



# PLASMA BIOTAL LIMITED

## TECHNICAL DATA SHEET

### CAPTAL® Sintered Discs

CAPTAL® Sintered Discs are densified ceramic constructs fabricated from high-purity, highly crystalline CAPTAL® hydroxyapatite or bio-resorbable beta-tricalcium phosphate material. The parameters of the sintered discs can be varied to suit the need of your application, we can produce the constructs to a range of sizes and densities, providing both a fully densified and micro-porous options.

As a fully densified crystalline ceramic, CAPTAL sintered discs offer substantial compressive strength, functioning well as a synthetic bone graft or as part a biocomposite material. The bespoke nature of this product lends to use in laboratory environments, as we provide a repeatable, highly-specific substrate for use in musculoskeletal research.

#### Chemical Specification – HA Discs (Typical values)

<b>Phase Purity (%)</b>	$\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$	> 95	(99)
<b>Crystallinity (%)</b>		> 95	(99)
<b>Ca:P Ratio</b>		1.66-1.72	(1.67)
<b>Heavy Metals (ppm)</b>	Arsenic (As)	< 3	(< 1)
	Cadmium (Cd)	< 5	(< 1)
	Mercury (Hg)	< 5	(< 1)
	Lead (Pb)	< 30	(< 3)
<b>Other Impurities (Average Values)</b>	Magnesium (MgO)	< 3500 ppm	
	Silicon (SiO <sub>2</sub> )	< 850 ppm	
	Aluminium (Al <sub>2</sub> O <sub>3</sub> )	< 500 ppm	
	Strontium (SrO)	< 500 ppm	
	Sodium (Na <sub>2</sub> O)	< 300 ppm	
	Iron (Fe <sub>2</sub> O <sub>3</sub> )	< 200 ppm	
	Manganese (Mn <sub>3</sub> O <sub>4</sub> )	< 100 ppm	

#### Physical Properties (Typical Values)

<b>Morphology</b>	Densified Compact
<b>Colour</b>	White / Pale Blue
<b>Density (g/cm<sup>3</sup>)</b>	Tuneable to customer need
<b>Apparent Porosity</b>	~ 20 % / as required

#### Dimension specification (mm)

Bespoke Sizes available	
<b>Thickness (mm)</b>	2 to 5
<b>Diameter (mm)</b>	12 to 24

#### Storage and Handling

CAPTAL® ‘S’ Hydroxylapatite is stable if stored under the correct conditions. Ensure the container is correctly sealed and store in a cool, dry environment. CAPTAL® ‘S’ HA is sold as non-sterile material. Please refer to the Safety Data Sheet for more information on the storage & handling of CAPTAL® ‘S’ HA materials.

#### Further Information

For more information on this or any other Plasma Biototal products, please either go to the website: [www.plasma-biototal.com](http://www.plasma-biototal.com) or sent an enquiry via the contact form at [Plasma Biototal - Contact Us \(plasma-biototal.com\)](#)

