

## MP03 **Material Technical Data**



	Doc	cument Iss	sue Informat	ion			
Document Reference:-	CCCLMTIMP03			Suitable Casting	Application's:-	Investment Casti	na - EQ / DS / SC
Issue No:-	6			Suitable Casting Alloys / Steel:- Nickel / Stainless / Carbon / Cok			
Issue Date:-	01 /01 /25			Typical Core Thic		Min = > 0.25mm	
Issued By:-	Mr Kevin Dawson			Typical Core Thic		Min = > 0.25mm	
Authorised By:-	Mr Dennis Dixon			Typical Core Sha			mplexity
Process Application:-	Medium Pressure			Typical Core Fea			Detail
Frocess Application	Wediam Flessure			Typical Core i ea	lures	Arry i	Jetali
Ceramic Core	Body Composition		Limits	Ту	pical Result - % o	of Ceramic Core Bo	dy
Ciliaa	CiO		N1/A 0/	00.200/			
Silica Zircozon	SiO <sub>2</sub>	+/-	N/A % N/A %	96.28% 2.47%			
Alumina	$ZrSiO_4$ $Al_2O_3$	+/-	N/A %	0.84%			
	Al <sub>2</sub> O <sub>3</sub>	+/-		0.41%			
Other(s)		7/-	N/A %	0.4176			
Trace Ele	amont Analysis		Limita		Typico	d Dooult	
Trace Element Analysis			Limits	Typical Result			
Bismuth Bi		+/-	1 ppm	5 ppm			
Iron	Fe	+/-	50 ppm				
Lead	Pb	+/-	10 ppm			) ppm	
Silver	Ag	1/	10 ppm				
Tin	Sn	+/-					
			· · ·				
Zinc	Zn	+/-	15 ppm	50 ppm			
The following are typical res	ult's that can be expected using Test	Bars (Din	nensions 100	) 0mm x 12mm x 4m	nm) produced at C	lan Ceramics Con	sultancy Ltd
Physical Properties			Limits	Typical Result - Fired to 1200°C			
Apparent Porosity		+/-	2.50 %	28 %			
True Porosity			2.50 %	30 %			
Water Absorption			2.50 %	18 %			
Apparent Bulk Density			0.50 %	1.75 gms/cm3			
•							
Bulk Density Croop Toot			0.50 %	2.25 gms/cm3			
Creep Test			0.10 %	0.05 mm			
Slump Test			0.10 %	0.05 mm			
Thermal Expansion			0.10 %	0.15 %			
Loss on Ignition			0.50 %	16.67 %			
Process Shrink - From Mould to Fired			Limits	Typical Result - Fired to 1200°C			
Free Linear Shrinkage (Tool to Fired)			10 %	1.00 %			
ree Elitear Offinkage (1001 to 1 lied)			10 /0	1.00 %			
Chemical Analysis			Limits	Typical Result -	Fired to 1200°C	Typical Result -	Fired to 1500°C
Cristobalite - Post Process Fired		+/-	5 %	20	0/	65	0/
Leachability - Moderate Sludge		+/-	N/A	20 % 100 %		65 % 100 %	
Leachability - Break Up Time		+/-	10 %	60 Minutes		90 Minutes	
				Modulu	s of Rupture - 3 P	oint Test @ 80mm	spacing
Impregnation (Fired to 1200°C)			Limits	Psi	Мра	Newtons	Deflection - mm
Injected (Green) Strength - Tested @ 20°C			10 %	1740	12.00	12.00	2.85
Fired @ 1200°C & Tested @ 20°C - Not Impregnated			10 %	3626	25.00	25.00	2.85 1.15
PVA Impregnated / Cured @ 120°C & Tested @ 20°C			10 % N/A %	5076 N/A	35.00 N/A	35.00 N/A	1.00
Fired & Tested @ 1500°C - Not Impregnated			1N/ <i>F</i> \ 70	IN/A	IN/A	IN/A	N/A
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		Importan	t Informatior	1			

Test result's in this document are based upon the test's undertaken at External Test Facilities & Clan Ceramics Consultancy Ltd the results may vary due to:-

- < The type and make of the equipment being used
- < The environmental conditions within the facility where the tests are being undertaken
- < The process settings and general maintenance on the equipment being used
- < The operatives personal experience within the process environment

All test results and suggested limits are intended as a guideline only and do not form part of the basis for any inspection criteria as regards the pass or fail of any goods and / or services that are supplied - which in general would be determined by the customer's own particular requirements which would include testing of the materials prior to any purchase order being raised