelines for MULETAPE® Selection based on Installation Environment*

Considerations for Environmental Factors (EF) Selection	Estimated Environmental Factor (EF) Range					
Key: ● Less Leeway ● Recommended ● More Leeway	1.5	1.6	2.0	2.5	3.0	4.0
HDPE duct, Lubed, Low Fill Factor, MULEKNOT™	●	●	●			
HDPE duct, Lubed, Low Fill Factor, Other Knot		●	●	●		
HDPE duct, Lubed, Moderate Fill Factor, Knot			●	●	●	
Non-HDPE duct, Lubed, Low Fill Factor, Knot			●	●	●	
Loads not accurately known or cyclic loads likely				●	●	●
Significant total bend angle in path (incl. entrance/exit)				●	●	●
Not lubed or abrasion likely, rough surfaces or edges				●	●	●
Multiple Installation Concerns (incl. sand or mud debris)					●	●
Previous Installation Issues with Similar Application, increase EF or choose tape with a higher rated breaking load.						

Standard Tape Constructions *Most popular tape descriptions highlighted in blue/bold			Recommended Tape Selection Using EF (Min Brk Load / EF)					
Description*	**Nom Width (in)**	**Min Brk Load (LB)**	**1.5**	**1.6**	**2.0**	**2.5**	**3.0**	**4.0**
WP-2500P	**0.688**	**2500**	**1,670**	**1,560**	**1,250**	**1000**	**830**	**630**
WP-1800P	**0.500**	**1800**	**1,200**	**1,130**	**900**	**720**	**600**	**450**
WP-1250P	0.438	1250	830	780	630	500	420	310

Heavy-Duty Tape Constructions *Most popular tape descriptions highlighted in blue/bold			Recommended Tape Selection Using EF (Min Brk Load / EF)					
Description*	**Nom Width (in)**	**Min Brk Load (LB)**	**1.5**	**1.6**	**2.0**	**2.5**	**3.0**	**4.0**
RP6000P	**0.750**	**6000**	**4,000**	**3,750**	**3,000**	**2,400**	**2,000**	**1,500**
RP4000P	0.625	4000	2,670	2,500	2,000	1,600	1,330	1,000
RP3300P	0.500	3300	2,200	2,060	1,650	1,320	1,100	830

See other side for additional guidance on estimating associated pulling force.

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Estimate of Associated Pulling Forces for MULETAPE® Applications

Pulling forces vary depending on fill ratio, terrain, and underground architecture; actual field conditions should be considered before ordering. The tension calculator below is intended to be used as a guide.

Drag Factor					
Number of Cables	**Friction Factor**		**Your Cable Height**		**(Cable Weight x CoF)**
Single Cable	0.35	x	Cable Weight	=	Drag
Multiple Cables	0.5	x	Cable Weight	=	Drag

Point-To-Point Look Up Table For Bend Angle, Degrees							
Bend Degrees	**0**	**15**	**30**	**45**	**60**	**75**	**90**
Single Cable Bend Factor	1	1.11	1.23	1.37	1.52	1.69	1.87
Multiple Cable Bend Factor	1	1.14	1.3	1.48	1.69	1.92	2.19

To apply these formulas in your application, follow these steps:

1. Determine the weight per foot for your cable.
2. Multiply cable weight by the coefficient of friction for either single cable or multiple cables to determine the pull factor.
3. Review pull path plans and determine the lengths between bends.
4. Multiply the bend factor by the length of conduit
5. Multiply the result by the pull factor.
6. Repeat steps 2-5 and add the resulting tension to the next length of conduit.
7. Repeat step 7 until the last point results in the cable exit.
8. The total tension will determine which **MULETAPE®** is recommended, see opposite side and be sure to consider the knot that is typically tied.
10. Repeat steps but start from the opposite end to determine if there is a lower tension from the other direction.

Start (Add Rows if Needed)	**End** (Add Rows if Needed)	**Angle**	**Bend Factor From Look Up Table**		**Conduit Length**		**Drag Factor Remains Constant**		**Previous Tension**		**Total Tension**
A	B			x		x		+		=	Add To Next Line
B	C			x		x		+	Carry Over From Above	=	Add To Next Line
C	D			x		x		+	Carry Over From Above	=	Add To Next Line
D	E			x		x		+	Carry Over From Above	=	Add To Next Line
E	F			x		x		+	Carry Over From Above	=	Add To Next Line
F	G			x		x		+	Carry Over From Above	=	Add To Next Line
G	H			x		x		+	Carry Over From Above	=	Add To Next Line
H	I			x		x		+	Carry Over From Above	=	Add To Next Line
I	J			x		x		+	Carry Over From Above	=	Add To Next Line

WARNING:

MULETAPE®: For cable installation only. Do not strap, bind or lift items with this product.

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