CLAIMS

1. A mixing device (1) comprising at least one feed opening (2) for at least one liquid and at least one further feed opening (3) for at least one liquid curing or cross-linking agent, wherein the liquid and/or the liquid curing or cross-linking agent is or are mixed with a gas, and a discharge opening (4) for discharge of a mixture which can be produced in the mixing device and comprises the at least one liquid and the at least one liquid curing or cross-linking agent, wherein there is provided a pressure holding device for holding a predeterminable pressure greater than that pressure at which foaming-out of the gas in the mixing device (1) occurs, wherein the pressure holding device includes an adjusting member which is arranged displaceably in the mixing device (1) relative to the discharge opening (4), characterised in that the mixing device (1) has a rotating agitator (7) for mixing the at least one liquid and the at least one liquid curing or cross-linking agent, wherein the agitator (7) is adapted to be displaceable and forms the adjusting member, wherein the displaceable adjusting member is biased in the direction of the discharge opening (4) by a force storage means (8).

2. A mixing device as set forth in claim 1 wherein the pressure which can be predetermined by the pressure holding device is variable by means of an adjusting device (5), preferably being adjustable in steps or steplessly.

3. A mixing device as set forth in claim 1 or claim 2 wherein the pressure holding device includes an aperture (14) arranged in the region of the discharge opening (4) or a fixed counteracting means limiting the accessible region of the discharge opening (4) to a gap.

4. A mixing device as set forth in at least one of claims 1 through 3 wherein there is provided a device for adjusting the strength of the force storage means (8).

5. A mixing device as set forth in at least one of claims 1 through 4 wherein the discharge opening (4) is displaceable relative to an axially stationary means, preferably an agitator (7), for adjusting the gap remaining between the discharge opening (4) and the axially stationary means.

6. A mixing device as set forth in claim 5 wherein the pressure holding device includes the axially stationary means and the discharge opening (4) which is displaceable relative to the axially stationary means.

7. A mixing device as set forth in at least one of the preceding claims wherein the mixing device (1) is of an elongated configuration and the at least one feed opening (2) for the at least one liquid and the at least one further feed opening (3) for the at least one liquid curing or cross-linking agent are arranged at different axial positions of the mixing device (1).

8. A mixing device as set forth in at least one of the preceding claims wherein the discharge opening (4) of the mixing device (1) is connected to a nozzle (9).

9. A mixing device as set forth in at least one of the preceding claims wherein a seal (15) is provided for sealingly closing off a mixing chamber (12) of the mixing device (1) in the region of a shaft (16) of an agitator (7), wherein the seal (15) is preferably in the form of a rotational and translational seal.

10. An arrangement comprising a mixing device (1) as set forth in at least one of the preceding claims, and

- a source (10) for at least one liquid, that is connected to the at least one feed opening (2) for the at least one liquid, wherein preferably the at least one liquid is mixed with a gas, and
- a source (11) for at least one liquid curing or cross-linking agent, that is connected to the at least one further feed opening (3) for the at least one liquid curing or cross-linking agent, wherein preferably the at least one liquid curing or cross-linking agent is mixed with a gas.

11. A method of producing a foamed material, wherein at least one liquid is mixed with at least one liquid curing or cross-linking agent – wherein the liquid and/or the liquid curing or cross-linking agent is or are mixed with a gas – in a mixing device (1), in particular as set forth in at least one of claims 1 through 9, and is then discharged through a discharge opening (4) of the mixing device (1) and expanded upon or after discharge, characterised in that the at least one liquid and the at least one

liquid curing or cross-linking agent are mixed in the mixing device (1) at a pressure in which degassing of the gas out of the at least one liquid and/or out of the liquid curing or cross-linking agent is avoided and is maintained in the mixing device (1) by virtue of the pressure holding device at least until discharge in the discharge opening (4).

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12. A method as set forth in claim 11 wherein mixing is effected at intervals and the discharge opening (4) is closed between the intervals.