CLAIMS

1. A cracking tube for an ammonia gas thermally cracking apparatus, the cracking tube being formed from a heat-resistant alloy having nitrogen resistance, the alloy comprising, in mass %:
C: 0.2% to 0.6%,
Si: greater than 0% to 2.5% or less,
Mn: greater than 0% to 2.0% or less,
P: 0.03% or less,
S: 0.03% or less,
Ni: 33.0% to 50.0%,
Cr: 24.0% to 50.0%,
the remainder being Fe and impurities, and
optionally including:
Nb: greater than 0% to 1.8% or less,
Rare earth elements: greater than 0% to 0.5% or less,
Ti: greater than 0% to 0.5% or less and/or Zr: greater than 0% to 0.5% or less, and
W: greater than 0% to 2.0% or less and/or Mo: greater than 0% to 0.5% or less.

2. The cracking tube for an ammonia gas thermally cracking apparatus according to claim 1 wherein the heat-resistant alloy comprises
C: 0.45% to 0.55%,
Si: greater than 0% to 1.5% or less,
Ni: 33.0% to 50.0%,
Cr: 24.0% to 27.0%,
Nb: greater than 0% to 1.0% or less.

3. The cracking tube for an ammonia gas thermally cracking apparatus according to claim 1 wherein the heat-resistant alloy comprises
C: 0.4% to 0.6%,
Si: greater than 0% to 2.0% or less,
Ni: 40.0% to 50.0%,
Cr: 24.0% to 38.0%,
Nb: 0.5% to 1.8%.

4. The cracking tube for an ammonia gas thermally cracking apparatus according to claim 1 wherein the heat-resistant alloy comprises
C: 0.2% to 0.5%,
Ni: 40.0% to 50.0%,
Cr: 30.0% to 50.0%,
and optionally, Ti: greater than 0% to 0.4% or less.

5. The cracking tube for an ammonia gas thermally cracking apparatus according to any one of claims 1 to 4 wherein

the heat-resistant alloy has a creep rupture strength of 20 MPa or more at 900 ^{O}C for 1000 hours.

6. The cracking tube for an ammonia gas thermally cracking apparatus according to any one of claims 1 to 4 wherein the heat-resistant alloy has
an activation energy for nitrogen diffusion of 35 kJ/mol or more.

7. The cracking tube for an ammonia gas thermally cracking apparatus according to any one of claims 1 to 4 wherein
the cracking tube is a centrifugally cast body of the heat-resistant alloy.

8. The cracking tube for an ammonia gas thermally cracking apparatus according to any one of claims 1 to 4 wherein
the cracking tube is used in a high-temperature atmosphere of 500 ^{O}C or higher.