



MAKING A SAFE TRAINING PLASTIC BOW



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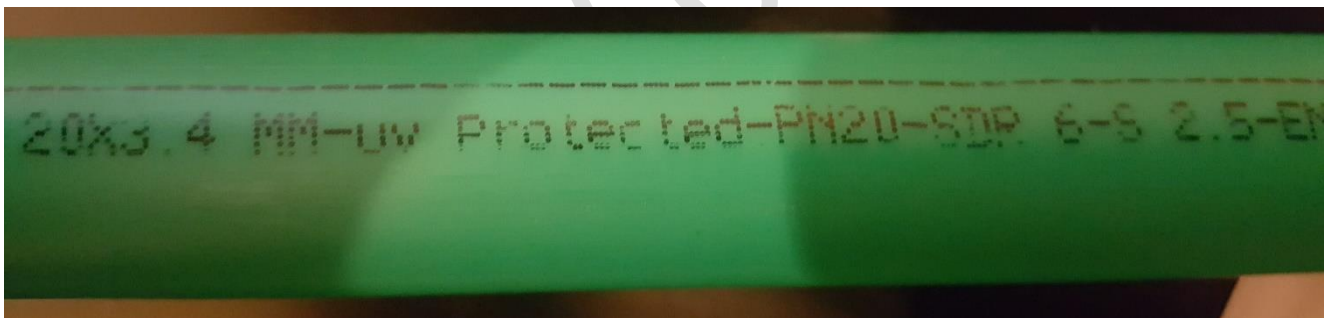
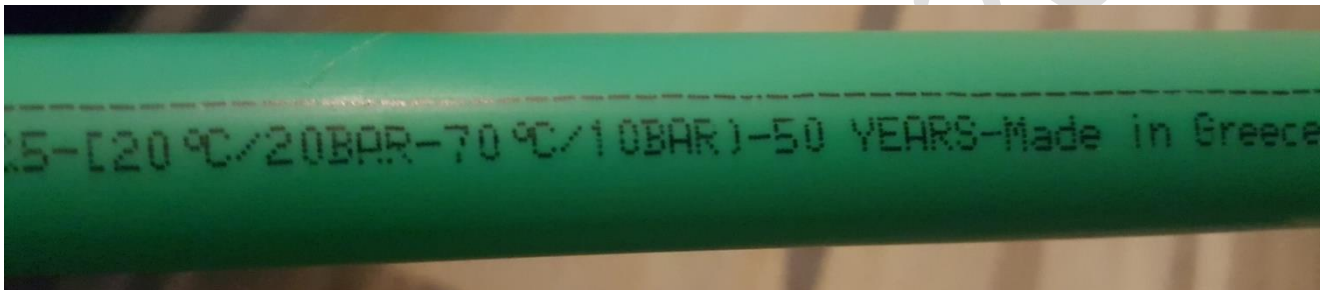
Polypropylene training Bow

As a WA level 1 coach and Coaches trainer I made PVC bows in order to use them with my students and athletes according to the Level 1 Manual ...

This kind of bows are ideal for the novices to adapt the archery technique and I use them a lot ... All these years using them a lot of people, coaches, parents and many others mentioned that this kind of bow is not safe for use. WHY? The answer came a few months ago in my club ... one kid practicing with a PVC low poundage bow in full draw got a small injury on his face because the bow Brock and some small pieces from it hit the kid ... Asking some engineers why they said that PVC polymerized after some time and it's not stable...

Trying to find a solution asked engineers in my home town and they suggest me to use a new product (New for me maybe). That products name is PP-R TYPE3 Polypropylene Tube. Please select the simple one (without aluminum layer)

Full specification in the last page ...



This tube is used in water supply system and it's safe for use by kids. It's very easy for everyone to go online and read the specs for that material. It's durable, and safe ... like all archery material when not in use must be in the equipment storage area not under the sun ... it has UV protection and it can be used under extreme weather conditions up to 70 Celsius.

So I purchased some tubes to test it and see if I could use it in archery training. The results was remarkable ...

The Material

It comes in 4m tubes and it's easy to cut it in pieces (Personally from a 4m tube take either 2 bows of 1,50m and 5 pieces of 20cm to make bow grips in my elastic bands .

In Greece the price of one 4m tube is less than 10Euros and it depends from the width.

The tube is flexible but not breaks even if you try to break it is impossible... This way it's safety for athletes. The poundage of the bow depends on the width of the tube so you can make different pounded bows to help new archers to practice all the steps of the technique including suspended bow (they will love that)

As an example i made 2 bows:

- 1) 1,5m long Φ 20 (2 cm width) that give 6lbs in 28" draw length
- 2) 1,5m long Φ 20 (2,5 cm width) that give 10lbs in 28" draw length

This type of tubes got sizes from 2cm up to 16cm width. So taking thicker tube you get stronger bow.



Steps of making

1) Pick one piece of tube my suggestion is 1.5 m but you can have any size you want (we don't afraid to use a short bow because the string pass from inside the bow and the bow will be one piece no matter the draw length of the archer. You can cut the tube with a normal saw for wood and you can soften or filed the edges with a knife or with a file

2) We find the middle of the tube ... You can measure the length and divided by 2 or to a rope like the picture. Why it to find the total length of the tube and we fold it in the 2 equal parts so we put it again the tube and we find the center. Put a small mark with a marker.



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3) The mark in the center of the tube is the center of the grip so we measure 5cm left and right of the mark and put 2 new marks in order to have the place of the bow grip marked ...



4) We can use any material we want to make the bow grip... I use thermal shrink tube that used in electrical works and it's easy to find it. I use a lighter to shrink it and in no time I got a grip. You can use rope or any other material you want.



5) Having the tube with the grip ready we start making the bow ... we could use a rope (I prefer Para cord or same material because it's thick and I can use my bow to nock arrows and shoot). I cut a piece of rope double length of the tube plus 20cm approximately



6) We pass the rope inside the tube and we get it from the other side.



7) Now we press the upper side of the tube bending it and same time we make a knot. We test the brace height to be approximately 7 Inches or what you prefer so. Secure the knot by adding more knots. Now your bow is ready.



USE OF THE BOW

As we said you could use that bow in your practice and anyone can use it to improve his shooting skills.

The poundage of the bow depends of the thickness of the bow. You can find a lot of different tubes in order to make different poundage.

If you add nocking points to your bow by using the T-square you may take as a reference your upper side of your palm on the grip.

If you wish to add an arrow rest, you are invited to consult the World Archery guide entitled: HOW TO MAKE YOUR OWN ARCHERY EQUIPMENT, in particular the two following chapters:

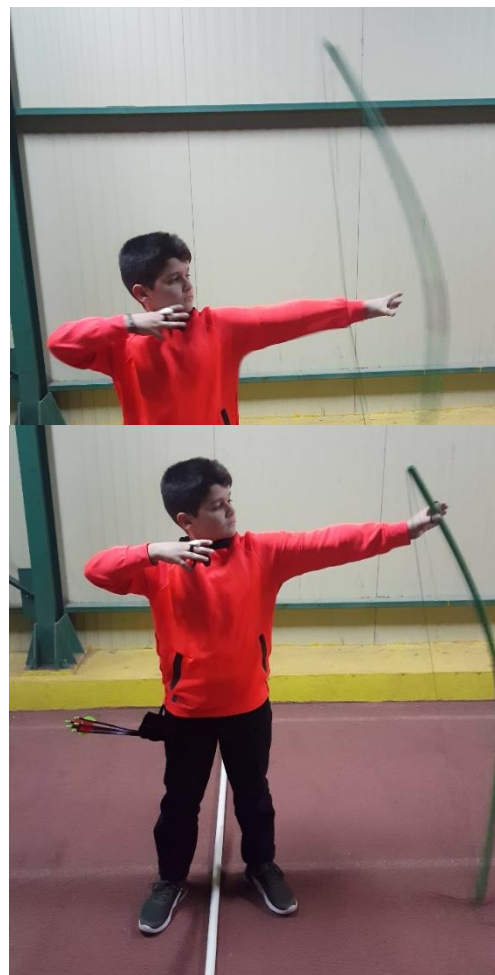
- The nocking point in << How to make your own **STRING**
- How to **TIE A NOCKING POINT**
- How to make your own **ARROW REST** in which three methods are suggested.

Adding a sight is trickier. You could be inspired by How to make your own **SIGHT** from the same above guide, How to make your own **SIGHT**

This bow would help athletes to assimilate the shooting sequence and solve some problems. It's for training use and it could shoot some arrows in short distance as part of a specific exercise and sometimes just for fun...

Got no sights on it if you want to shoot you could use the bare bow aiming technique or instinctively.

The bow is safe to fall down so you can use it to solve problems like holding the bow.



... The most reliable plumbing system



Designed for hot and cold water, Supreme indo green PP-R is the latest and most suitable system for all plumbing applications. Beside plumbing, this system can also be used for varieties of applications like air distribution, radiator heating etc. The specific chemical structure of indo green PP-R provides well balanced mechanical properties and superior long term heat resistance. More importantly, the water flowing through it does not have any negative biological effect and hence remain most hygienic. Thus signifying its quality, performance and suitability for potable water application. Being an ideal solution for housing sector, it has also been approved by MCGM.

Product range

Pipes - 20 to 160mm sizes in SDR 11(PN 10), SDR 7.4 (PN 16) and SDR 6(PN 20) pressure class as per IS 15801

Fittings - 20 to 160mm sizes in PN 20 or PN 25 as per ISO 15874

Fields of application

Indo green PP-R is designed for hot and cold water supply in residential, industrial, commercial and public projects, solar heater applications, drinking water and liquid foods, watering systems for greenhouses and gardens, transportation of aggressive fluids, water purifying plants, radiator heating, traditional heating systems, air distribution and compressed air systems, chilled water and air conditioning etc.

FEATURES AND BENEFITS

Light weight, easy and quick assembly - Results in extensive saving in time and labour.

Ideal and safest system for carrying potable water - PP-R is absolutely free from corrosion and negative biological effects. It does not break down even under the harshest water conditions; hence the quality of water never deteriorates. It is in full compliance with the International standards on the use of plastics materials for the transportation of potable water.

Safe and watertight joints - Joints are prepared by fusion process using polyfusion device. This process gives homogeneous, integral and watertight joints, which lasts for long time.

Excellent resistance to corrosion and chemical attacks - PP-R pipes and fittings are stable against the majority of known aggressive and toxic chemicals, aggressive soils and fluids in the external environment.

Reduced head loss - Mirror smooth inside surface ensures high flow rates and very low frictional losses.

Low thermal conductivity - Results in saving in insulation cost, thereby reducing overall operational costs.

Free from scaling - Due to the unique properties of PP-R limestone or other deposits cannot form and hence there is no scaling or blockage in the pipelines.

High impact strength - Indo green PP-R has a very good impact strength and hence no possibility of any breakage.

Low on sound - The sound dampening property of PP-R is a major attraction in plumbing, flushing and pressurized flow applications.

Long operational durability - Indo green system ensures a minimum 50 years of trouble free performance.

Highly economical in long run - This system is most cost effective than any other plumbing system. Moreover, due to savings in installation and insulation cost, this system is even comparable with standard make class-B GI piping system.