

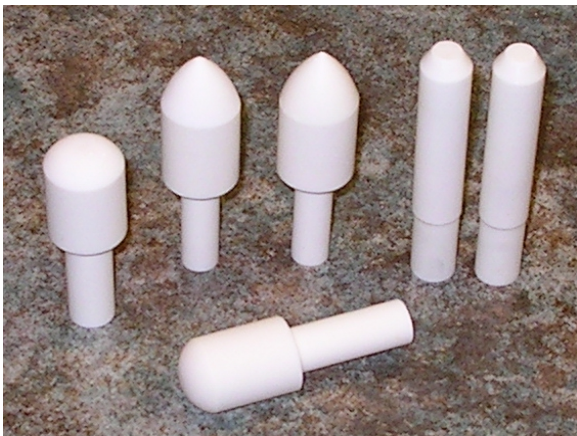


# CHOOSING THE RIGHT CERAMIC

The demand for improved quality, predictability and production stability, longer consumable life, fine tolerances and precision is leading to the increased adoption of solid ceramic insulating and locating pins. Huys offers a number of ceramics that can be supplied from stock or made to customer configurations and applications.



Huys' **ZIRCO™** stabilized zirconium oxide pins are *the standard for regular resistance welding applications* where the highest toughness and highest strength are required in a non-conductive, non-ferrous pin. This means that it is the best overall combination in normal resistance welding applications for resisting breakage from sudden unexpected impact (usually from forces hitting from the side), coupled with the best ability resist to wear (little susceptibility to scratch and show damage from constant repeated operations). The longest life and highest productivity can be counted on. Refer to Technical Bulletin #21 for more details.



Huys' **ALUMINA-PINS**, with aluminum oxide, are formulated for difficult environments such as tight fitting fixtures where a *high hardness and wear resistance* is required. Typical properties are given below:

**Flexural Strength: 400 MPa**  
**Macro Hardness: 17 GPa**  
**Young's Modules: 420 GPa**  
**Fracture Toughness: 4 MPa.m<sup>1/2</sup>**  
**Density: 3.9 g/cm<sup>3</sup>**



Huys' **SiC-PINS™** and **BC-PINS™** are made from silicon carbide and boron carbide ceramics using patented technology for applications that require *exceptional hardness and wear resistance*. These electrically conductive pins are used as locating pins for fixtures and tooling, pulleys and related automation applications.

	SILICON CARBIDE	BORON CARBIDE
<b>Flexural Strength:</b>	<b>550 MPa</b>	<b>450 MPa</b>
<b>Macro Hardness:</b>	<b>20 GPa</b>	<b>26 GPa</b>
<b>Young's Modulus:</b>	<b>450 GPa</b>	<b>400 GPa</b>
<b>Fracture Toughness:</b>	<b>6 MPa.m<sup>1/2</sup></b>	<b>4.5 MPa.m<sup>1/2</sup></b>
<b>Density:</b>	<b>3.4 g/cm<sup>3</sup></b>	<b>2.7 g/cm<sup>3</sup></b>

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