|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Si含量变化** | ***X=0.1*** | ***X=0.2*** | ***X=0.3*** | ***X=0.4*** | ***X=0.5*** |  |
| **M-FeCoNiSi*x*Al0.4** | **1** | **2** | **3** | **4** | **5** |  |
| **A-FeCoNiSi*x*Al0.4** | **6** | **7** | **8** | **9** | **10** |  |
| **R-FeCoNiSi*x*Al0.4** | **11** | **12** | **13** | **14** | **15** |  |
| **C-FeCoNiSi*x*Al0.4** | **16** | **17** | **18** | **19** | **20** |  |

**Si含量变化（x=0.1、0.2、0.3、0.4、0.5）**

1. **FeCoNiSi*x*Al0.4 直接球磨70h，球磨过程中加入适量无水乙醇作为过程控制剂**
2. **FeCoNiSi*x*Al0.4 球磨之后在673K退火1h**
3. **FeCoNiSi*x*Al0.4 熔炼、甩带，923K退火2h得到的HEA条带**

**C-FeCoNiSi*x*Al0.4 熔炼、甩带，923K退火2h，干磨60h、湿磨10h**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 饱和磁化强度(emu/g) | 矫顽力(Oe) | 剩余磁化强度 | 电磁参数 |
| 1 | 104.0623 | 91.29 | 7.9354 | 1 |
| 2 | 99.9940 | 92 | 6.3202 | 2 |
| 3 | 100.2992 | 107 | 6.3905 | 3 |
| 4 | 95.7065 | 142.28 | 8.3567 | 4 |
| 5 | 89.5024 | 148.8 | 9.9494 | 5 |
| 6 | 115.7479 | 46.6 | 3.2865 | 6 |
| 7 | 119.1469 | 99.81 | 3.1180 | 7 |
| 8 | 124.1809 | 59.48 | 3.3708 | 8 |
| 9 | 114.0894 | 92.7 | 5.0562 | 9 |
| 10 | 111.4463 | 161.3 | 8.0899 | 10 |
| 11 | 119.3825 | 22.54 | 9.4899 | 无 |
| 12 | 115.3183 | 26.27 | 6.7126 | 无 |
| 13 | 112.8212 | 25.78 | 11.4673 | 无 |
| 14 | 111.3801 | 29.47 | 7.9759 | 无 |
| 15 | 107.8444 | 8.22 | 2.0484 | 无 |
| 16 | 123.65795 | 14.052 | 5.4070 | 16 |
| 17 | 111.90798 | 19.154 | 7.6571 | 17 |
| 18 | 103.35182 | 21.24 | 6.8036 | 18 |
| 19 | 91.97837 | 22.968 | 5.1150 | 19 |
| 20 | 86.7407 | 23.426 | 5.5758 | 20 |