

CLAIMS

1. An Al wiring material containing Mg and Si so as to satisfy

5 $0.05 \leq x_{1a} \leq 2.5,$
 $0.04 \leq x_{1b} \leq 1,$ and
 $0.1 \leq (x_{1a} + x_{1b}) \leq 3$

 where x_{1a} is a content of Mg [% by mass] and x_{1b} is a content of Si [% by mass],

10 and containing one or more selected from the group consisting of Sc, Er, Yb, Gd, Ce and Y so as to satisfy

$$0.001 \leq x_2 \leq 0.5$$

 where x_2 is a total content thereof [% by mass],
 with the balance comprising Al,

15 wherein the Al wiring material is a bonding wire or a bonding ribbon.

2. The Al wiring material according to claim 1, further containing one or more selected from the group consisting
20 of Zr, Fe, Ni, Mn, Cu and Zn so as to satisfy

$$0.01 \leq x_3 \leq 0.5$$

 where x_3 is a total content thereof [% by mass].

3. The Al wiring material according to claim 1 or 2,
25 wherein the Al wiring material contains at least Er, Yb, Gd, Ce or Y as one or more selected from the group consisting of Sc, Er, Yb, Gd, Ce and Y.

4. The Al wiring material according to any one of claims
30 1 to 3, wherein the Al wiring material contains at least Yb, Gd or Y as one or more selected from the group consisting of Sc, Er, Yb, Gd, Ce and Y.

5. The Al wiring material according to any one of claims 2 to 4, wherein the Al wiring material contains at least Zr, Ni, Mn or Zn as one or more selected from the group consisting of Zr, Fe, Ni, Mn, Cu and Zn.

6. The Al wiring material according to any one of claims 1 to 5, satisfying $0.05 \leq x_{1b} \leq 1$.

10 7. The Al wiring material according to any one of claims 1 to 6, satisfying $0.08 \leq x_{1b} \leq 0.75$.

8. The Al wiring material according to any one of claims 2 to 7, satisfying $0.06 \leq x_3 \leq 0.5$.

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9. The Al wiring material according to any one of claims 2 to 8, satisfying $0.1 \leq x_3 \leq 0.5$.

10. The Al wiring material according to any one of claims 20 2 to 9, satisfying $0.05 \leq x_3 \leq 0.4$.

11. The Al wiring material according to any one of claims 1 to 10, wherein the Al wiring material is a bonding wire.

25 12. The Al wiring material according to any one of claims 1 to 11,

in a case where the Al wiring material is the Al bonding wire, the diameter is 50 to 600 μm , and

30 in a case where the Al wiring material is the Al bonding ribbon, with respect to dimensions ($w \times t$) of a rectangular or substantially rectangular cross-section thereof, t is 50 to 600 μm .

13. A semiconductor device comprising the Al wiring material according to any one of claims 1 to 12.