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I/We Claim:

1. A flux-cored welding wire, comprises:

a shell enclosed to form a tubular or circular cavity therein that contains flux, wherein the stainless steel that is used to make the shell contains 10%~18% of Cr by weight.

2. The flux-cored welding wire of claim 1, wherein:

in the drawing process, the stretching ratio of the stainless steel that is used to make the shell is selected at 20%, 25% or any value between the range of 20%-30%.

3. The flux-cored welding wire of claim 1, wherein:

the stainless steel that is used to make the shell contains no Ni or contains 5% or less than 5% of Ni by weight.

4. The flux-cored welding wire of claim 1, wherein:

the stainless steel for making the shell is any stainless steel in 400 series of stainless steels.

5. The flux-cored welding wire of claim 4, wherein:

the stainless steel that is used to make the shell is 409 or 410 type stainless steel.

6. The flux-cored welding wire according to claim 1, wherein:

the flux contains 9% ~ 68% of Cr, 1% ~ 10% of Mn and 2% ~ 15% of Si by weight and the balance is Fe.

7. The flux-cored welding wire according to claim 1, wherein:

the weight of the flux is 5% ~ 25% of that of the flux-cored welding wire or the filling ratio is 5% ~ 25%, preferably 10%-20%.

8. The flux-cored welding wire according to claim 1, wherein:

the deposited metal formed after welding process by using the flux-cored welding wire has 10% ~ 20% of Cr, 0.1% ~ 0.8% of Mn and 0.1% ~ 1% of Si by weight of the deposited metal and the balance is Fe.

9. The flux-cored welding wire according to one of claims 1-8, wherein:

the workpieces made of stainless steel that is to be welded by using the flux-cored welding wire contains 10% ~ 18% of Cr by weight.

10. The flux-cored welding wire according to claim 9, wherein:

the stainless steel for making the workpieces contains no nickel or contains less than 5% of nickel by weight.

11. The flux-cored welding wire according to claim 9, wherein:

the stainless steel for making the workpieces is a stainless steel selected from the 400 series of stainless steels.

12. The flux-cored welding wire according to one of claim 1, wherein:

the flux-cored welding wire is manufactured by drawing for multiple times or two times.

13. The flux-cored welding wire according to claim 12, wherein:

the stretching ratio of the stainless steel that is used to make the shell is selected at 20%, 25% or any value between the range of 20%-30%.

14. A flux-cored welding wire comprises a shell enclosed to form a tubular or circular cavity that contains flux, wherein:

the flux contains 9% ~ 68% of Cr, 1% ~ 10% of Mn and 2% ~ 15% of Si by

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weight and the balance is Fe.

15. The flux-cored welding wire of claim 14, wherein:

the stainless steel that is used to make the shell contains 10% ~ 18% of Cr by weight.

16. The flux-cored welding wire of claim 14, wherein:

during the drawing process, the stretching ratio of the stainless steel that is used to make the shell is selected at 20%, 25% or any value between the range of 20%-30%.

17. The flux-cored welding wire of claim 14, wherein:

the stainless steel that is used to make the shell contains no nickel or contains 5% or less than 5% of nickel by weight.

18. The flux-cored welding wire of claim 14, wherein:

the stainless steel for making the shell is any stainless steel in 400 series of stainless steels.

19. The flux-cored welding wire according to claim 15, wherein:

the weight of the flux is 5% ~ 25% of that of the flux-cored welding wire or the filling ratio is 5% ~ 25%, preferably 10%-20%.

20. The flux-cored welding wire according to one of claims 14-19, wherein:

the workpieces made of stainless steel that is to be welded by using the flux-cored welding wire contains 10% ~ 18% of Cr by weight.

21. The flux-cored welding wire according to claim 20, wherein:

the stainless steel for making the workpieces contains no nickel or contains less than 5% of nickel by weight.

22. The flux-cored welding wire according to one of claim 21, wherein:

the stainless steel for making the workpieces is a stainless steel selected from the 400 series of stainless steels.

23. The flux-cored welding wire according to claim 22, wherein:

the weight of the flux is between 5% ~ 25% of that of the flux-cored welding wire or the filling ratio is between 5% ~ 25%, preferably between 10%-20%.

24. The flux-cored welding wire according to claim 14, wherein:

the flux-cored welding wire is manufactured by drawing for multiple times or two times.

25. The flux-cored welding wire of claim 24, wherein:

in the drawing process, the stretching ratio of the stainless steel that is used to make the shell is selected at 20%, 25% or any value between the range of 20%-30%.

26. A method for manufacturing the flux-cored welding wire that is described in claims 1-25, the method comprises the steps of:

selecting the steel strip according to any one or combination of claims 1-25;

wrapping the flux into the steel strip; and

forming the welding wire by drawing the steel strip for multiple times.

27. A method for using the flux-cored welding wire that is described in claims 1-25, the method comprises the steps of:

providing the flux-cored welding wire that is described in claims 1-25; and

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using the flux-cored welding wire that is described in claims 1-25 to weld the workpieces that is described in claims 1-26.

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Agent for the Applicant

To,
The Controller of Patents
The Patent Office at New Delhi