

# Alumina Socket Bolt

**Formula:** Al<sub>2</sub>O<sub>3</sub>

**Head Style:** Socket Head

**Size:** M3 x 5mm

**Quantity:** 1 Pcs

**Pitch:** 0.5mm

**Standard:** ANSI B18.3.1M-1986 (R2008)

**CAS Number:** 1344-28-1

**UOM Code:** 139-501-18

**SKU:** 1000022476-group

**Product Code:** AL60-BT-000129

## Material Properties for Ceramics

### Chemical Resistance

Element	Value
Acids - concentrated	Good
Acids - dilute	Good
Alkalis	Good
Halogens	Good
Metals	Good

### Electrical Properties

Element	Value
Dielectric constant	9-10.1
Dielectric strength( kV mm <sup>-1</sup> )	Oct-35
Volume resistivity( Ohmcm )	>10 <sup>12</sup> @25

### Physical Properties

Element	Value
Apparent porosity( % )	0
Water absorption - saturation( % )	0
Density( gcm <sup>-3</sup> )	3.9

## Thermal Properties

Element	Value
Melting point( C )	2100
Upper continuous use temperature( C )	1700
Specific heat( J K <sup>-1</sup> kg <sup>-1</sup> )	850-900@25°C
Thermal conductivity( W m <sup>-1</sup> K <sup>-1</sup> )	26-35@20°C
Coefficient of thermal expansion( x10 <sup>-6</sup> K <sup>-1</sup> )	8@20-1000°C

## Mechanical Properties

Element	Value
Tensile modulus( GPa )	300-400
Hardness - Knoop( kgf mm <sup>-2</sup> )	2100
Hardness - Vickers( kgf mm <sup>-2</sup> )	1500-1650
Shear strength( MPa )	330
Tensile strength( MPa )	260-300

## Pultrusions

Element	Value
Compressive strength( MPa )	2200-2600