CRACKLING SOUND

DIY Audio Power Cable – Introduction

These days I made a DIY power cord that turned out to be just great in my system, so I would like to share the joy and satisfaction with you. The work turned out to be far better than a few of my previous attempts. This is made for all of you who think the component deserves a better power cord than we usually get with the device.

When making it, I was guided by the idea that conductors (phases and zeros) placed inside a shield are resistant to external RF, EMI, and other interferences(such shielding also provides protection against the negative effects of strong current from conductors on sensitive interconnects and nearby speaker cables) but does not protect the conductors inside the shield from direct mutual influence (induction, etc.). Therefore, three shields were used in the construction of this cable, for each conductor separately, but in mutually conductive contact along the entire length of the cable. Such a cable architecture is not an invention, I saw it in a couple of very expensive power cables from reputable companies that make cables and interconnects. The cable is both relatively heavy and massive, which may be useful in vibration resistance.

After making such two cables for my needs, two more of my audiophile friends made such cables and are very pleased with the result, so here are short instructions for making for those who would try the quality of this work. In a few pictures with accompanying text, I will try to explain how I did this and what materials I used in the making, so you can do the same in your DIY workshop.

The material used in the manufacture is available in the US. The total cost of the material used to make it is about $ 270. It is quite a big expense, but it is difficult to get a power cable of this quality for such money, with such terminations(power plugs), which alone cost almost $ 250. If you want to make a power cable yourself, you will need the following:

The list of materials and tools for making DIY audio power cable:

- **RG213 coaxial cable - 20 feet**
- **OFC power cable (soft) - 20 feet**
- **PTFE industrial sealant tape - 2 pieces**
- **Shrink tube - two 5' pieces**
- **Furutech FI-28(G) IEC connector**
- **Furutech FI-28M-G connector**

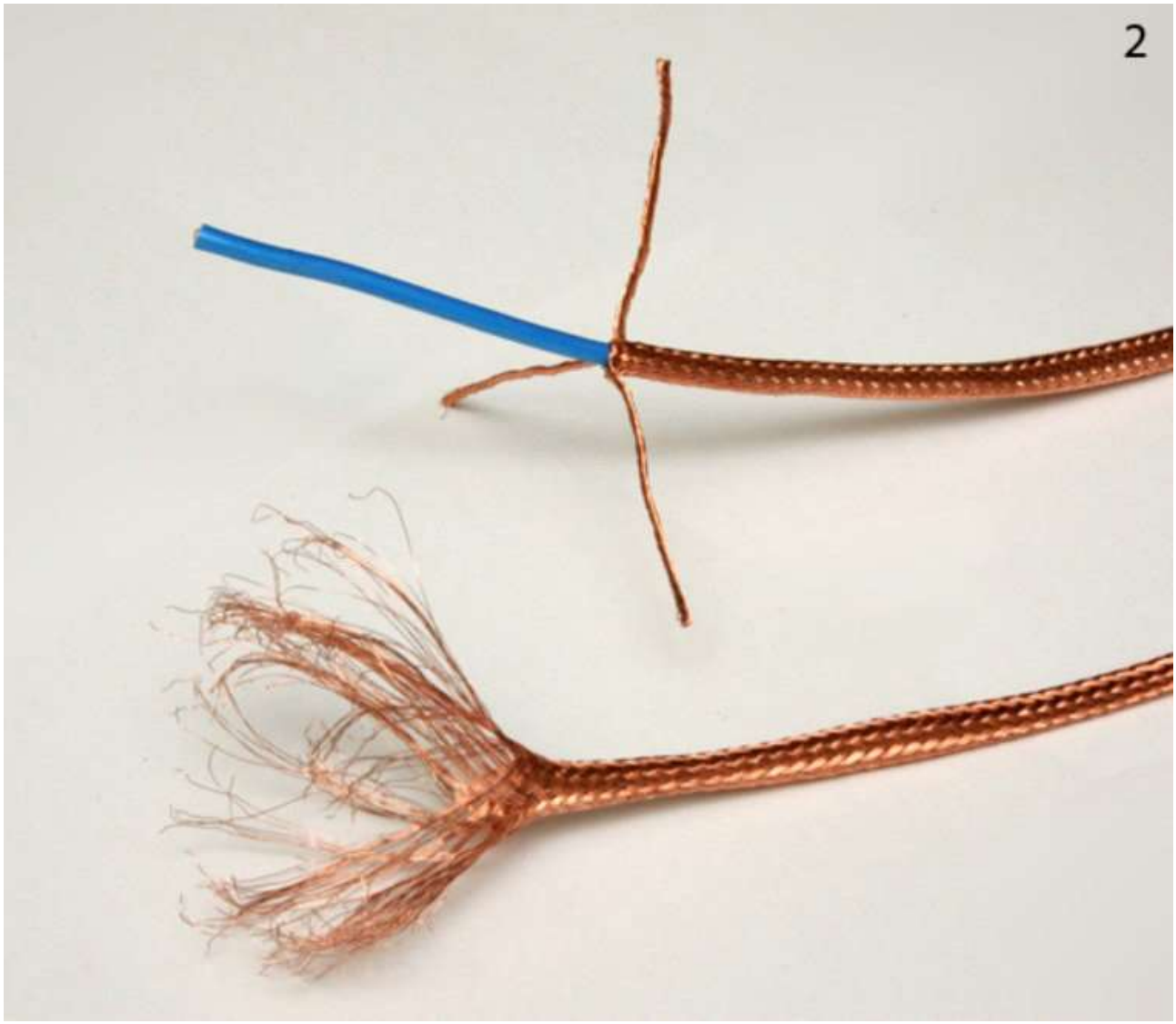
Tools:
Scissors, scalpel knife (Olfa cutter), screwdrivers, pliers, digital multimeter, patience.

WARNING

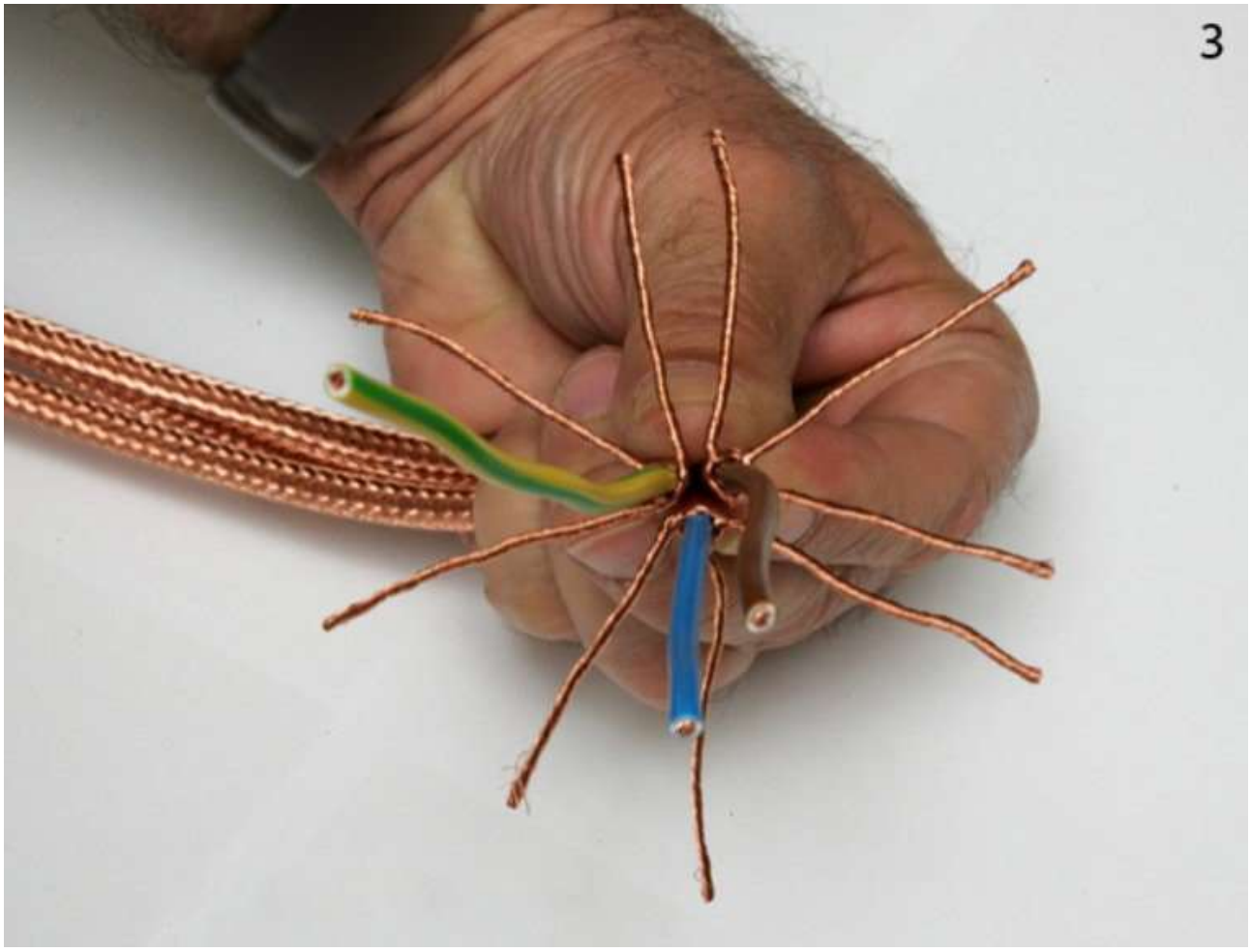
1. Mains contact voltage can be deadly!
2. Manufacturing errors can lead to damage to devices or electrical installations in the apartment!
3. If you start making the network cables described here, strictly follow the instructions!
4. Before connecting to the mains, be sure to entrust the production control to a qualified person in the electrical engineering profession!
5. If you use the electrical connection cables and filters described here, you are personally responsible for contact voltage protection and fire protection!
6. The AUTHOR of this article has no liability and will not accept any liability for damage to life, health, or property in the construction and use of the power cable described here!

How to make DIY audio power cable?

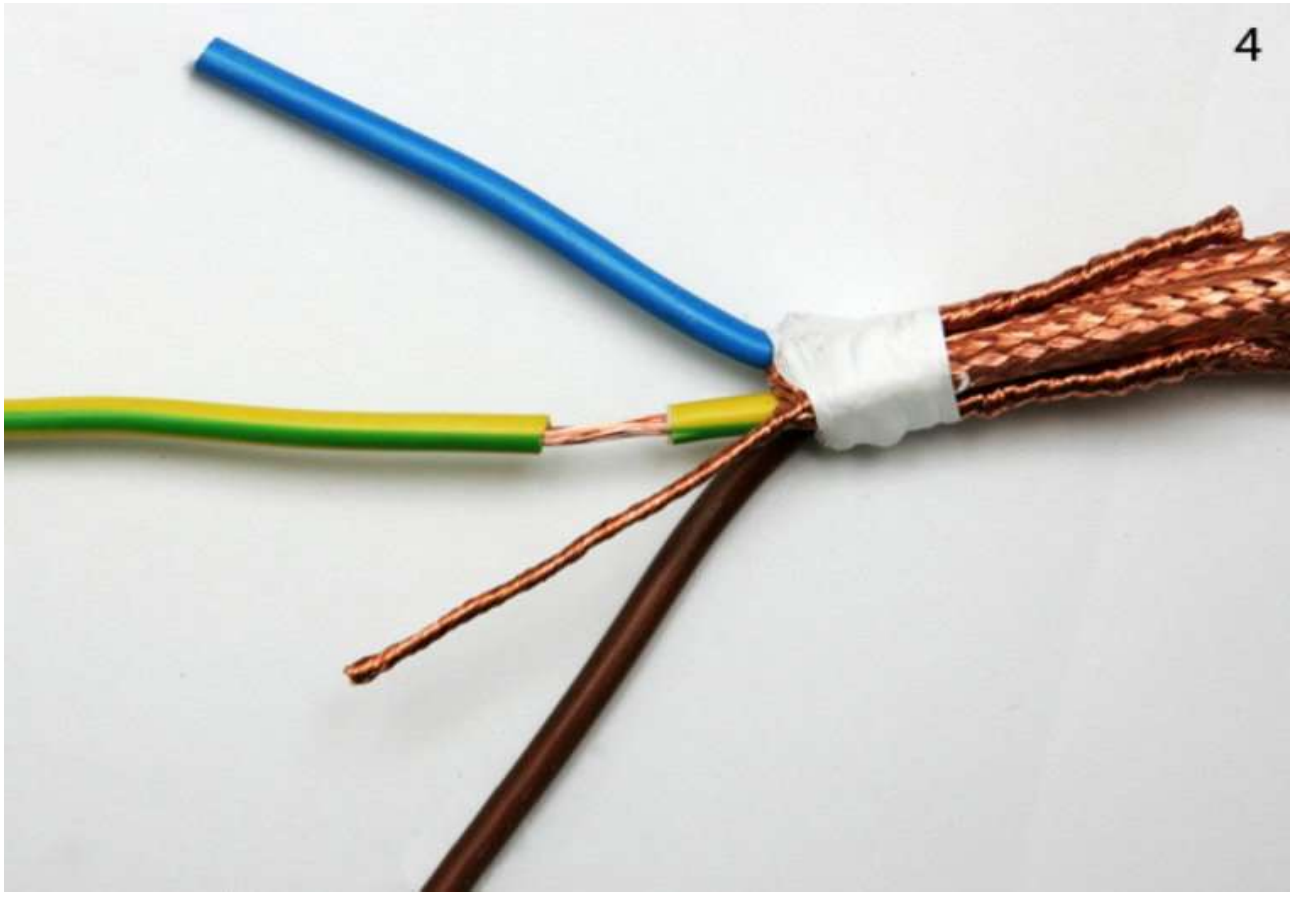
Remove the plastic shield from the coaxial cable and then remove the densely woven copper coaxial braid. He will serve us as armor around each of the three guides individually. The purchase of a sparsely woven braid should be avoided, (RG-213 can be found with several types of quality, depending on the manufacturer), and avoid the use of tin shields if possible (it has a tin cover over copper). Insert the guides into the sleeves thus obtained. You will make this much easier if you squeeze the copper sleeves towards the middle before the procedure to thicken them and open them.



At one end of each of the three shields, unravel the 5 cm long armor. Divide the unraveled shield into three parts and whisk tightly.



You can then gather all three conductors together and intertwine the twisted wires. One of the twisted ends of the wires should be connected to a conductor that will serve as grounding, at the end of the future conductor that is connected to the power plug.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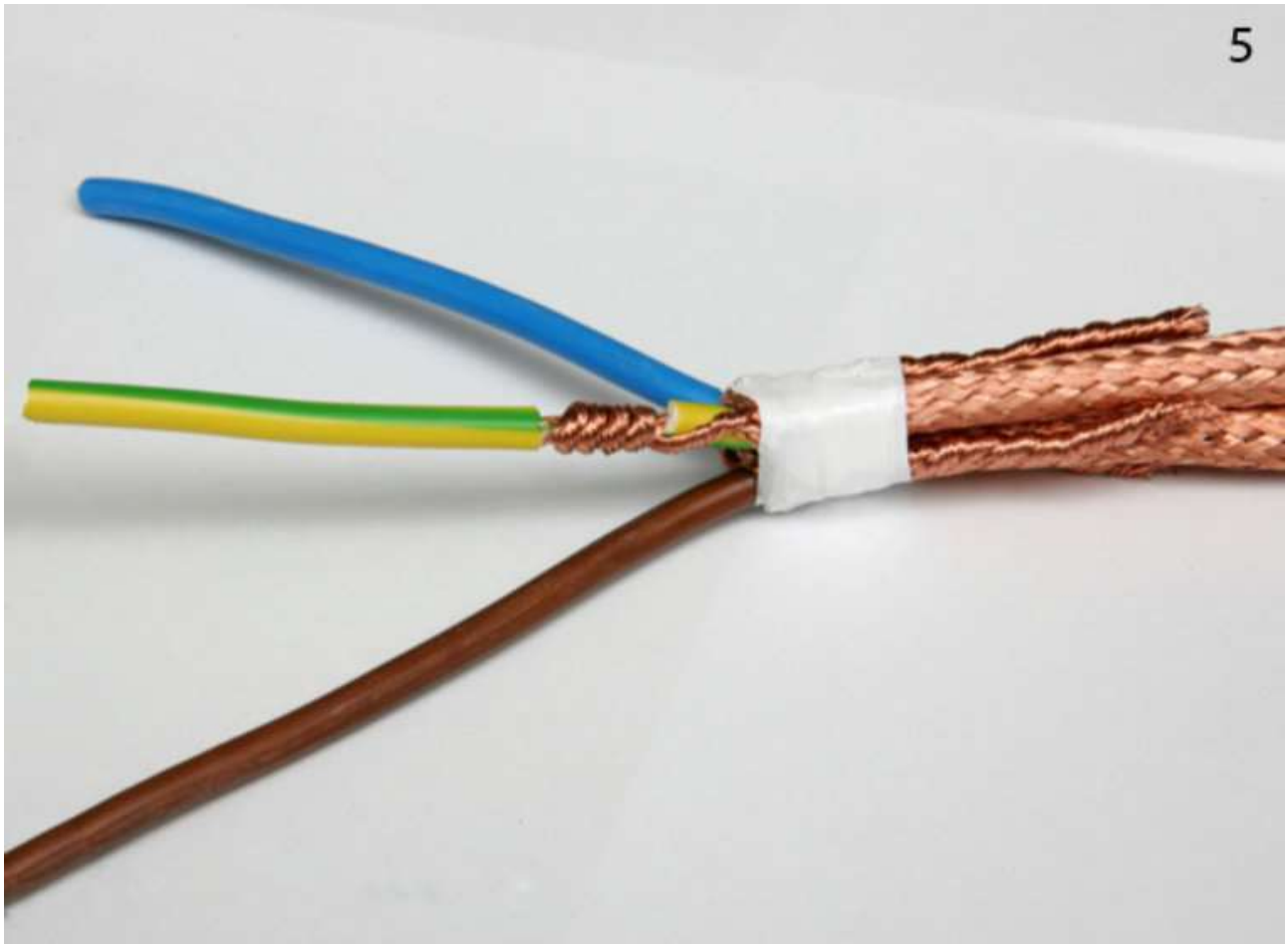
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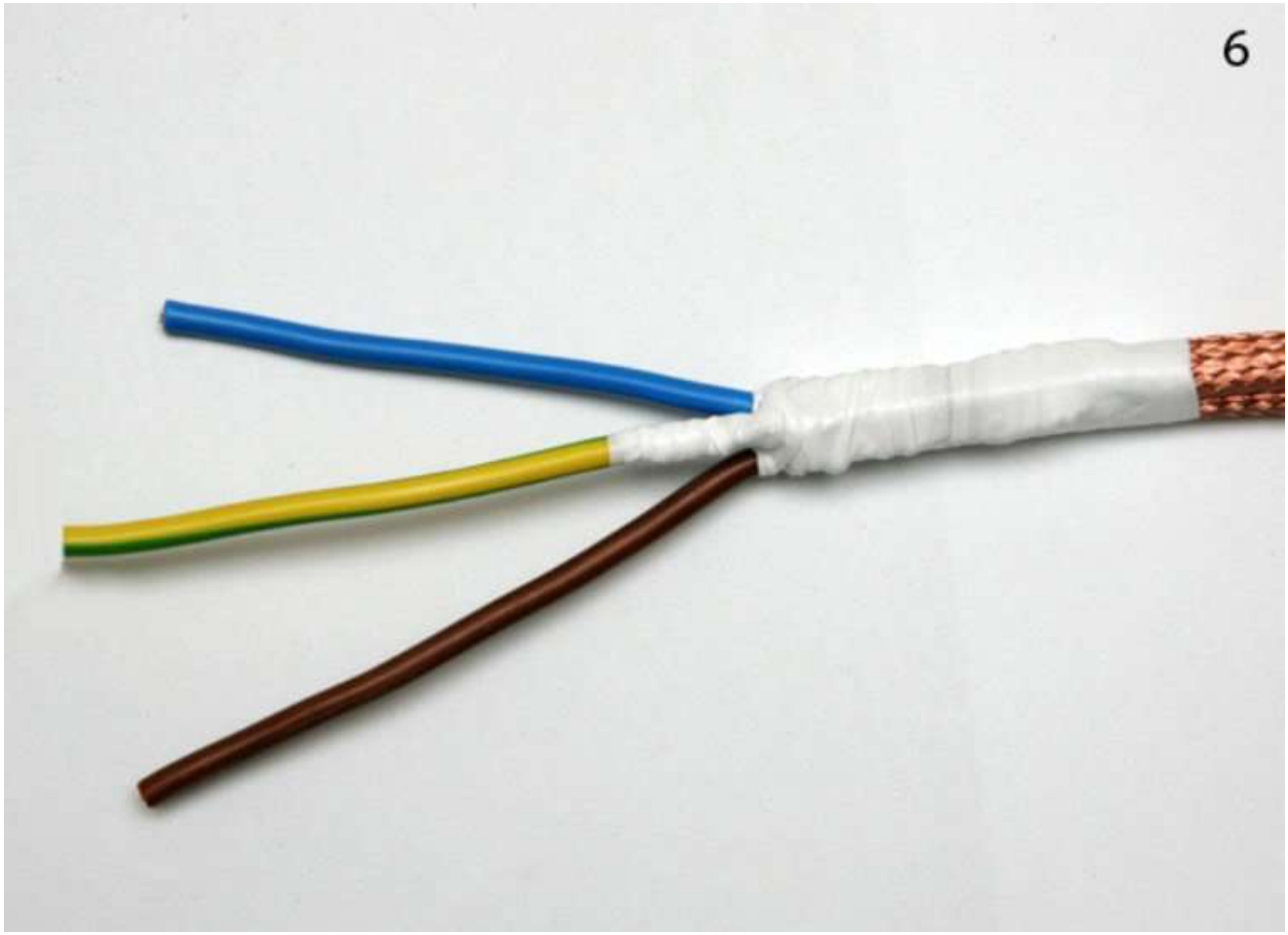
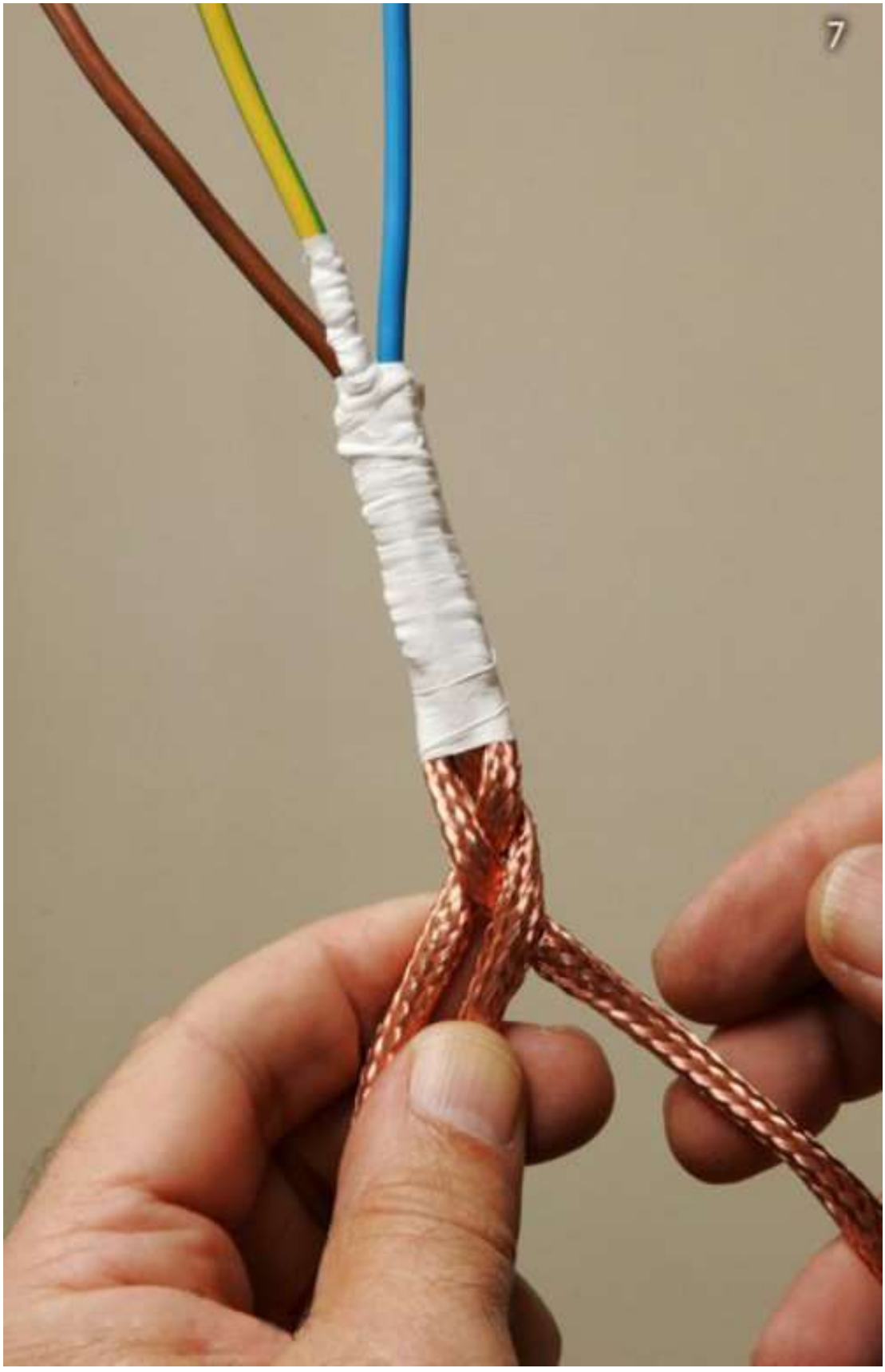
Now remove the half-inch insulation from the guide that will be your ground and wrap around it the drain you left when braiding all three shields. Squeeze the joint with pliers.

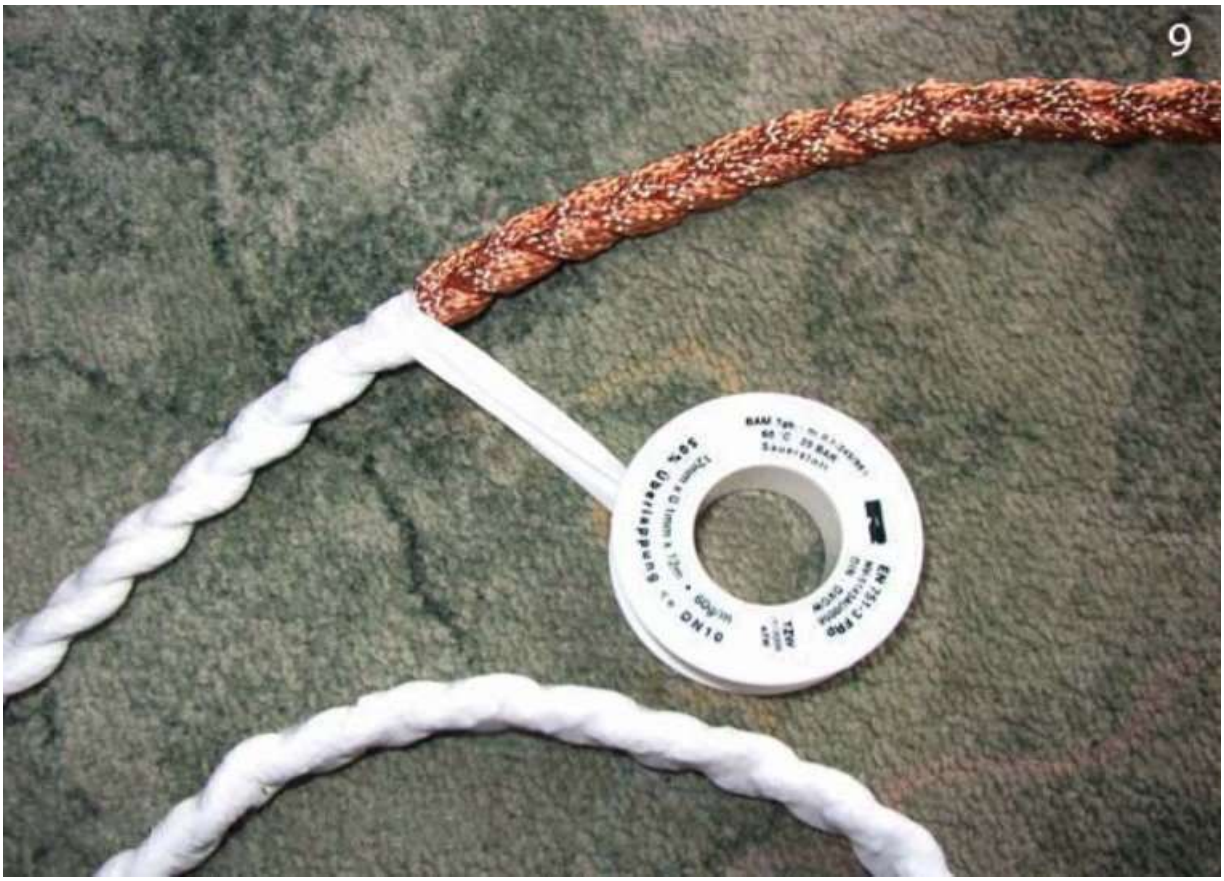


Wrap the joint well with PTFE sealant tape. At the end of the cable that connects to the plug, the shield does not connect to the ground.



After securing the beginning of the cable (this time all three shields with conductors) with a couple of turns of PTFE tape, stretch the shield along the length of the conductor and weave the shields into a braid.

At the end of the braid, repeat the process of unraveling the wires and their intertwining – this time without ground drain.



Then wrap the whole braid tightly with PTFE tape, twice. After that, all you have to do is put shrink tubes on the cable on each side, heat it with a hairdryer, and terminate the cable with quality plugs. I did not solder the terminations, the wires are firmly clamped. I consider the choice of quality plugs very important. Poor contacts at the connection of the plug with the sockets on the devices, the power strip, or in the wall, will ruin all the effort in the manufacture.

If you want to put a decorative net on the cable, put it on before the shrink tubes.

Conclusion

After mandatory testing of the finished cable with an instrument and determining whether the connections are of good quality, the cable is ready for use and your observations of efficiency. Making a cable is recommended only for people who have the basics of knowledge in electrical engineering, it is a high voltage (125V) and if you are not sure that you are able to make such a cable, rather entrust the making to someone else.