

## TECHNICAL SPECIFICATIONS

- |   |            |
|---|------------|
| <b>1. Nano Alumina Powder – Type I</b>                | <b>QTY</b> |
| Purity: 99.5% Minimum                                 | 10kgs      |
| Alpha phase: 90% minimum                              |            |
| Average particle size: 30 – 40 nm                     |            |
| Specific surface area: 30m <sup>2</sup> /g (min.)     |            |
| Particle morphology: Spherical                        |            |
| Crystal structure: Rhombohedral                       |            |
| <br>  |            |
| <b>2. Nano Alumina Powder – Type II</b>               | <b>QTY</b> |
| Purity: 99.95% Minimum                                | 10kgs      |
| Phase: Gamma  |            |
| Average particle size: 20-30 nm                       |            |
| Specific surface area > 160 m <sup>2</sup> /g         |            |
| Particle morphology: Spherical                        |            |
| Crystallographic structure: Cubic                     |            |
| <br>  |            |
| <b>3. Nano Copper Oxide Powder</b>                    | <b>QTY</b> |
| Purity: 99% minimum                                   | 20kgs      |
| Average particle size: 30 – 50 nm                     |            |
| Specific surface area: > 10 m <sup>2</sup> /g         |            |
| Particle morphology: Spherical                        |            |
| Crystallographic structure: Monoclinic                |            |
| <br>  |            |
| <b>4. Nano Yttria stabilized Zirconia Powder</b>      | <b>QTY</b> |
| 3 mol% Yttria stabilized Zirconia Powder              | 10kgs      |
| Purity: 99.9% Minimum                                 |            |
| Average particle size: 20-30 nm                       |            |
| Specific surface area: 40-50 m <sup>2</sup> /g        |            |
| Particle morphology: Spherical                        |            |
| Crystallographic structure:                           |            |
| Tetragonal: Minimum 70-80 vol. %                      |            |
| <br>  |            |
| <b>5. Multi walled carbon Nanotube (MWCNT) Powder</b> | <b>QTY</b> |
| Purity: >95%  | 2kgs       |
| Outer Diameter: 20-40 nm                              |            |
| Inner Diameter: 5-8 nm                                |            |
| Length: 1-2 micron                                    |            |
| Specific surface area: >40 m <sup>2</sup> /g          |            |
| Colour: Black   |            |

**6. Nano alumina dispersed water**

**QTY**

20 wt. % Alpha/gamma phase  
Alumina dispersed in water  
Purity > 99.9%  
Avg. Particle size: 25-35 nm  
Appearance: White liquid

10kgs

**7. MWCNT dispersed water**

**QTY**

1 wt. % multiwalled carbon nano tubes  
Dispersed in water  
Purity: 95 % (min.)  
Diameter: 20-30 nm  
Length: 10-15 micron  
SSA: 350 m<sup>2</sup>/g (min.)

2Ltrs

**Note:**

- 1. Order shall be placed on basis of Total cost to BHEL.**
- 2. For any technical clarification please contact Dr. L N Satapathy,  
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