Furthermore, at least two partial sliding surfaces angled towards one another can be formed symmetrically with respect to each other in relation to a symmetry plane running through the line of intersection in the vertical direction. The symmetrical arrangement of the at least two mutually inclined partial sliding surfaces results in improved self-centering of the sliding plate on the intermediate bearing part. In addition, it is advantageous, particularly in the case of balanced force application from all sides, if the conditions for displacement of the sliding plate in both directions along the axis of movement are as equal as possible. In addition, the structural sliding bearing is simple in design and thus cost-effective to manufacture. As explained further above, the vertical direction is to be understood with reference to the plane of movement of the building sliding bearing. Thus, the vertical direction can also have a different orientation than a vertical in the narrower sense.

Preferably, at least two sliding surfaces angled relative to one another of the primary sliding surface are of different sizes. This design is particularly advantageous when horizontal forces of different magnitudes act on the structural sliding bearing from different directions. Thus, the structural sliding bearing according to the invention can be specially designed to be able to absorb greater acting forces from a certain horizontal direction transverse to the axis of movement than from a direction opposite thereto. This can ensure that a gap does not occur or that the sliding plate lifts off even if the force applied is uneven. Alternatively or additionally, the two opening angles between the symmetry plane and the respective inclined partial sliding surface could also be of different sizes.

Advantageously, at least one sliding plane is inclined downwardly relative to the horizontal by a second angle between 0 degrees and 10 degrees, preferably by 6 degrees. With a steeper second angle, correspondingly higher horizontal forces transverse to the axis of movement can be absorbed by the respective inclined partial sliding surface. At the same time, it is still possible to use a sliding material with a low coefficient of friction in the area of the primary sliding surface. On the one hand, this prevents a gap or even lifting of the sliding plate from the intermediate bearing part. On the other hand, it ensures that the sliding plate moves along the axis of movement with as little resistance as possible. As explained further above, the horizontal is to be understood with reference to the plane of movement of the structural sliding bearing. Thus, the horizontal can also have a different orientation than a horizontal plane in the narrower sense. Particularly preferably, the second angle corresponds at least to the friction to be permissibly applied for the design.

Furthermore, the first angle can be between 160 degrees and 180 degrees, preferably at 168 degrees. With a more acute first angle, correspondingly higher horizontal forces can be absorbed transverse to the axis of movement by the respective inclined partial sliding surface. At the same time, it is still possible

the immediate vicinity, since the movement axis as the ridge of the roof represents the uppermost point of the pitched roof.

Advantageously, at least two primary sliding surfaces angled towards each other are arranged in such a way that the corresponding sliding planes form the shape of an upside-down pitched roof. Here, too, the pitched roof is designed in such a way that the line of intersection or the axis of movement forms the ridge of the pitched roof. Due to the upside-down roof shape, it is possible to make the respective sliding plate stronger at the end towards the axis of movement without requiring further installation space in the vertical direction. Thus, despite increased loads, installation space can again be saved.

Advantageously at least two primary sliding surfaces angled towards each other are formed symmetrically with respect to a plane of symmetry running through the line of intersection in the vertical direction. The arrangement according to the invention enables improved self-centering of the system consisting of both sliding plates and the connected structure relative to the axis of movement defined by the two sliding bearings. In addition, it is advantageous, particularly in the case of balanced force application from all sides, if the conditions for displacement of the respective sliding plate in both directions along the axis of movement are as equal as possible. In addition, the structural bearing system is simple in design and thus cost-effective to manufacture. As explained further above, the vertical direction is to be understood with reference to the plane of movement of the building bearing system. Thus, the vertical direction can also have a different orientation than a vertical in the narrower sense.

Preferably, at least two angled primary sliding surfaces are of different sizes. This design is particularly advantageous when horizontal forces of different magnitudes act on the structural bearing system from different directions. In this way, the structural bearing system according to the invention can be specially designed to be able to absorb greater acting forces from a specific horizontal direction transverse to the axis of movement than from a direction opposite thereto. In this way, the occurrence of a gap or even the lifting of the sliding plate can be ensured even in the case of uneven application of force.

Advantageously, at least one sliding plane is inclined downwardly relative to the horizontal by a second angle of between 0 degrees and 10 degrees, preferably 6 degrees. With a steeper second angle, correspondingly higher horizontal forces transverse to the axis of movement can be absorbed by the respective inclined primary sliding surfaces. At the same time, it is still possible to use a sliding material with a low coefficient of friction in the area of the primary sliding surfaces. On the one hand, this prevents a gap or even lifting of the sliding plate from the intermediate bearing part. On the other hand, it ensures that the sliding plate moves along the axis of movement with as little resistance as possible. As explained further above, the horizontal is to be understood with reference to the plane of movement of the structural bearing system. Thus, the horizontal can also have a different orientation than a horizontal plane in the

narrower sense. Particularly preferably, the second angle corresponds at least to the friction to be permissibly applied for the design.

Preferably, the first angle is between 160 degrees and 180 degrees, preferably 168 degrees. With a more acute first angle, correspondingly higher horizontal forces transverse to the axis of movement can be absorbed by the respective inclined primary sliding surfaces. At the same time, it is still possible to use a sliding material with a low coefficient of friction in the area of the primary sliding surface. On the one hand, this prevents a gap or even lifting of the sliding plate from the intermediate bearing part. On the other hand, it ensures that the sliding plate moves along the axis of movement with as little resistance as possible.

Advantageously, the first sliding bearing and/or the second sliding bearing has a, preferably lateral, abutment device which limits a movement of the sliding plate relative to the bearing base. A rotation of the second structure part relative to the first structure part is thus counteracted. Preferably, the abutment device is designed such that a torque acting on the second structure part is supported about an axis parallel to the axis of movement. The abutment device can be designed, for example, as a one-piece abutment or as a multi-piece abutment. In one example, the abutment device is attached to the bearing base.

Advantageously, the abutment device is arranged on a side of the respective sliding bearing that faces or is inclined away from the axis of movement. This arrangement allows torques to be absorbed that act on the second structure part about an axis parallel to the axis of movement. Preferably, the abutment device is arranged on the side of the sliding bearing that is higher in the vertical direction. This has the advantage that, in the case of small or negligible torques, mainly the vertical force component of the dead weight acts on the bearing with respect to the operationally induced surcharge load. The abutment device is thereby completely free of forces. This significantly reduces wear on the abutment device and increases its life span.

Advantageously the abutment device has an adjustment device for adjusting a position of the abutment device. With the adjusting device, the abutment device can be optimally and precisely adjusted relative to the individual components of the sliding bearing depending on the situation. The adjusting device can be implemented, for example, via a screw connection. It is also conceivable that the adjustment device has an electric motor in order to adjust the position of the abutment device particularly precisely and/or automatically.

Preferably, the abutment device has a sliding device that guides the sliding plate in a direction parallel to the axis of movement. The sliding device enables the abutment device to continue to move the sliding plate relative to the bearing base along the axis of movement with as little friction as possible, despite

CLAIMS

1. A structural sliding bearing (210) for connecting a first structure part to a second structure part, comprising:
a bearing base (212) that can be attached to the first structure part;
a sliding plate (216) that can be attached to the second structure part; and
an intermediate bearing part (214) disposed between the bearing base (212) and the sliding plate (216), wherein a primary sliding surface (226) of the structural sliding bearing (210) is disposed between the intermediate bearing part (214) and the sliding plate (216),
characterized in that
the primary sliding surface (226) comprises at least two partial sliding surfaces (228A, 228B) each arranged in sliding planes (230A, 230B) angled with respect to one another, the sliding planes (230A, 230B) meeting in a common line of intersection (S) forming an axis of movement (A) of the structural sliding bearing (210) along which the sliding plate (216) can move; and
the two sliding planes (230A, 230B) enclose a first angle (α), wherein the first angle (α) is selected such that in the serviceability limit state of the structural sliding bearing (210) with maximal horizontal force in combination with minimal vertical force, no gap occurs in the area of the primary sliding surface (226).

2. The structural sliding bearing (210) according to claim 1,
characterized in that
the structural sliding bearing (210) is a uniaxially guided structural sliding bearing in which the sliding plate (216) can only move along the axis of movement (A) relative to the intermediate bearing part (214).

3. The structural sliding bearing (210) according to claim 1 or 2,
characterized in that
the two sliding planes (230A, 230B) are arranged so that the line of intersection (S) is horizontal.

4. The structural sliding bearing (210) according to any one of the preceding claims,
characterized in that
the first angle (α) is selected in such a way that in the ultimate limit state of the structural sliding bearing (210) no gap occurs in the area of the primary sliding surface (226).

5. The structural sliding bearing according to any one of the preceding claims,
characterized in that
the primary sliding surface has a permanently lubricated sliding material (232), preferably with PTFE, UHMWPE, POM and/or PA.

6. The structural sliding bearing (210) of claim 5,
characterized in that
the sliding material has a coefficient of friction not exceeding 0.03.

7. The structural sliding bearing (210) according to claim 5 or 6,
characterized in that
the sliding material (232) comprises at least one lubricated sliding disk, which preferably comprises at least one lubrication pocket.

8. The structural sliding bearing (210) according to any one of the preceding claims,
characterized in that
the at least two partial sliding surfaces (228A, 228B) angled relative to one another are arranged in such a way that the corresponding sliding planes (230A, 230B) form the shape of a pitched roof.

9. The structural sliding bearing (210) according to any one of the preceding claims,
characterized in that
the at least two partial sliding surfaces (228A, 228B) angled relative to one another are arranged in such a way that the corresponding sliding planes (230A, 230B) form the shape of an upside-down pitched roof.

10. The structural sliding bearing (210) according to any one of the preceding claims,
characterized in that
the at least two partial sliding surfaces (228A, 228B) angled relative to one another are formed symmetrically relative to one another with respect to a plane of symmetry (E) extending through the line of intersection (S) in the vertical direction.

11. The structural sliding bearing (210) according to any one of the preceding claims,
characterized in that
the at least two partial sliding surfaces (228A, 228B) angled relative to one another of the primary sliding surface (226) are formed with different sizes.

12. The structural sliding bearing (210) according to any one of the preceding claims,
characterized in that
at least one sliding plane (230A, 230B) is inclined downwardly with respect to the horizontal (H) by a second angle (β) between 0 degrees and 10 degrees, preferably by 6 degrees.

13. The structural sliding bearing (210) according to any one of the preceding claims,
characterized in that
the first angle (α) is between 160 degrees and 180 degrees, preferably at 168 degrees.

14. The structural sliding bearing (310) according to any one of the preceding claims,
characterized in that
the sliding plate (316) is multi-part and the distance between the corresponding sliding plate parts (316A, 316B) is adjustable.

15. The structural sliding bearing (610) according to any one of the preceding claims,
characterized in that
the structural sliding bearing (610) is designed as a pot bearing, in which the intermediate bearing part (614) has a pot lid and the bearing base (612) has a pot together with an elastomeric pad (616).

16. The structural sliding bearing (210) according to any one of claims 1 to 14,
characterized in that
the structural sliding bearing (210) is designed as a spherical bearing in which the intermediate bearing part (214) comprises a calotte,
wherein the calotte has a convex portion (220) and the bearing base (212) has a corresponding concave portion (218), and the convex portion (220) of the calotte is slidably disposed in the concave portion (218) of the bearing base (212).

17. The structural sliding bearing (410) of claim 16,
characterized in that
the concave portion (418) of the bearing base (412) has a recess (436) at a lower pole (P), so that in the area of the recess (436) the convex portion (220) of the calotte does not come into contact with the concave portion (418) of the bearing base (412).

18. The structural sliding bearing (410) of claim 17,
characterized in that
the recess (436) is circularly centered to the lower pole (P).

19. The structural sliding bearing (410) according to claim 17 or 18,
characterized in that
a sliding material (424), preferably a polymer sliding disk, is arranged at the concave portion (418) of the bearing base (412), and the recess (436) is formed in the sliding material (424).

20. The structural sliding bearing (510) according to any one of claims 16 to 19,
characterized in that
the structural sliding bearing (510) further comprises at least one abutment (536) between the sliding plate (516) and the bearing base (212).

21. A structural bearing system (700) comprising at least two sliding bearings (710A, 710B) for connecting at least two structure parts (712, 714), each sliding bearing (710A, 710B) comprising:
a bearing base (716A) that can be attached to a first structure part (712);
a sliding plate (718A, 718B) that can be attached to a second structure part (714); and
an intermediate bearing part (720A, 720B) disposed between the bearing base (716A, 716B) and the sliding plate (718A, 718B), wherein at least one plane primary sliding surface (722A, 722B) of the sliding bearing (710A, 710B) is disposed between the intermediate bearing part (720A, 720B) and the sliding plate (718A, 718B),
characterized in that
the two sliding bearings (710A, 710B) form a pair of bearings in which the primary sliding surface (722A) of the first sliding bearing (710A) is arranged in a first sliding plane (724A) angled to the horizontal (H) and the primary sliding surface (722B) of the second sliding bearing (710B) is arranged in a second sliding plane (724B) angled to the horizontal (H), wherein the sliding planes (724A, 724B) meet in a common line of intersection (S) forming an axis of movement (A) of the pair of bearings along which the sliding plates (718A, 718B) can move,
wherein the first sliding plane (724A) and the second sliding plane (724B) enclose a first angle (α), wherein the first angle (α) is selected such that in the serviceability limit state of the structural bearing system (700) with maximal horizontal force in combination with minimal vertical force, no gap occurs in the area of the primary sliding surfaces (722A, 722B).

22. The structural bearing system (700) according to claim 21,
characterized in that
the least two sliding bearings (710A, 710B) are designed as sliding and tilting bearings or as elastomeric bearings.

23. The structural bearing system (700) according to claim 21 or 22,
characterized in that
the first angle (α) is between 160 degrees and 180 degrees, preferably at 168 degrees.

24. The structural bearing system (700) according to any one of claims 21 to 23,
characterized in that
the first angle (α) is selected in such a way that in the ultimate limit state of the structural bearing system (700) no gap occurs in the area of the primary sliding surfaces (722A, 722B).

25. The structural bearing system (700) according to any one of claims 21 to 24,
characterized in that
the pair of bearings is a uniaxially guided pair of bearings in which the sliding plates (718A, 718B) can only move along the axis of movement (A) relative to the intermediate bearing parts (720A, 720B).

26. The structural bearing system (700) according to any one of claims 21 to 25,
characterized in that
the first sliding plane (724A) and the second sliding plane (724B) are arranged such that the line of intersection (S) is horizontal.

27. The structural bearing system (700) according to any one of claims 21 to 26,
characterized in that
the at least one primary sliding surface (722A, 722B) comprises a permanently lubricated sliding material (726), preferably with PTFE, UHMWPE, POM and/or PA.

28. The structural bearing system (700) according to claim 27,
characterized in that
the sliding material has a coefficient of friction not exceeding 0.03.

29. The structural bearing system (700) according to claim 27 or 28,
characterized in that
the sliding material (726) comprises at least one lubricated sliding disk, which preferably comprises at least one lubrication pocket.

30. The structural bearing system (700) according to any one of claims 21 to 29,
characterized in that
at least two primary sliding surfaces (722A, 722B) angled relative to one another are formed symmetrically relative to one another with respect to a plane of symmetry (E) extending through the line of intersection (S) in the vertical direction.

31. The structural bearing system (700) according to any one of claims 21 to 30,
characterized in that
at least two primary sliding surfaces (722A, 722B) angled relative to one another are formed with different sizes.

32. The structural bearing system (700) according to any one of claims 21 to 31,
characterized in that
at least one sliding plane (724A, 724B) is inclined downwardly with respect to the horizontal (H) by a second angle (β) between 0 degrees and 10 degrees, preferably by 6 degrees.

33. The structural bearing system (700) according to any one of claims 21 to 32,
characterized in that
at least two primary sliding surfaces (722A, 722B) angled towards one another are arranged in such a way that the corresponding sliding planes (724A, 724B) form the shape of a pitched roof.

34. The structural bearing system (700) according to any one of claims 21 to 33,
characterized in that
at least two primary sliding surfaces (722A, 722B) angled towards one another are arranged in such a way that the corresponding sliding planes (724A, 724B) form the shape of an upside-down pitched roof.

35. The structural bearing system (700) according to any one of claims 21 to 34,
characterized in that
the first sliding bearing (710A) and/or the second sliding bearing (710B) has a, preferably lateral, abutment device (730A, 730B) which limits a movement of the sliding plate (718A, 718B) relative to the bearing base (716A, 716B).

36. The structural bearing system (700) according to claim 35,
characterized in that
the abutment device (730A, 730B) is arranged on a side of the respective sliding bearing (710A, 710B) facing or averted from the axis of movement (A).

37. The structural bearing system (700) according to claim 35 or 36,
characterized in that
the abutment device (730A, 730B) comprises an adjustment device for adjusting a position of the abutment device (730A, 730B).

38. The structural bearing system (700) according to any one of claims 35 to 37,
characterized in that
the abutment device (730A, 730B) comprises a sliding device (732A, 732B) which guides the sliding plate (718A, 718B) in a direction parallel to the axis of movement (A).

39. The structural bearing system (800) according to any one of claims 21 to 38,
characterized in that
the structural bearing system (800) comprises at least two pairs of bearings (810, 820) and an axis (B), and the pairs of bearings (810, 820) are arranged in succession along the axis (B),
wherein the primary sliding surfaces angled relative to one another are arranged in such a way that the corresponding sliding planes of the pairs of bearings (810, 820) alternately form along the axis (B) the shape of a pitched roof and the shape of an upside-down pitched roof.

40. The structural bearing system (900) according to any one of claims 21 to 38,
characterized in that
the structural bearing system (900) comprises at least two pairs of bearings (910, 920, 930, 940) and an axis (B), and the pairs of bearings (910, 920, 930, 940) are arranged in succession along the axis (B),
wherein the primary sliding surfaces angled relative to one another are arranged such that the corresponding sliding planes of the pairs of bearings (910, 920, 930, 940) alternately form the shape of a pitched roof and the shape of an upside-down pitched roof at every second pair of bearings along the axis (B).