Achievement

The objects have been achieved by means of an innovative method for producing a foam moulding from poly(meth)acrylimide, an adhesion promoter or an adhesion promoter mixture and optional auxiliaries, comprising the following steps:

- grinding a polymeric moulding made of poly(meth)acrylimide,
- coating the grindings obtained in the preceding step with an adhesion promoter,
- introducing the coated grindings into a mould,
- optionally adding the auxiliaries,
- heating the mould,
- cooling the mould below the foaming temperature, and
- demoulding the foam moulding.

In accordance with the disclosure~~invention~~ there are two versions of the method: a one-stage method and a two-stage method.

In a first aspect, there is provided a~~The~~ one-stage method ~~comprises~~for producing a foam moulding from poly(meth)-acrylimide, an adhesion promoter or an adhesion promoter mixture and optional auxiliaries, comprising the following steps:

- grinding a polymeric moulding made of poly(meth)acrylimide,
- coating the grindings obtained in the preceding step with an adhesion promoter,
- introducing the coated grindings into a mould,
- optionally adding the auxiliaries,
- heating the mould,
- cooling the mould below the foaming temperature, and
- demoulding the foam moulding.

In a second aspect, there is provided a~~The~~ two-stage method ~~comprises~~for producing a foam moulding from poly(meth)-acrylimide, an adhesion promoter or an adhesion promoter mixture and optional auxiliaries, comprising the following steps:

- grinding a polymeric moulding made of poly(meth)acrylimide,
- pre-foaming the grindings,

- coating the grindings obtained in the preceding step with an adhesion promoter,
- introducing the coated grindings into a mould,
- optionally adding the auxiliaries,
- heating the mould,
- cooling the mould below the foaming temperature, and
- demoulding the foam moulding.

In a third aspect, there is provided a foam moulding obtainable by a method as defined herein.

In a fourth aspect, there is provided the use of the foam moulding as defined herein for producing space, air, water and land vehicles.

It is possible here with preference to use polyamides as adhesion promoters. These are used more particularly in amounts of 1% to 20% by weight, preferably of 1% to 15% by weight and more preferably of 1% to 10% by weight, based on the grindings.

It is possible with equal preference to use poly(meth)acrylates as adhesion promoters. These are used more particularly in amounts of 1% to 20% by weight, preferably of 1% to 15% by weight and more preferably of 1% to 10% by weight, based on the grindings.

The essential advantages associated with the production of foam components from copolymer grindings with adhesion promoter are as follows:

- ease of metering of the grindings in the mould in conjunction with the adhesion promoter,

- the grindings can be positioned at the appropriate location in the mould (at an angle, for example) by immediate melting of the adhesion promoter,

- production of attachment between grain boundaries/connecting seams in the foam core,