

# Ultralite Castable

## Product Information Sheet

Mantec Technical Ceramics has taken its highly successful Ultralite™ thermal insulating material and blended it together with high grade refractory powders to formulate an exceptional 'Ultralite Castable' material. 'Ultralite™ Castable' is available in 4 specific grades to allow a variety of applications to be handled, from the creation of cast shapes that are lightweight with exceptional heat insulating properties, to cement for refractory linings. The data sheet gives the basic 'Ultralite™ Castable' technical information, but please do not hesitate to contact our specialist team for further help and advice.

	MATERIAL GRADE			
	01	02	03	04
RECOMMENDED MAXIMUM SERVICE TEMPERATURE	1,100°C	1,200°C	1,300°C	1,300°C
POWDER LOOSE BULK DENSITY †	420 - 460 Kg/m <sup>3</sup>	420 - 460 Kg/m <sup>3</sup>	510 - 560 Kg/m <sup>3</sup>	550 - 600 Kg/m <sup>3</sup>
BULK DENSITY ‡	540 - 620 Kg/m <sup>3</sup>	620 - 670 Kg/m <sup>3</sup>	660 - 710 Kg/m <sup>3</sup>	580 - 620 Kg/m <sup>3</sup>
MODULUS OF RUPTURE - ASTM C133-97 & C865 ‡	0.73 Mpa	1.36 Mpa		1.32 Mpa
COLD CRUSHING STRENGTH - ASTM C133-97 & C865 ‡	1.5 Mpa	2.91 Mpa	4.1 Mpa	3.7 Mpa

† SUBJECT TO SETTLING IN TRANSIT ‡ (CURED AND DRIED AT 105°C)

MEAN TEMPERATURE	THERMAL CONDUCTIVITY - W/mK			
	MATERIAL GRADE			
	01	02	03	04
150°C	0.28	0.22	0.24	0.20
320°C	0.22	0.22	0.24	0.22
500°C	0.23	0.25	0.25	0.21
690°C	0.24	0.20	0.22	0.24



PERMANENT LINEAR CHANGE - ASTM C113 & C865	%age SHRINKAGE			
	MATERIAL GRADE			
	01	02	03	04
HEATED TO 1,000°C THEN COOLED	0.4%	0.29%		
HEATED TO 1,100°C THEN COOLED	1.5%	0.44%		
HEATED TO 1,200°C THEN COOLED		1.45%		
HEATED TO 1,300°C THEN COOLED			1.1%	1.1%

Mantec Technical Ceramics Ltd, Normacot Road, Longton, Stoke-on-Trent, ST3 1PA, England  
 t: +44(0)1782 377550 f: +44 (0)1782 377599 email: Ultralite@mantectc.com

www.mantectechnicalceramics.com

# Ultralite Castable

## Product Information Sheet



### CHEMICAL ANALYSIS (CALCINED) %

ELEMENT	MATERIAL GRADE			
	01	02	03	04
Al <sub>2</sub> O <sub>3</sub>	38.75	39.56	46.29	54.51
SiO <sub>2</sub>	27.77	29.33	30.42	27.62
CaO	19.54	18.48	18.83	14.64
Fe <sub>2</sub> O <sub>3</sub>	9.23	8.71	1.16	0.76
K <sub>2</sub> O	1.05	0.79	0.63	0.45
Na <sub>2</sub> O	0.40	0.28	0.17	0.28

### BULK DENSITY (Kg / m<sup>3</sup>)

FIRED TO	MATERIAL GRADE			
	01	02	03	04
1,000°C	580	590		
1,100°C	590	600		
1,200°C		620		
1,300°C			600	520 - 550

### WATER REQUIRED FOR MIXING

MATERIAL	LITRES WATER : LITRES CASTABLE (BY VOLUME)		KG WATER : KG CASTABLE (BY WEIGHT)	
01	55	100	130	100
02	40	100	90	100
03	42	100	79	100
04	38	100	88	100

### PACKAGING

20 LITRE PLASTIC SACKS  
SHRINK-WRAPPED ON PALLETS