

LOUDSPEAKER CABINET

This invention concerns a loudspeaker cabinet.

The choice of materials from which loudspeaker cabinets are made has a critical and not entirely understood influence on the quality of sound output. Certain woods are much favoured but have the disadvantage of requiring costly fabrication processes.

Attempts to mould a loudspeaker cabinet in polyethylene using a rotational moulding technique have produced cabinets of relatively low cost but with disappointing acoustic properties.

The present invention is based on the results of research conducted by the Applicant to overcome the problem aforesaid.

According to the invention there is provided a loudspeaker cabinet formed by a rotational moulding technique and comprising an outer skin of thermoplastics material and an inner skin of thermoplastics material incorporating a blowing agent.

The thermoplastics material may be a polyethylene material.

The blowing agent may be Diphenyloxide-4,4' - disulphohydrazide.

The invention will be further apparent from the following description, which concerns, by way of example only, the manufacture of one form of loudspeaker cabinet embodying same, and with reference to the figures of the accompanying drawing.

Of the drawing :-

Figure 1 shows a cross-section through a mould in which the cabinet is formed;

Figure 2 shows a perspective view of the loudspeaker cabinet; and

Figure 3 shows a fragmentary cross-section through the wall of the cabinet on an enlarged scale.

Referring first to Figure 1, it will be seen that the mould, generally indicated at 10 is in two halves 11 and 12 which can be secured together at mating flanges 13. A vent tube 14 extends through a wall 15 of the mould half 12 at a position where one speaker is to be secured in the finished cabinet.

A charge of polyethylene powder is introduced into the mould 10 through the vent tube 14 and the mould is mounted on a rotational moulding machine to form a fused skin 20 over the mould surface. Whilst the skin 20 is still hot a further charge of polyethylene powder incorporating a blowing agent is introduced into the mould. Moulding is continued to form a further skin 21 of porous polyethylene over the skin 20.

A suitable blowing agent is Diphenyloxide-4,4' - disulphohydrazide available as Genitron (Registered Trade Mark) from Schering Industrial Chemicals, which may be added to the polyethylene at 1-5% and typically 2% by volume.

The mould 10 is opened and the cabinet 22 removed and finished by cutting apertures 23 in its front wall at the locations which are to receive the loudspeakers.

The outer solid skin 20 of the cabinet wall will have a typical thickness of about 2-3 mm whilst the porous inner skin 21 will have a typical thickness of about 1 cm.

Tests have shown that the cabinet has exceptionally good acoustic qualities comparable with the best of traditional cabinets.

It will be appreciated that it is not intended to limit the invention to the above example only, many variations, such as might readily occur to one skilled in the art, being possible, without departing from the scope thereof.



CLAIMS

1. A loudspeaker cabinet formed by a rotational moulding technique and comprising an outer skin of thermoplastics material and an inner skin of thermoplastics material incorporating a blowing agent.
2. A loudspeaker cabinet according to claims 1, wherein the thermoplastics material is a polyethylene material.
3. A loudspeaker cabinet according to claims 1 or claim 2, wherein the blowing agent is Diphenyloxide-4,4' - disulphohydrazide.