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## True confessions of a rope abuser

Posted by redpanda - 03/25/2004 02:57am

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Have you ever used ropes for Ddrt arborist climbing that were designed for something else?  
(I've used a 10 meter length of mammut prostatic 11mm regular old static nylon kernmantle and it seems to be holding up quite nicely.)

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Posted by NickfromWI - 03/25/2004 07:12pm

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My first tree climbing line was purchased at a hardware store at the price of about 70 cents/ft.

I climbed about ten trees with it before I decided I should see if someone made rope especially for this purpose!

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love  
nick

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Posted by JimK - 03/25/2004 11:33pm

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My first climbs were in '79, following the release of the Eagles' "Hotel California" and just before Pink Floyd's "Another Brick in the Wall" (We don't need no education. We don't need no thoughts control...) Marion and Herb handed me a three strand rope to start climbing. We never discussed specifications or composition. In fact we used a friction hitch never reported in literature. I climbed on various ropes of unknown composition. The free climb technique seemed to significantly reduce rope wear independent of the rope composition. Nowadays I'm only in places that play Musica do Popular Brasil, and I'm looking at rope specifications like a hawk. I'm glad to be here.

Regards,  
JimK:cool:

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Posted by Tom Dunlap - 03/26/2004 08:21am

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My rope of choice for SRT is New England KM III, 7/16".

For DdRT New England Fly is the best!

Tom

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Posted by stevebullman - 03/26/2004 12:30pm

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i climb with beal top gun 10.5mm. want to switch to the fly though when i get some spare cash  
love my top gun though

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## Lanyard & Double Ended Rig

Posted by Icabod - 03/26/2004 10:29pm

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I have a 25' length of BWII static KM that I use for a lanyard (static lanyard--big no no) and for a double ended rig when ladder climbing. When using I keep all slack out of the loop, but I really need to get rid of this method, I'd hate to take any fall on that line with no significant stretch.

Climb Safe! (Yeah, Yeah, I need to practice what I preach)

Icabod

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Posted by stevebullman - 03/27/2004 12:38pm

hi robert, i climb ddrt with a petzl shunt in place of a friction hitch

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**Source of Quotation**

Posted by JimK - 03/27/2004 05:30pm

The purpose of this entry is to reference the source of the quote attributed to this author. Actually the quote is from TCI. The context of the quote is being provided, since this is becoming part of the discussion.

<http://www.treeclimbing.com/treegear.html>

Tree-climbing rope, or arborist rope, uses a polyester-Dacron exterior sheath instead of the nylon sheathes found on rock-climbing ropes. Unlike nylon, polyester has a high heat tolerance. It is also soft and pliable, making it easy to tie the special knots needed to climb trees safely. The rope is built in a braided construction. Never use a twist-constructed rope. It will make you spin in the air while you hang suspended! Rock-climbing ropes are not suitable for tree climbing unless you are using static ropes with mechanical ascenders. Rock climbers use dynamic ropes with designed elasticity to take falls (shock loads); these are not appropriate for tree climbing, because they have too much stretch. The main technique used by tree climbers, double rope technique, requires the rope to run over a branch (or a friction saving device if needed) while fully loaded with body weight. If you were to use one of those pretty mountain-climbing ropes (kermantle), you'd melt the thin outside sheath on the first climb! Not good!

This comment by TCI is well supported by a survey of rope recommendations and rope manufacturers. Additionally, it's consistent with the polymeric chemistry that defines nylon as the weaker filament for abrasion and heat resistance when compared to polyester. If wet, the nylon performance worsens.

It's factual that polyester is preferred. How quickly nylon will degrade is a matter of the conditions. Of course wet weather presents the worse case scenario.

"On Rope" Pagett 3rd edition page 21 presents how nylon strength varies between wet and dry in the section titled Abrasion Resistance. Pagett also presents a diagram showing a nylon rope being tested under the worse scenario - wet. Obviously this isn't a concern with polyester.

There's a lot of merit to the TCI quote. The general public is just becoming aware that the manufacturer's quotation of melt point correlates with rope properties, but it fails to define those properties. The Tg better defines rope properties because it directly measures the flex of the fiber over the application temperature range. Lastly the technical literature reports nylon does indeed have the lower Tg, lower abrasion resistance, and a severe reduction in strength when wet.

Regards,  
JimK

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Posted by stevebullman - 03/28/2004 04:55am

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robert, the sheath is intact and the rope works well.

As a climbing arborist this rope is used on nearly a daily basis, wouldn't like to say how many climbs its done but probably in the region of 200.

I am aware of the arguement regarding mountaineering rope and read up on this before i decided to switch.

As i use a shunt as a friction hitch there is not much heat build up at all, specially if you descend at a reasonable speed.

If i want to whizz down a rope i simply change to single and stick on a figure of 8.

Also i anchor my rope with a cambium saver with a pulley attached. So long as you do your best to avoid crossing branches etc, there really is very little friction at all using this method.

I have no qualms with recommending the system.

hope this is interesting for you, I certainly wouldn't knock it before you try it.

Also, something which is quite cool with this dynamic setup, on long pulls sometimes you can get a little bounce going on the rope which actually shoots the shunt up the rope twice as far.

By the way, the shunt is self advancing unlike a friction hitch, is used more like a lockjack

cheers

steve

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Posted by SRT-Tech - 02/03/2007 01:25pm

Originally posted by stevebullman

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steve

hear hear!!! i too use this setup (yes i also use arborist ropes too....) and quite like it. Ascents are FAST, descents are controlled and safe, and i have yet to see a SINGLE mm of glazing on my BW Assualtline.

but for the genreal public just getting into it, i always recomend using polyester rtopes

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Posted by Ron - 07/05/2007 10:26am

It seems to be increasingly difficult to find temperatrue ratings of nylon and polyester rope from manufacturers. The one place I could find temperature specs was Yale Cordage. They say:

Temperature: Effect on tensile strength. The tensile strength charts apply to ropes tested at normal room temperature (70°F). Ropes have lower tensile strengths at higher temperatures 30% (or more) lower at the boiling point of water (212°F) and continuing on down to zero strengths for nylon and polyester at 480°F and 300°F for polypropylene. Also continued exposure at elevated temperatures can melt and part synthetic ropes or cause permanent damage.

I couldn't find those "tensile strength charts " they refer to, but the implication of the statement is that nylon and polyester have essentially the same temperature characteristics.

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I have seen at least two other references that corroborate that nylon and polyester ropes have very nearly the same temperature characteristics and as it so often goes, now I can't remember where I found them.

As for abrasion resistance, 'cave' ropes are nylon over nylon and are designed to work in very abrasive conditions.

In their catalog, PMI says this about their nylon core/nylon sheath rope:

"No other 11mm rope will outlast a PMI Classic in side by side, real world applications!"

I believe the primary reasons for using polyester as arborists ropes are because it has a bit less stretch, and it's simply more flexible to accomodate tying friction knots.

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## Rope Abusers?

Posted by Oldtimer - 07/06/2007 12:14pm

What got this old post revisited? Are you guys melting ropes by high speed descends again? Cool it! Slow down and enjoy the climb. It is not a race, it's an adventure and it's just for fun!

Let the professional Arborists smoke their ropes. They do it for living and can replace their climbing gear regularly as part of doing business. Remember: Low and sloooooow.

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LOL! That's good advice! But that's one reason I climb dDRT with a split tail - all I have to replace if I burn something is 4 feet of rope. While, I've never melted any rope - I pretty much abide by your advice with dDRT, but I do see the wear and tear on the split tail.

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Posted by moss - 07/06/2007 02:07pm

Originally posted by Ron

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It's interesting that with the high temperature cover hitch cords coming into wider use climbers are starting to see their main climbing rope getting scorched while the hitch is undamaged. These are climbers who like to fly down their rope DdRT.

-moss