Table 4 Refined ambient-temperature lattice parameters and phase fractions of the ODS FeNiCrY2O3 specimens

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SpecimenCode | Y2O3(wt.%) | *GOF*(%) | Lattice Parameters(Å) | Mass Fraction(*w* %) | Volume Fraction(*f* %) |
| FeNiCr(Austenite Matrice) | Y2O3(Cubic-Yttria) | FeNiCr(Austenite Matrice) | Y2O3(Cubic-Yttria) | FeNiCr(Austenite Matrice) | Y2O3(Cubic-Yttria) |
| FeNiCr | - | 1.20 | 3.59783 | - | 100.00 | - | 1.00000 | - |
| FeNiCr-03Y2O3 | 0.3 | 1.16 | 3.59069 | 10.61221 | 99.65 | 0.35 | 0.99865 | 0.00135 |
| FeNiCr-05Y2O3 | 0.5 | 1.19 | 3.59529 | 11.39172 | 99.41 | 0.59 | 0.99522 | 0.00478 |
| FeNiCr-07Y2O3 | 0.7 | 1.22 | 3.59929 | 10.55049 | 99.30 | 0.70 | 0.99367 | 0.00633 |
| FeNiCr-10Y2O3 | 1.0 | 1.41 | 3.59746 | 10.59284 | 98.82 | 1.18 | 0.99968 | 0.00324 |
| FeNiCr-15Y2O3 | 1.5 | 1.46 | 3.60936 | 10.65735 | 98.48 | 1.52 | 0.98937 | 0.01063 |
| FeNiCr-20Y2O3 | 2.0 | 1.48 | 3.67214 | 10.79821 | 97.93 | 2.06 | 0.96686 | 0.03314 |
| Y2O3 | 100.0 | 1.40 | - | 11.48965 | - | 100.00 | - | 1.00000 |