

# Spherical Alumina Powder (Conventional Type)

| Item                  |                                | Unit              | SSAC-1 | SSAC-2 | SSAC-5 | SSAC-10 | SSAC-15 | SSAC-20 | SSAC-30 | SSAC-40 | SSAC-70 | SSAC-90 | SSAC-120 | SSAC-150 | SSAC-200 | SSAC-40RP |
|-----------------------|--------------------------------|-------------------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|-----------|
| Particle Size         | D10                            | μm                | 0.58   | 0.69   | 2.54   | 4.18    | 7.03    | 10.5    | 16.88   | 23.77   | 44.32   | 55.23   | 90.95    | 110.6    | 146.3    | 22.02     |
|                       | D50                            | μm                | 1.03   | 2.18   | 5.52   | 10.03   | 15.11   | 20.8    | 30.52   | 41.54   | 71.54   | 87.96   | 122.4    | 154.3    | 191.5    | 41.38     |
|                       | D90                            | μm                | 2.14   | 5.24   | 9.09   | 18.46   | 24.06   | 37.24   | 48.87   | 66.44   | 106.5   | 134.9   | 172.7    | 232.7    | 287.7    | 67.86     |
| Specific Surface Area |                                | m <sup>2</sup> /g | 1.69   | 1.27   | 0.36   | 0.17    | 0.14    | 0.11    | 0.1     | 0.07    | 0.05    | 0.06    | 0.06     | 0.03     | 0.03     | 0.06      |
| Electric              |                                | μS/cm             | 6.07   | 5.4    | 5.65   | 4.05    | 1.83    | 6.87    | 7.95    | 4.65    | 6.18    | 8.15    | 2.6      | 4.5      | 5.2      | 12.78     |
| pH Value              |                                | -                 | 7.53   | 7.79   | 7.7    | 7.41    | 7.37    | 7.62    | 7.39    | 7.31    | 7.42    | 7.3     | 7.44     | 7.2      | 7.9      | 7.89      |
| Moisture              |                                | %                 | 0.05   | 0.03   | 0.03   | 0.03    | 0.03    | 0.03    | 0.03    | 0.03    | 0.03    | 0.03    | 0.03     | 0.03     | 0.03     | 0.03      |
| True Density          |                                | g/cm <sup>3</sup> | 3.71   | 3.71   | 3.74   | 3.76    | 3.86    | 3.79    | 3.75    | 3.81    | 3.87    | 3.88    | 3.81     | 3.78     | 3.8      | 3.82      |
| Spheroidization rate  |                                | %                 | 96     | 98     | 98     | 98      | 96      | 96      | 98      | 96      | 96      | 95      | 96       | 95       | 95       | 95        |
| Chemical Composition  | Al <sub>2</sub> O <sub>3</sub> | %                 | 99.93  | 99.94  | 99.93  | 99.94   | 99.93   | 99.94   | 99.94   | 99.94   | 99.94   | 99.94   | 99.94    | 99.93    | 99.94    | 99.97     |
|                       | SiO <sub>2</sub>               | ppm               | 445    | 373    | 424    | 358     | 430     | 353     | 333     | 349     | 342     | 330     | 359      | 340      | 370      | 225       |
|                       | Fe <sub>2</sub> O <sub>3</sub> | ppm               | 152    | 120    | 176    | 136     | 158     | 144     | 161     | 148     | 158     | 164     | 133      | 150      | 140      | 35        |
|                       | Na <sub>2</sub> O              | ppm               | 103    | 107    | 100    | 106     | 112     | 104     | 106     | 103     | 100     | 106     | 108      | 110      | 90       | 30        |

# Spherical Alumina Powder (Narrow Particle Size Distribution)

| Item                  |                                | Unit              | SSAC-5-25C                                      | SSAC-10-35C                                     | SSAC-15-45C                                     | SSAC-30-75C                                      | SSAC-40-75C                                       | SSAC-70-120C                                      |
|-----------------------|--------------------------------|-------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|--------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| Particle Size         | D10                            | μm                | 1.92                                            | 4.08                                            | 9.73                                            | 18.32                                            | 23.35                                             | 49.9                                              |
|                       | D50                            | μm                | 5.07                                            | 8.61                                            | 15.51                                           | 32.1                                             | 40.78                                             | 75.34                                             |
|                       | D90                            | μm                | 8.89                                            | 15.48                                           | 22.85                                           | 63.12                                            | 65.18                                             | 109.3                                             |
| Specific Surface Area |                                | m <sup>2</sup> /g | 0.38                                            | 0.22                                            | 0.12                                            | 0.09                                             | 0.09                                              | 0.06                                              |
| Electric Conductivity |                                | μS/cm             | 2.64                                            | 5.81                                            | 3.77                                            | 3.77                                             | 4.68                                              | 5.31                                              |
| pH Value              |                                | -                 | 6.79                                            | 7.33                                            | 6.8                                             | 7.05                                             | 6.82                                              | 6.97                                              |
| Moisture              |                                | %                 | 0.03                                            | 0.02                                            | 0.03                                            | 0.03                                             | 0.03                                              | 0.02                                              |
| True Density          |                                | g/cm <sup>3</sup> | 3.7                                             | 3.82                                            | 3.78                                            | 3.8                                              | 3.79                                              | 3.79                                              |
| Spheroidization rate  |                                | %                 | 96                                              | 96                                              | 97                                              | 96                                               | 96                                                | 95                                                |
| Chemical Composition  | Al <sub>2</sub> O <sub>3</sub> | %                 | 99.93                                           | 99.93                                           | 99.94                                           | 99.94                                            | 99.94                                             | 99.95                                             |
|                       | SiO <sub>2</sub>               | ppm               | 430                                             | 450                                             | 370                                             | 340                                              | 340                                               | 250                                               |
|                       | Fe <sub>2</sub> O <sub>3</sub> | ppm               | 180                                             | 140                                             | 140                                             | 150                                              | 150                                               | 160                                               |
|                       | Na <sub>2</sub> O              | ppm               | 90                                              | 110                                             | 90                                              | 110                                              | 110                                               | 90                                                |
| Sieved Particles      |                                | ppm               | +325 Mesh (45μm) ≤100<br>+500 Mesh (25μm) ≤4000 | +400 Mesh (38μm) ≤100<br>+500 Mesh (25μm) ≤1000 | +270 Mesh (53μm) ≤200<br>+325 Mesh (45μm) ≤3000 | +150 Mesh (100μm) ≤100<br>+200 Mesh (75μm) ≤3000 | +120 Mesh (124μm) ≤300<br>+150 Mesh (100μm) ≤3000 | +120 Mesh (124μm) ≤100<br>+130 Mesh (110μm) ≤3000 |



**S STANFORD**  
ADVANCED MATERIALS

Stanford Advanced Materials  
23661 Birtcher Dr.  
Lake Forest, CA 92630  
Customer service: (949) 407 8904  
Fax: (949) 812-6690  
Email: [sales@SAMaterials.com](mailto:sales@SAMaterials.com)  
Website: [www.SAMaterials.com](http://www.SAMaterials.com)

# Spherical Alumina Powder (Mixed)

| Item                  |                         | Unit                    | SSAM-5M5 | SSAM-10M6 |
|-----------------------|-------------------------|-------------------------|----------|-----------|
| Particle Size         | D10                     | $\mu\text{m}$           | 1.5      | 1.49      |
|                       | D50                     | $\mu\text{m}$           | 5.73     | 8.91      |
|                       | D90                     | $\mu\text{m}$           | 11.08    | 17.88     |
| Specific Surface Area |                         | $\text{m}^2/\text{g}$   | 0.36     | 0.26      |
| Electric Conductivity |                         | $\mu\text{S}/\text{cm}$ | 4.23     | 3.74      |
| pH Value              |                         | -                       | 7.58     | 7.59      |
| Moisture              |                         | %                       | 0.03     | 0.03      |
| True Density          |                         | $\text{g}/\text{cm}^3$  | 3.76     | 3.8       |
| Spheroidization rate  |                         | %                       | 96       | 96        |
| Chemical Composition  | $\text{Al}_2\text{O}_3$ | %                       | 99.93    | 99.94     |
|                       | $\text{SiO}_2$          | ppm                     | 415      | 333       |
|                       | $\text{Fe}_2\text{O}_3$ | ppm                     | 174      | 163       |
|                       | $\text{Na}_2\text{O}$   | ppm                     | 111      | 104       |

# Spherical Alumina Powder (High Thermally Conductive)

| Item                  |                         | Unit                    | SSAHTC-5 | SSAHTC-40 | SSAHTC-70 | SSAHTC-90 | SSAHTC-120 |
|-----------------------|-------------------------|-------------------------|----------|-----------|-----------|-----------|------------|
| Particle Size         | D10                     | $\mu\text{m}$           | 4.82     | 25.23     | 46.6      | 58.28     | 90.63      |
|                       | D50                     | $\mu\text{m}$           | 7.68     | 42.44     | 71.61     | 87.79     | 119.95     |
|                       | D90                     | $\mu\text{m}$           | 11.99    | 64.73     | 106.28    | 131.34    | 168.95     |
| Specific Surface Area |                         | $\text{m}^2/\text{g}$   | 0.25     | 0.06      | 0.04      | 0.03      | 0.02       |
| Electric Conductivity |                         | $\mu\text{S}/\text{cm}$ | 2.94     | 3.32      | 3.11      | 3.3       | 3.9        |
| pH Value              |                         | -                       | 7.14     | 7.62      | 7.24      | 7.57      | 7.44       |
| Moisture              |                         | %                       | 0.03     | 0.03      | 0.02      | 0.03      | 0.03       |
| True Density          |                         | $\text{g}/\text{cm}^3$  | 3.78     | 3.83      | 3.87      | 3.91      | 3.92       |
| Spheroidization rate  |                         | %                       | 96       | 98        | 96        | 95        | 95         |
| Chemical Composition  | $\text{Al}_2\text{O}_3$ | %                       | 99.93    | 99.97     | 99.96     | 99.95     | 99.95      |
|                       | $\text{SiO}_2$          | ppm                     | 430      | 100       | 150       | 257       | 277        |
|                       | $\text{Fe}_2\text{O}_3$ | ppm                     | 180      | 90        | 160       | 148       | 130        |
|                       | $\text{Na}_2\text{O}$   | ppm                     | 90       | 110       | 90        | 95        | 93         |



**S STANFORD**  
ADVANCED MATERIALS

Stanford Advanced Materials  
23661 Birtcher Dr.  
Lake Forest, CA 92630  
Customer service: (949) 407 8904  
Fax: (949) 812-6690  
Email: [sales@SAMaterials.com](mailto:sales@SAMaterials.com)  
Website: [www.SAMaterials.com](http://www.SAMaterials.com)