

About the advantages of baked varnish / vacuum impregnation

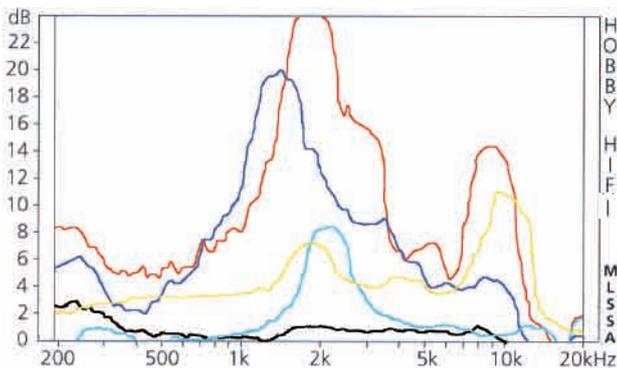
Electrical current that flows through a coil always causes a vibration of the entire winding (transformer humming). The microphonic effect (the conversion of mechanical into electric oscillations) adds these oscillations back to the original music signal as additional information. In this way, details of the original signal are overlaid and rendered unrecognisable. Firstly, the music loses spatial quality and transparency and secondly, distortions and tonal distortions of the signal are increased. This physical, undesired microphonic effect is almost completely eliminated after baking respectively impregnating the coil.

Baked varnish coils are made from a special wire. An additional layer of varnish on the top of this wire is melted shortly by an electrical power pulse. During the process of down-cooling the baked varnish welds the windings together perfectly. They can therefore almost not vibrate at all any more, meaning that the original signal, uninfluenced by the microphonic effect, remains effective. Regrettably bakable round wires are available up to 1.40mm diameter and litz wires up to seven times 0.6mm only (corresponds to 1.59mm round wire).

Therefore we do offer an alternative procedure for coils with huge wire diameters that achieves a comparatively high mechanical damping - Vacuum impregnation. At that the coil is first impregnated under vacuum with a special lacquer as far as the innermost windings. Subsequently, the impregnated coil is dried at 130° Celsius and simultaneously baked into a solid unit.

Both baked varnish coils and vacuum impregnated coils preserve the musical and dynamic intricacies of the signal that give the music its natural liveliness and spatial quality; For many developers it is justifiably an indispensable component of music reproduction for audiophiles.

Vibrations of coils



Average coil (wire 1,0 mm)

Unimpregnated Mundorf coil (wire 1,4 mm)

Baked varnish coil (wire 1.4 mm)

Mundorf vacuum-impregnated coil (wire 2.0 mm)

Mundorf copper-foil coil (AWG 10)

VAC

Vacuum impregnation of coils

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11.90