

## PRESS INFORMATION

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### Small but impressive!

**Modern hearing aids from Sonova are small and discreet, but these helpers in daily life contain a wealth of complex technology and innovation. Just like the EMS materials of which the hearing aid housings and covers are made.**

The requirements on these housings and covers are varied: High wearing comfort, low weight, perfect surface quality and good skin tolerance are among those properties which a corresponding material must fulfil. In addition, the material must be extremely resistant to mechanical and chemical influences and finally, the extra-thin housings provide safe protection for the highly developed, expensive electronics inside the hearing aid for the whole working life of the device.

For this reason, the Swiss hearing aid specialist company puts its trust in Grilamid TR. The amorphous polymer offers high chemical resistance to perspiration, cosmetics and cleaning agents as well as the necessary toughness and impact strength. Only with this combination of properties can the filigree housing components fulfil their protective function for the sensitive high-power electronic components.

### Difficult processing

Producing very small parts using injection-moulding methods demands a high degree of precision. Material, injection-moulding machines and the mould must all be oriented towards the target. Manufacturers of injection-moulding machines react to these requirements with a reduction of the screw diameter; whereby the mechanical stability of the screw is guaranteed by a slightly lower pitch in the feed zone. Problems are often caused in this case if polymer materials in conventionally sized granules are used. Varying dosage and an inhomogeneous processing of the melt occurs resulting in the hearing aid housings and covers not being produced at consistently high quality levels.

### Less is more

During the development phase, the application engineers at EMS-GRIVORY carried out numerous processing tests and optimised the Grilamid TR with regard to its processability. Focus here was on the plasticisation process in the micro-injection unit and at the same time, the granule size was also reduced. The material can now

be introduced without problems and a processed into a reproducible, thermally very homogenous melt.

### **Unique special solution**

Based on these findings, EMS-GRIVORY correspondingly converted a production line and now produces the micro-granules for Sonova on this special line. The smaller Grilamid TR granules are also interesting for other application areas however, as the field of micro-injection-moulding is growing as never before. Miniaturisation of components is an ongoing factor, in particular in the medical technology, bio-technology and electro-technology sectors. Thanks to its amorphous structure, small components made of Grilamid TR are characterised by very precise tolerances due to the material's low processing shrinkage and very low warpage. In contrast to most amorphous materials, Grilamid TR has excellent ductility.

With the creation of the micro-granule solution, EMS-GRIVORY underlines its excellent reputation as a competent and innovative development partner.

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*Thanks to Grilamid TR as "micro-granulate", Sonova can manufacture filigree hearing aid covers and housings at consistently high quality levels.*



*Small but impressive – Hearing aids from Sonova made with housings and covers of Grilamid TR.*



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