CLAIMS

1. Monofilament metal sawing wire for a wire saw, said wire saw (10) being constituted of a metal wire with a diameter D and comprising helical serrations (104) with an amplitude A and a wavelength B, characterised in that the wavelength B is less than 10,000 times the product A x D of the amplitude and of the diameter and the amplitude A is between 0.010 and 0.400 times the diameter D, with the amplitude being measured by profile projection, with the values expressed in millimetres.

2. Sawing wire according to claim 1, wherein the amplitude A is between 0.070 and 0.400 times the diameter D.

3. Sawing wire according to claim 1, wherein the amplitude A is between 0.010 and 0.150 times the diameter D.

4. Sawing wire according to one of claims 1 to 3, wherein the wavelength B is less than 2,800 times the product A x D of the amplitude and of the diameter.

5. Sawing wire according to one of claims 1 to 4, wherein the diameter D is between 0.08 mm and 0.50 mm.

6. Sawing wire according to one of claims 1 to 5, characterised in that it comprises a coating of abrasive material.

7. Sawing wire according to one of claims 1 to 6, wherein the section of the wire is not circular.

8. Sawing wire according to claim 7, wherein the ratio of a smaller dimension of the section of the wire and an envelope diameter of the section is between 0.9 and 0.995.

9. Method for manufacturing a sawing wire (10) according to one of claims 1 to 8, characterised in that the wire is made to run under tension from a first guide (201) to a second guide (202), vibrations are applied to the portion of the wire between the two guides (201, 202), with the vibrations being rotating in relation to the section of the wire on the first guide (201), in such a way that the vibrations induce permanent deformations to the wire in the form of substantially helical serrations (104).

10. Method according to claim 9, according to which the vibrations are applied to the wire by blowing a stream of air onto the wire.

11. Method according to claim 9, according to which the wire is driven in rotation on itself by the rotation of the second guide (202', 202"), with the first guide (201) being fixed.

12. Method according to claim 11, according to which vibrations are applied to the wire by an excitation flange (303) comprising at least one bump (3030), with the flange (303) being mounted rotatingly in such a way

that the bump (3030) interacts with the wire at each rotation of the flange (303).

13. Method according to claim 11, according to which the vibrations are applied by the intermediary of a third guide (304) placed between the first and the second guide (201, 202") and mounted oscillating in a plane perpendicular to the wire.

14. Method according to claim 13, according to which the third guide (304) is a wiredrawing die.

15. Method according to claim 14, according to which the wiredrawing die (304) is rotating around its drawing axis.

16. Method according to claim 9, according to which the vibrations of the wire are generated by a ring (305) placed between the first and the second guide (201, 202), with the ring (305) comprising a passage (3050) for the wire (10) and being driven in rotation around a parallel axis (y) and offset in relation to the passage (3050).

17. Equipment for manufacturing a wire according to one of claims 1 to 8, characterised in that it comprises a first guide (201) and a second guide (202) in order to guide a wire under tension between them, means for driving (203) the wire between the guides (201, 202) and means for exciting (30) in order to cause the wire to vibrate between the two guides (201, 202).

18. Installation according to claim 17, wherein the first guide (201) is a die adjusted to the diameter of the wire.

19. Installation according to claim 17, wherein the means for driving comprise a capstan in order to draw the wire after its passage in the second guide (202).

20. Method for sawing a material according to which a sawing wire (10) under tension is displaced against the material, characterised in that the sawing wire (10) is a sawing wire (10) according to one of claims 1 to 8.

Claims:

1. A monofilament metal sawing wire for a wire saw, said wire saw comprising: a metal wire with a diameter D and comprising helical serrations with an amplitude A and a wavelength B, wherein the wavelength B is less than 10,000 times the product A×D of the amplitude and of the diameter and the amplitude A is between 0.010 and 0.400 times the diameter D, with the amplitude being measured by profile projection, with the values expressed in millimeters.

2. The sawing wire according to claim 1, wherein the amplitude A is between 0.070 and 0.400 times the diameter D.

3. The sawing wire according to claim 1, wherein the amplitude A is between 0.010 and 0.150 times the diameter D.

4. The sawing wire according to claim 1, wherein the wavelength B is less than 2,800 times the product A×D of the amplitude and of the diameter.

5. The sawing wire according to claim 1, wherein the diameter D is between 0.08 mm and 0.50 mm.

6. The sawing wire according to claim 1, said wire comprises a coating of abrasive material.

7. The sawing wire according to claim 1, wherein the section of the wire is not circular.

8. The sawing wire according to claim 7, wherein the ratio of a smaller dimension of the section of the wire and an envelope diameter of the section is between 0.9 and 0.995.

9. A method for manufacturing a sawing wire according to claim 1, wherein the wire is made to run under tension from a first guide to a second guide, vibrations are applied to the portion of the wire between the two guides, with the vibrations being rotating in relation to the

section of the wire on the first guide, in such a way that the vibrations induce permanent deformations to the wire in the form of substantially helical serrations.

10. The method according to claim 9, wherein the vibrations are applied to the wire by blowing a stream of air onto the wire.

11. The method according to claim 9, wherein the wire is driven in rotation on itself by the rotation of the second guide, with the first guide being fixed.

12. The method according to claim 11, wherein vibrations are applied to the wire by an excitation flange comprising at least one bump, with the flange being mounted rotatingly in such a way that the bump interacts with the wire at each rotation of the flange.

13. The method according to claim 11, wherein the vibrations are applied by the intermediary of a third guide placed between the first and the second guide and mounted oscillating in a plane perpendicular to the wire.

14. The method according to claim 13, wherein the third guide is a wiredrawing die.

15. The method according to claim 14, wherein the wiredrawing die is rotating around the wiredrawing die drawing axis.

16. The method according to claim 9, wherein the vibrations of the wire are generated by a ring placed between the first and the second guide, with the ring comprising a passage for the wire and being driven in rotation around a parallel axis (y) and offset in relation to the passage.

17. The equipment for manufacturing a wire according to claim 1, comprising: a first guide and a second guide configured to guide a wire under tension between the first and second guide, means for driving the wire between the guides and means for exciting configured to cause the wire to vibrate between the two guides.

18. The equipment for manufacturing a wire according to claim 17, wherein the first guide is a die adjusted to the diameter of the wire.

19. The equipment for manufacturing a wire according to claim 17, wherein the means for driving comprise a capstan in order to draw the wire after its passage in the second guide.

20. A method for sawing a material wherein a sawing wire under tension is displaced against the material, wherein the sawing wire is a sawing wire according to claim 1.