

전기선 폭발법으로 제조된 Mo 나노분말의 입도에 미치는 공정변수의 영향

**The effect of process parameters on the particle sizes of Mo
nanopowders produced by EEW**

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The nanopowder production process by the Electric Explosion of Wires (EEW) has attracted interest for many years. In the EEW process many parameters have an effect on the properties of nanopowders such as the charging voltage, the characteristics of the exploding wire (material and geometrical dimensions), the wire length and diameter, and the ambient atmosphere etc.

Experimental parameters used in this study were defined as follows. Molybdenum wires with a diameter of 0.3 mm and length of 60 mm were used. The electric explosion of the wires were carried out in the voltage range from 30 kV to 42 kV under a Nitrogen gas pressure of 1.5 atm. The produced powders were subsequently passivated in air for 1h. The Molybdenum nanopowders were characterized by means of XRD, FE-SEM, TEM, BET and size distribution analysis. Furthermore, Argon gas was used as another surrounding passive gas for producing powders.