

**PRODUCT TEST CERTIFICATE**

|                                       |                                  |                       |           |
|---------------------------------------|----------------------------------|-----------------------|-----------|
| Product Name                          | Spherical Niobium Powder         | Type                  | 15-53µm   |
| <b>Chemical Composition</b>           |                                  |                       |           |
| Element                               | Value (%)                        | Element               | Value (%) |
| Nb                                    | ≥99.95                           | Ta                    | <0.05     |
| Cu                                    | <0.001                           | Al                    | <0.002    |
| W                                     | <0.005                           | Mn                    | <0.001    |
| Mo                                    | <0.003                           | Si                    | <0.002    |
| Fe                                    | <0.005                           | Ni                    | <0.001    |
| Ti                                    | <0.002                           | Cr                    | <0.001    |
| Others                                | <0.01                            |                       |           |
| <b>Gas Impurity Content</b>           |                                  |                       |           |
| Element                               | Value(%)                         | Element               | Value(%)  |
| C                                     | 0.0037                           | O                     | 0.052     |
| H                                     | 0.0023                           | N                     | 0.0094    |
| <b>Density</b>                        |                                  | <b>Hall Flow Rate</b> |           |
| Apparent Density (g/cm <sup>3</sup> ) | Tap Density (g/cm <sup>3</sup> ) | Value(s/50g)          |           |
| ≥4.5                                  | ≥5.6                             | ≤16.5                 |           |
| SEM                                   |                                  |                       |           |