CLAIMS

1. Fresh concrete **characterized in that** it contains in 1 m^3 135 to 250 kg of water, 135 to 400 kg of cement or 135 to 600 kg of a mixture of cement and substituents of cement in a ratio of cement to substituents of cement from 30:70 to 70:30, 28 to 52 kg of microsilica and 1000 to 2000 kg of aggregate, whereby 40 to 100 % of the aggregate is formed by recyclate made from inert construction and demolition waste, 0 to 30 % of the aggregate is formed by natural aggregate and 0 to 30 % of the aggregate is formed by at least one component improving thermal and/or acoustic and/or fire resistance properties of concrete, whereby microsilica covers the particles of the recyclate and fills up pores in them and cementing compound is adhered to the particles of the recyclate already coated with microsilica.

2. Fresh concrete according to claim 1, **characterized in that** 70 to 100 % of the aggregate is formed by recyclate made from inert construction and demolition waste and 0 to 30 % of the aggregate is formed by natural aggregate.

3. Fresh concrete according to claim 1 or 2 **characterized in that** 100 % of the aggregate is formed by recyclate made from inert construction and demolition waste.

4. Fresh concrete according to any of claims 1 to 3, **characterized in that** recyclate made from inert construction and demolition waste is formed by two-fractional brick recyclate, which consists entirely or of at least a majority of crushed bricks, or by ceramic recyclate, which consists entirely or of at least a majority of crushed ceramics from ceramic building and fitting objects, or by mixed recyclate made from inert construction and demolition waste, which is formed by rubble from mixed construction and demolition waste, with fractions of 0 to 8 and 8 to 16 mm, whereby the mutual ratio of these fractions is from 30:70 to 50:50, and/or recyclate made from inert construction and demolition waste is formed by two-fractional concrete recyclate, which consists entirely or of at least a majority of crushed concrete or another crushed cement containing material, having fractions of 0 to 8 and 8 to 16 mm, whereby the mutual ratio of these fractions is from 30:70 to 50:50, or it is formed by two-fractional concrete recyclate with fractions of 1 to 8 mm and 8 to 16 mm, whereby the mutual ratio of these fractions is from 30:70 to 50:50.

5. Fresh concrete according to any of claims 1 to 3, **characterized in that** the recyclate is formed by brick recyclate, which consists entirely or of at least a majority of crushed bricks, or by ceramic recyclate, which consists entirely or of at least a

majority of crushed ceramics from ceramic building or fitting objects, or is formed by mixed recyclate made from inert construction and demolition waste, which is formed by rubble from mixed construction and demolition waste, with a fraction of 0 to 8 mm, and/or is formed by concrete recyclate, which consists entirely or of at least a majority of crushed concrete or other crushed cement containing material, having a fraction of 0 to 8 or 1 to 8 mm.

6. Fresh concrete according to claim 4 or 5, **characterized in that** it contains 1000 to 1740 kg of brick or ceramic or mixed recyclate made from inert construction and demolition waste.

7. Fresh concrete according to claim 6, **characterized in that** it contains 180 to 230 kg of water, 170 to 210 kg of cement or 170 to 600 kg of a mixture of cement and substituents of cement in a ratio of cement to substituents of cement from 30:70 to 70:30, 35 to 45 kg of microsilica and 1355 to 1655 kg of brick or ceramic or mixed recyclate made from inert construction and demolition waste.

8. Fresh concrete according to claim 4 or 5, **characterized in that** it contains 695 to 1395 kg of brick or ceramic or mixed recyclate made from inert construction and demolition waste and 260 to 570 kg of natural aggregate.

9. Fresh concrete according to claim 8, **characterized in that** it contains 170 to 230 kg of water, 170 to 255 kg of cement or 170 to 600 kg of a mixture of cement and substituents of cement in a ratio of cement to substituents of cement from 30:70 to 70:30, 35 to 45 kg of microsilica and 945 to 1250 kg of brick or ceramic or mixed recyclate made from inert construction and demolition waste and 350 to 515 kg of natural aggregate.

10. Fresh concrete according to claim 4 or 5, **characterized in that** it contains 525 to 1090 kg of brick or ceramic or mixed recyclate made from inert construction and demolition waste and 450 to 1065 kg of concrete recyclate.

11. Fresh concrete according to claim 10, **characterized in that** it contains 165 to 250 kg of water, 170 to 255 kg of cement or 170 to 600 kg of a mixture of cement and substituents of cement in a ratio of cement to substituents of cement from 30:70 to 70:30, 35 to 45 kg of microsilica, 685 to 1075 kg of brick or ceramic or mixed recyclate made from inert construction and demolition waste and 450 to 845 kg of concrete recyclate.

12. Fresh concrete according to claim 4 or 5, **characterized in that** it contains 820 to 1525 kg of concrete recyclate and 350 to 600 kg of natural aggregate.

13. Fresh concrete according to claim 12, **characterized in that** it contains 155 to 220 kg of water, 170 to 255 kg of cement or 135 to 600 kg of a mixture of cement and substituents of cement in a ratio of cement to substituents of cement from 30:70 to 70:30, 35 to 45 kg of microsilica, 1025 to 1320 kg of concrete recyclate and 450 to 585 kg of natural aggregate.

14. Fresh concrete according to any of claims 1 to 13, **characterized in that** it further contains at least one additive or a mixture of two or more additives for concrete in a total amount of up to 5 % by weight of a batch of cement or a mixture of cement and substituents of cement.

15. Fresh concrete according to claim 1, **characterized in that** the improving component is at least one component selected from a group consisting of lightweight artificial aggregates, cinder, scoria, polystyrene, organic fillers.

16. A dry mixture for the preparation of 1 m^3 of fresh concrete according to any of claims 1 to 3, **characterized in that** it contains 135 to 400 kg of cement or 135 to 600 kg of a mixture of cement and substituents of cement in a ratio of cement to substituents of cement from 30:70 to 70:30, 28 to 52 kg of microsilica and 1000 to 2000 kg of aggregate, whereby 40 to 100 % of the aggregate is formed by recyclate made from inert construction and demolition waste, 0 to 30 % of the aggregate is formed by natural aggregate and 0 to 30 % of the aggregate is formed by at least one component improving the thermal and/or acoustic and/or fire resistant properties of the concrete, whereby microsilica covers the particles of the recyclate and fills up pores in them.

17. The method for the preparation of 1 m^3 of fresh concrete utilizing recyclate made form inert construction ans demolition waste, **characterized in that** 1000 to 2000 kg of aggregate, 40 % by weight to 100 % by weight of which is made of recyclate made from inert construction and demolition waste, is mixed for 20 to 40 seconds in a forced circulation mixer, after thorough mixing, 28 to 52 kg of microsilica is added to it during 10 to 15 seconds under constant mixing, the mixture thus prepared is mixed for 40 to 80 seconds, whereby the microsilica covers the particles of the recyclate and fills up the pores in it as well as the overall lattice structure of the concrete being produced, and after thorough mixing, during 10 to 20 seconds under constant mixing, 135 to 400 kg of cement is added to it, or cement and at least one substituent of cement in a total amount of 135 to 600 kg are added to it during 10 to 20 seconds under constant mixing successively in any order or concurrently, the ratio

of cement to substituents of cement being from 30:70 to 70:30, whereby the mixture thus prepared is mixed for a further 40 to 80 seconds, whereupon the mixture is sprinkled with 135 to 250 kg of mixing water for 40 to 60 seconds under constant mixing or this amount of mixing water is sprayed on it during 40 to 60 seconds, whereby the surface of the cement and/or of substituent/substituents of cement is gradually getting wet and the cementing compound being formed gradually adheres to the grains of the recyclate already coated with microsilica, and after another 80 to 160 seconds of mixing, fresh concrete is prepared.

18. The method for the preparation of fresh concrete according to claim 17, **characterized in that** 1000 to 1740 kg of two-fractional brick recyclate consisting entirely or of at least a majority of crushed bricks, or this amount of ceramic recyclate consisting entirely or of at least a majority of crushed ceramics from ceramic building or fitting objects, or this amount of mixed recyclate made from inert construction and demolition waste, which is formed by rubble from mixed construction and demolition waste, the recyclate having fractions of 0 to 8 mm and 8 to 16 mm, whereby the mutual ratio of these fractions is from 30:70 to 50:50, is mixed for 20 to 40 seconds in a forced circulation mixer,and after another 80 to 160 seconds of mixing, fresh concrete is prepared, in which 100 % of the aggregate is formed by brick, ceramic or mixed recyclate made from inert construction and demolition waste.

19. The method for the preparation of fresh concrete according to claim 18, **characterized in that** 1355 to 1660 kg of two-fractional brick or ceramic or mixed recyclate made from inert construction and demolition waste is mixed for 20 to 40 seconds in a forced circulation mixer and after thorough mixing 35 to 45 kg of microsilica is added to it during 10 to 15 seconds under constant mixing, the mixture thus prepared is mixed for 40 to 80 seconds and after thorough mixing, during 10 to 20 seconds under constant mixing, 170 to 210 kg of cement is added to it or cement and at least one substituent of cement in a total amount of 170 to 600 kg are added to it during 10 to 20 seconds under constant mixing successively in any order or concurrently, the ratio of cement to substituents of cement being from 30:70 to 70:30, whereby the mixture thus prepared is mixed for another 40 to 80 seconds, whereupon it is sprinkled with 180 to 230 kg of mixing water during 40 to 60 seconds under constant mixing or this amount of mixing water is sprayed on it during 40 to 60 seconds, and after another 80 to 160 seconds of mixing, fresh concrete is prepared,

in which 100 % of the aggregate is formed by brick, ceramic or mixed recyclate made from inert construction and demolition waste.

20. The method for the preparation of fresh concrete according to claim 17, **characterized in that** in a forced circulation mixer is mixed for 20 to 40 seconds 1000 to 1740 kg of brick recyclate, which consists entirely or of at least a majority of crushed bricks, or this amount of ceramic recyclate, which consists entirely or of at least a majority of crushed ceramics from ceramic building or fitting objects, or this amount of mixed recyclate made from inert construction and demolition waste, which is formed by rubble from mixed construction and demolition waste, the recyclate having a fraction of 0 to 8 mm.

21. The method for the preparation of fresh concrete according to claim 20, **characterized in that** 1355 to 1655 kg of brick or ceramic or mixed recyclate made from inert construction and demolition waste, having a fraction of 0 to 8 mm, is mixed for 20 to 40 seconds in a forced circulation mixer, after thorough mixing, 35 to 45 kg of microsilica is added to it during 10 to 15 seconds under constant mixing, the mixture thus prepared is mixed for 40 to 80 seconds and after thorough mixing, during 10 to 20 seconds under constant mixing, 170 to 210 kg of cement is added to it or cement and at least one substituent of cement in a total amount of 170 to 600 kg are added to it during 10 to 20 seconds under constant mixing successively in any order or concurrently, the ratio of cement to substituents of cement being from 30:70 to 70:30, and the mixture thus prepared is mixed for another 40 to 80 seconds, whereupon the mixture is sprinkled with 180 to 225 kg of mixing water for 40 to 60 seconds under constant mixing or this amount of mixing water is sprayed on it during 40 to 60 seconds, and after another 80 to 160 seconds of mixing, fresh concrete is prepared, in which 100 % by weight of the aggregate is formed by a brick, ceramic or mixed recyclate made from inert construction and demolition waste.

22. The method for the preparation of the preparation of fresh concrete according to claim 17, **characterized in that** 1000 to 1800 kg of two-fractional concrete recyclate, which consists entirely or of at least a majority of crushed concrete or of another crushed cement containing material, is mixed in a forced circulation mixer for 20 to 40 seconds, the recyclate having fractions of 1 to 8 mm and 8 to 16 mm, whereby the mutual ratio of these fractions is from 30:70 to 50:50.

23. The method for the preparation of fresh concrete according to claim 17, **characterized in that** 1000 to 1800 kg of concrete recyclate, which consists entirely

or of at least a majority of crushed concrete or of another crushed cement containing material, is mixed in a forced circulation mixer for 20 to 40 seconds, the recyclate having a fraction of 1 to 8 mm.

24. The method for the preparation of fresh concrete according to claim 17, **characterized in that** recyclate from inert construction and demolition waste consisting of brick recyclate, which consists entirely or of at least a majority of crushed bricks, or recyclate from inert construction and demolition waste consisting of ceramic recyclate, which consists entirely or of at least a majority of crushed ceramics from ceramic building and fitting elements, or recyclate from intert construction and demolition waste consisting of mixed recyclate, which consists of rubble made from mixed inert construction and demolition waste, or recyclate from inert construction and demolition waste consisting of concrete recyclate, which consists entirely or of at least a majority of crushed concrete or other cement containing materials is mixed for 20 to 40 seconds in a forced circulation mixer, after thorough mixing, brick, ceramic, mixed or concrete recyclate is added to it under constant mixing, the added recyclate being of another type than the recyclate to which it is added, or a natural aggregate is added to the recyclate, and the mixture thus prepared is mixed for 20 to 40 seconds.

25. The method for the preparation of fresh concrete according to claim 24, **characterized in that** in a forced circulation mixer is mixed for 20 to 40 seconds 695 kg to 1395 kg of two-fractional brick recyclate or ceramic recyclate or mixed recyclate from inert construction and demolition wastewith fractions of 0 to 8 mm and 8 to 16 mm, whereby the mutual ratio of these fractions is from 30:70 to 50:50, after thorough mixing, 260 to 570 kg of natural aggregate with upper fraction of up to 16 mm is added to it under constant mixing and the mixture thus prepared is mixed for 20 to 40 seconds.

26. The method for the preparation of fresh concrete according to claim 25, **characterized in that** 945 kg to 1250 kg of two-fractional brick or ceramic or mixed recyclate from inert construction and demolition waste is mixed for 20 to 40 seconds in a forced circulation mixer is mixed, the recyclate having fractions of 0 to 8 mm and 8 to 16 mm, whereby the mutual ratio of these fractions is from 30:70 to 50:50, after thorough mixing, 350 to 515 kg of natural aggregate with upper fraction of up to 16 mm is added to it under constant mixing and the mixture thus prepared aggregate is mixed 20 to 40 seconds, after thorough mixing, 35 to 45 kg of microsilica is added to

it during 10 to 15 seconds under constant mixing, the mixture thus prepared is mixed for 40 to 80 seconds and after thorough mixing, during 10 to 20 seconds under constant mixing, 170 to 255 kg of cement is added to it or cement and at least one substituent of cement in a total amount of 170 to 600 kg, are added to it during 10 to 20 seconds under constant mixing successively in any order or concurrently, the ratio of cement to substituents of cement being from 30:70 to 70:30, and the mixture thus prepared is mixed for a further 40 to 80 seconds, whereupon the mixture is sprinkled with 170 to 235 kg of mixing water during 40 to 60 seconds under constant mixing or this amount of mixing water is sprayed on it during 40 to 60 seconds, and after another 80 to 160 seconds of mixing, fresh concrete is prepared, in which at least 70 % by weight of the aggregate is formed by a brick, ceramic or mixed recyclate made from inert construction and demolition waste.

27. The method for the preparation of fresh concrete according to claim 24, **characterized in that** in a forced circulation mixer is mixed for 20 to 40 seconds 695 kg to 1395 kg of brick recyclateor ceramic recyclate or mixed recyclate made from inert construction and demolition waste, with a fraction of 0 to 8 mm, after thorough mixing, 260 to 570 kg of natural aggregate with upper fraction of up to 8 mm is added to it under constant mixing and the mixture thus prepared is mixed for 20 to 40 seconds.

28. The method for tthe preparation of fresh concrete according to claim 27, **characterized in that** 950 kg to 1250 kg of brick recyclate or ceramic recyclate or mixed brick recyclate is mixed in a forced circulation mixer for 20 to 40 seconds, after thorough mixing, 350 to 515 kg of natural aggregate is added to it under constant mixing and the mixture thus prepared is mixed for 20 to 40 seconds, after thorough mixing, 35 to 45 kg of microsilica is added to it during 10 to 15 seconds under constant mixing, the mixture thus prepared is mixed for 40 to 80 seconds and after thorough mixing, during 10 to 20 seconds under constant mixing, 170 to 255 kg of cement is added to it or cement and at least one substituent of cement in a total amount of 170 to 600 kg are added to it during 10 to 20 seconds under constant mixing successively in any order or concurrently, the ratio of cement to substituents of cement being from 30:70 to 70:30, and the mixture thus prepared is mixed for a further 40 to 80 seconds, whereupon the mixture is sprinkled with 170 to 230 kg of mixing water during 40 to 60 seconds under constant mixing or this amount of mixing water is sprayed on it during 40 to 60 seconds, and after another 80 to 160 seconds

of mixing, fresh concrete is prepared, in which at least 70 % by weight of the aggregate is formed by brick, ceramic or mixed recyclate made from inert construction and demolition waste.

29. The method for the preparation of fresh concrete according to claim 24, **characterized in that** in a forced circulation mixer is mixed for 20 to 40 seconds 525 kg to 1090 kg of two-fractional brick recyclateor ceramic recyclate or mixed recyclate made from inert construction and demolition waste, the recyclate having fractions of 0 to 8 mm and 8 to 16 mm, whereby the mutual ratio of these fractions is from 30:70 to 50:50, after thorough mixing, 450 to 1065 kg of two-fractional concrete recyclate, which consists entirely or of at least a majority of crushed concrete or another crushed cement containing material, is added to it under constant mixing, the recyclate having fractions of 0 to 8 mm and 8 to 16 mm, whereby the mutual ratio of these fractions is from 30:70 to 50:50, and the mixture thus prepared is mixed for 20 to 40 seconds.

30. The method for the preparation of fresh concrete according to claim 29, **characterized in that** 685 kg to 1075 kg of two-fractional brick or ceramic or mixed recyclate from inert construction and demolition waste is mixed for 20 to 40 seconds in a forced circulation mixer, after thorough mixing, 450 to 845 kg of two-fractional concrete recyclate is added to it under constant mixing and the mixture thus prepared is mixed for 20 to 40 seconds, after thorough mixing, 35 to 45 kg of microsilica is added to it under constant mixing during 10 to 15 seconds, the mixture thus prepared is mixed for 40 to 80 seconds and after thorough mixing during 10 to 20 seconds under constant mixing, 170 to 255 kg of cement is added to it or cement and at least one substituent of cement in a total amount of 170 to 600 kg are added to it during 10 to 20 seconds under constant mixing successively in any order or concurrently, the ratio of cement to substituents of cement being from 30:70 to 70:30, and the mixture thus prepared is mixed for anadditional 40 to 80 seconds, whereupon the mixture is sprinkled with 165 to 250 kg of mixing water under constant mixing for 40 to 60 seconds, or this amount of mixing water is sprayed on it during 40 to 60 seconds, and after another 80 to 160 seconds of mixing, fresh concrete is prepared, in which 100 % by weight of the aggregate is formed by brick, ceramic or mixed recyclate made from inert construction and demolition waste combined with concrete recyclate.

31. The method for the preparation of fresh concrete according to claim 24, **characterized in that** in a forced circulation mixer is mixed for 20 to 40 seconds 525

kg to 1090 kg of brick recyclate or ceramic recyclate or mixed recyclate from inert construction and demolition waste, the recyclate having a fraction of 0 to 8 mm, after thorough mixing, 450 to 1065 kg of concrete recyclate is added to it under constant mixing, the recyclate having a fraction of 0 to 8 mm, and the mixture thus prepared is mixed fo 20 to 40 seconds.

32. The method for the preparation of fresh concrete according to claim 31, **characterized in that** 685 kg to 1075 kg of brick or ceramic or mixed recyclate from inert construction and demolition waste is mixed for a period of 20 to 40 seconds in a forced circulation mixer, after thorough mixing, 450 to 845 kg of concrete recyclate, with a fraction of 0 to 8 mm is added to it under constant mixing and the mixture thus prepared is mixed for 20 to 40 seconds, after thorough mixing, 35 to 45 kg of microsilica is added to it during 10 to 15 seconds under constant mixing, the mixture thus prepared is mixed for 40 to 80 seconds and after thorough mixing, during 10 to 20 seconds under constant mixing, 170 to 255 kg of cement is added to it or cement and at least one substituent of cement in a total amount of 170 to 600 kg are added to it under constant mixing for 10 to 20 seconds successively in any order or concurrently, the ratio of cement to substituents of cement being from 30:70 to 70:30, and the mixture thus prepared is mixed for a further 40 to 80 seconds, whereupon the mixture is sprinkled with 165 to 250 kg of mixing water during 40 to 60 seconds under constant mixing or this amount of mixing water is sprayed on it during 40 to 60 seconds, and after another 80 to 160 seconds of mixing, fresh concrete is prepared, in which 100 % by weight of the aggregate is formed by brick, ceramic or mixed recyclate made from inert construction and demolition waste in combination with concrete recyclate.

33. The method for the preparation of fresh concrete according to claim 24, **characterized in that** 820 kg to 1525 kg of two-fractional concrete recyclate, having fractions of 0 to 8 mm and 8 to 16 mm, whereby the mutual ratio of these fractions is from 30:70 to 50:50, is mixed for 20 to 40 seconds in a forced circulation mixer, after thorough mixing, 350 to 600 kg of natural aggregate with upper fraction of up to 16 mm is added to it under constant mixing and the mixture thus prepared is mixed for 20 to 40 seconds.

34. The method for the preparation of fresh concrete according to claim 33, **characterized in that** 1025 to 1320 kg of two-fractional concrete recyclate is mixed for 20 to 40 seconds in a forced circulation mixer, after thorough mixing, 450 to 585

kg of natural aggregate is added to it under constant mixing and the mixture thus prepared is mixed for 20 to 40 seconds, after thorough mixing, 35 to 45 kg of microsilica is added to it during 10 to 15 seconds under constant mixing, the mixture thus prepared is mixed for 40 to 80 seconds and after thorough mixing, during 10 to 20 seconds under constant mixing, 170 to 255 kg of cement is added to it or cement and at least one substituent of cement in a total amount of 170 to 600 kg are added to it during 10 to 20 seconds under constant mixing successively in any order or concurrently, the ratio of cement to substituents of cement being from 30:70 to 70:30, and the mixture thus prepared is mixed for another 40 to 80 seconds, whereupon the mixture is sprinkled with 155 to 220 kg of mixing water for 40 to 60 seconds under constant mixing or this amount of mixing water is sprayed on it during 40 to 60 seconds, and after another 80 to 160 seconds of mixing, fresh concrete is prepared, in which at least 70 % by weight of the aggregate is formed by concrete recyclate.

35. The method for the preparation of fresh concrete according to claim 24, **characterized in that** 820 kg to 1525 kg of concrete recyclate is mixed for 20 to 40 seconds in a forced circulation mixer, the recyclate having a fraction of 0 to 8 mm, after thorough mixing, 350 to 600 kg of natural aggregate with upper fraction of up to 8 mm is added to it under constant mixing and the mixture thus prepared is mixed for 20 to 40 seconds.

36. The method for the preparation of fresh concrete according to claim 35, **characterized in that** 1025 to 1320 kg of concrete recyclate is mixed for 20 to 40 seconds in a forced circulation mixer, after thorough mixing 450 to 585 kg of natural aggregate is added to it under constant mixing and the mixture thus prepared is mixed for 20 to 40 seconds, after thorough mixing, 35 to 45 kg of microsilica is added to it during 10 to 15 seconds under constant mixing, the mixture thus prepared is mixed for 40 to 80 seconds and after thorough mixing, during 10 to 20 seconds under constant mixing, 170 to 255 kg of cement is added to it or cement and at least one substituent of cement in a total amount of 170 to 600 kg are added to it during 10 to 20 seconds under constant mixing successively in any order or concurrently, the ratio of cement to substituents of cement being from 30:70 to 70:30, and the mixture thus prepared is mixed for another 40 to 80 seconds, whereupon the mixture is sprinkled with 155 to 220 kg of mixing water during 40 to 60 seconds under constant mixing or his amount of mixing water is sprayed on it during 40 to 60 seconds, and

after a further 80 to 160 seconds of mixing, fresh concrete is prepared, in which at least 70 % by weight of the aggregate is formed by concrete recyclate.

37. The method for the preparation of fresh concrete according to claim 24, **characterized in that** after thorough mixing of mixure of two types of recyclate from inert construction and demolition waste natural aggregate is added to it in an amount up to 30 % by weight of the total aggregate in the concrete and the mixture thus prepared is mixed for another 20 to 40 seconds.

38. The method for the preparation of fresh concrete according to claim 17, **characterized in that** after thorough mixing of recyclate from inert construction and demolition waste at least one component improving the thermal and/or acoustic and/or fire resistance properties of concrete is added to it under constant mixing in an amount of up to 30 % by weight of the total aggregate in the concrete, and the mixture thus prepared is mixed for 20 to 40 seconds.

39. The method for the preparation of fresh concrete according to claim 24, **characterized in that** after thorough mixing of mixure of two types of recyclate from inert construction and demolition waste at least one component improving thermal and/or acoustic and/or fire resistance properties of concrete is added to it in an amount up to 30 % by weight of the total aggregate in the concrete and the mixture thus prepared is mixed for 20 to 40 seconds.

40. The method for the preparation of fresh concrete according to claim 24, **characterized in that** after thorough mixing of mixure of two types of recyclate made from inert construction and demolition waste natural aggregate is added to them in an amount up to 30 % by weight of the total aggregate in the concrete and the mixture thus prepared is mixed for another 20 to 40 seconds, after thorough mixing, at least one component improving thermal and/or acoustic and/or fire resistance properties of concrete is added to it in an amount up to 30 % by weight of the total aggregate in the concrete and the mixture thus prepared is mixed for 20 to 40 seconds.

41. The method for the preparation of fresh concrete according to any of claims 17 to 40, **characterized in that** the first part of the total batch of the aggregate formed by recyclate made from inert construction and demolition waste is mixed for 20 to 40 seconds in a forced circulation mixer, afterwards the first part of the total batch of microsilica is added to it during 10 to 15 seconds, the mixture thus prepared is mixed for 20 to 60 seconds, then the second part of the whole batch of the aggregate composed of recyclate made from inert construction and demolition waste

or of natural aggregate is added to it under constant mixing, and the mixture thus prepared is mixed for 20 to 40 seconds and after that, the second part of the batch of microsilica is added to it during 10 to 15 seconds, whereby the total amount of the aggregate in 1 m^3 of fresh concrete is 1000 to 2000 kg and 40 to 100 % of this aggregate is formed by recyclate from inert construction and demolition waste, and the total batch of microsilica in $1m^3$ of fresh concrete is 28 to 52 kg, and the mixture thus prepared is mixed for 40 to 80 seconds and, after thorough mixing, during 10 to 20 seconds under constant mixing, 135 to 400 kg of cement is added to it or cement and at least one substituent of cement in a total amount of 135 to 600 kg are added to it during 10 to 20 seconds under constant mixing successively in any order or concurrently, the ratio of cement to substituents of cement being from 30:70 to 70:30, and the mixture thus prepared is mixed for an additional 40 to 80 seconds, whereupon the mixture is sprinkled with 135 to 250 kg of mixing water for 40 to 60 seconds under constant mixing, or this amount of mixing water is sprayed on it during 40 to 60 seconds and, after another 80 to 160 seconds of mixing, fresh concrete is prepared.

42. The method for the preparation of fresh concrete according to claim 41, **characterized in that** the first and second parts of the total batch of the aggregate are formed by recyclate made from inert construction and demolition waste having the same composition and/or fraction.

43. The method for the preparation of fresh concrete according to claim 41, **characterized in that** the first and second parts of the total batch of the aggregate are formed by recyclate from inert construction and demolition waste having different compositions and/or fractions

44. The method for the preparation of fresh concrete according to any of claims 17 to 40, **characterized in that** the first part of the total batch of the aggregate formed by recyclate from inert construction and demolition waste is mixed for 20 to 40 seconds in a forced circulation mixer, afterwards the first part of the whole batch of microsilica is added to it during 10 to 15 seconds, and the mixture thus prepared is mixed for 20 to 60 seconds, and then, under constant mixing, the second part of the total batch of the aggregate formed by recyclate from inert construction and demolition waste or by natural aggregate is added to it, and the mixture thus prepared is mixed for 20 to 40 seconds and subsequently, during 10 to 15 seconds, the second part of the batch of microsilica is added to it and the mixture thus

prepared is mixed for 20 to 60 seconds, afterwards the third part of the total batch of the aggregate formed by recyclate from inert construction and demolition waste or by natural aggregate is added to it under constant mixing, and the mixture thus prepared is mixed for 20 to 40 seconds and then the second part of the batch of microsilica is added to it during 10 to 15 seconds, whereby the total amount of the aggregate in 1 m^3 of fresh concrete is 1000 to 2000 kg and 40 to 100 % of this aggregate is formed by recyclate made from inert construction and demolition waste, the total batch of microsilica in $1m^3$ of fresh concrete being 28 to 52 kg, and the mixture thus prepared is mixed for 40 to 80 seconds and, after thorough mixing, 135 to 400 kg of cement is added to it during 10 to 20 seconds under constant mixing, or cement and at least one substituent of cement in a total amount of 135 to 600 kg are added to it during 10 to 20 seconds under constant mixing successively in any order or concurrently, the ratio of cement to substituents of cement ranging from 30:70 to 70:30, and the mixture thus prepared is mixed for an additional 40 to 80 seconds, whereupon the mixture is sprinkled with 135 to 250 kg of mixing water for 40 to 60 seconds under constant mixing, or this amount of mixing water is sprayed on it during 40 to 60 seconds and, after another 80 to 160 seconds of mixing, fresh concrete is prepared.

45. The method for the preparation of fresh concrete according to claim 44, **characterized in that** at least two parts of the total batch of the aggregate are formed by recyclate made from construction and demolition waste having the same composition and/or fraction.

46. The method for the preparation of fresh concrete according to claim 44, **characterized in that** at least two parts of the total batch of the aggregate are formed by recyclate made from inert construction and demolition waste having different compositions and/or fractions.

47. The method for preparing fresh concrete according to any of claims 17 to 46, **characterized in that** the mixing water contains at least one additive or a mixture of additives for concrete in an amount of up to 5 % by weight of a batch of cement or of a batch of cement and substituents of cement.

48. The method for the preparation of fresh concrete according to any of claims 17 to 47, **characterized in that** after the mixture thus prepared is sprinkled with mixing water or the mixing water is sprayed on it, at least one additive for concrete or a mixture of more additives is/are added to this mixture in an amount of

up to 5 % by weight of the batch of cement or the batch of cement and substituents of cement.

49. The method for the preparation of fresh concrete according to any of claims 17 to 48, **characterized in that** the natural aggregate is formed by extracted and/or crushed natural aggregate with a fraction of 0 to 4 mm.