

# PURITAN

## Audio Laboratories

# These Advanced Mains Cables Eat Interference And Kill Vibration Distortion

Read overleaf how these cables outperform those costing thousands



## Puritan

### Dissipative Technology mains lead



**CONSTRUCTED FROM HEAVY-DUTY**, highly pure 20 amp conductors that are enclosed in a soft silicon dielectric to provide insulation and vibration absorption, this lead's USP is clearly its innate flexibility. The dielectric is itself covered in a thick, high-pliancy, dissipative-coated silicon sheath, which is covered in soft fabric to provide a complex strata of vibration absorption.

#### Ditching pollution

The theory behind the design is that ordinary mains cables act as antenna for the radiated electromagnetic interference that floods our environment and can get routed into audio equipment. Conventional shielded mains cables prevent this interference from entering the conductors thanks to their protective shielding, which shunts interference directly to mains

earth. Given that this same earth is also used by your system components, Puritan considers that the EMI can pollute the signal reference earth of the components. Puritan Proprietary Dissipative Shielding Technology claims to provide a unique barrier of dissipative shielding where the interference bombarding the cable is absorbed by the dissipative shield and converted into heat energy, thus preventing EMI from being dumped to the system earth.

There's a choice of 1m, 1.5m, 2m or 3m, with custom lengths available to order. It can be terminated with C7 (figure of eight), C13 (standard IEC 10A) or C19 (IEC 16A) connectors and with UK or Schuko plugs.



Connecting the lead to the power supply of my preamp and phono stage demonstrates a clear reduction in the noise floor compared with a standard lead. I can also detect subtle audible improvements such as a fuller sound and tighter bass, on Beethoven's *Symphony No.9* played by the Berlin Philharmonic.

A beautifully made mains cable that delivers on its sonic promises, the Dissipative Technology Mains Lead is amazingly flexible for a high-power cable and will easily fit around the tightest corners. **NR**

#### DETAILS

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#### OUR VERDICT



# Puritan manufacture the best sounding Power Cords regardless of price:

For our cable we use a specially commissioned grade of silicone rubber for the conductor and sheath insulation, formulated to be extremely soft and incredibly flexible in comparison with the plastics normally used in power cords. Our formula of silicone is extremely bendy, floppy, and optimised to absorb vibration. We further employ an anti-friction compound around the conductors to further aid flexibility, floppiness.

Regarding the importance of dielectrics in mains cables: As an insulating material silicone has an extremely low dielectric, very few materials have lower. Dielectric can be viewed as the drag that the insulation places on electron flow at the surface of the conductor, this effect increases with frequency. It actually has no effect at 50 or 60Hz and so choice of dielectric does not affect current delivery but if you believe it does, silicone would be one of your No. 1 choices to avoid this. It could conversely be argued that a high dielectric value would be desirable due to its potential to "drag" unwanted high frequencies. We have experimented with exotic and very expensive ultra high dielectric compounds but found no benefit which was measurable by instruments or discernible in listening tests. We use our custom grade silicone for its softness, flexibility and vibration absorption properties all of which provide tangible easily heard benefits.

Conductor materials: Copper is a truly great conductor so close to silver as not to matter for power cords. Where Copper is 100% conductivity Silver is 105% Gold 70% - The conductor materials debate on mains cables is daft. Sure, you can have pure silver conductors at a pure silver price tag but it will not benefit your sound one iota and that cash would be better employed elsewhere in your system.

Conductor Gauge: The gauge of our conductors was determined in listening tests with a very high current demand installation in order to discern at what point increasing conductor size ceased to bring a benefit. We then went way, way beyond that point in specifying the conductor gauge for our cable and worked on the stranding formula to optimize the flexibility - floppiness.

Many people believe in their minds that they need 13/14AWG to be able to convey power without loss. Our density is chosen on the combination of stranded conductors which give much more than very adequate current carrying but still having great flexibility. We ended up with what is closest in AWG terms to 15AWG. If used for chassis wiring this cable would be rated at 28Amps, for long runs 20 Amps.

Sonically the thickness of the silicone covering the conductors and the thickness of the silicone sheath is critical as is the degree of twist applied to the conductors over their length and these values were established over extensive listening tests.

You will note the emphasis given to the need to have a very flexible, indeed floppy cable. Vibration distortion introduced by mains connections is a massively underestimated phenomena, although you will note that NAIM do not fix the mains input receptacles on their equipment, they sit rattling loose their holes like a manufacturing fault. Someone at NAIM picked up that something happens where power cords meet equipment and not rigidly fixing the input receptacle made for a sonic plus, so that is what they do.

Mains cables exist in the room that music is playing - therefore they are being rattled and shaken by the music beats. Common amongst cable builders is to use heavy gauge cable with heavy metal sheathing. The stiffer the cable the more vibration it picks up and the easier it transmits, without any loss, every shudder to its ends. And at each end of the cable there is a plug pin and connector clip gripping that pin to make the contact.

Introduce vibration and that contact is rubbing two metal surfaces along with the music, creating micro disturbances in the connection and hence in the electron flow. Something to be avoided of course and that is exactly what we achieve with the flexible stranded formulation of our conductors, very soft insulation layers, unique proprietary highly flexible proprietary shielding\* and loose, soft fabric covering to provide a cable that is cushioned against picking up vibrations in the first instance and then designed to dampen and absorb those that do get through.

***\*In contrast to the stiff metal braiding and/or metalized mylar wrappings normally used, we shield our cables with our own very unique ultra flexible carbon-polymer nanotechnology barrier which provides a resistive shield capable not only of blocking RFI but absorbing a good amount of it in resistive paths before it reaches the drain connection at ground.***

Of vital importance is the quality of the pins, terminals and connector grips at each end of the cable and here we have paid every attention; in particular to the gauge, form and materials quality of the phosphor bronze grips for the contacts which is extremely paramount.

After very much evaluation we steered away from exotic platings for our plugs and connectors: Brass, Phosphor Bronze and Nickel as found on the vast majority of plug pins and contact clips are all galvanically in a very similar voltage band whereas Gold, Silver, Platinum and Rhodium occupy a band 0.35V away.

Mating galvanically dissimilar plug pins and contact clips is a recipe for degraded performance due to the introduction of galvanically induced voltages (further exacerbated by vibration). As our mains plugs are almost invariably going to be introduced to wall sockets with phosphor bronze contact grips and equipment inputs with nickel plated brass input receptacles, we utilise materials for our plugs and connectors to be galvanically neutral in actual user situations. Our extensive listening tests proved this logic to be sonically correct.

Summing up all of the above; we believe, and our ears agree, that we have created the most technically "sound" and best "sounding" mains cable, irrespective of price, by following the real science and technical challenges for this item.

It was also our aim to provide the best sounding power cord bar none at a price that enables people to use one for every system component.

Do not be put off by the low, low pricing: At Puritan we produce honest technology, based upon honest science, honestly engineered at honest prices. These amazing cables are possibly the greatest bargain in HiFi today.