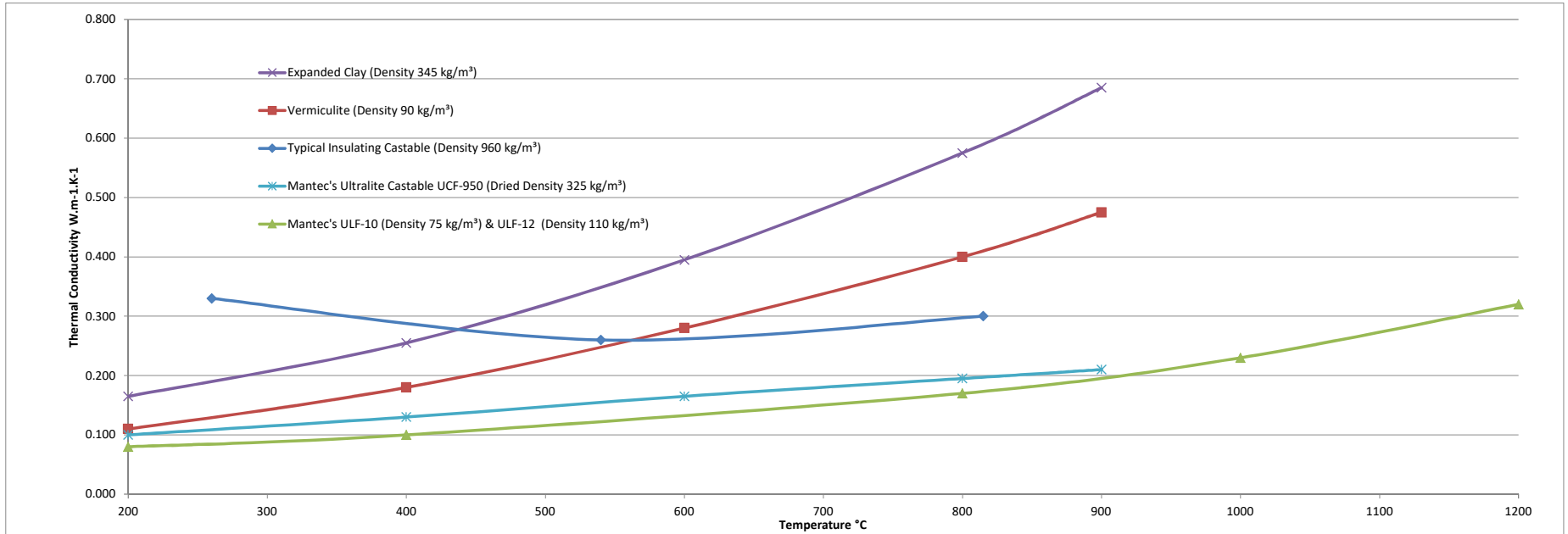
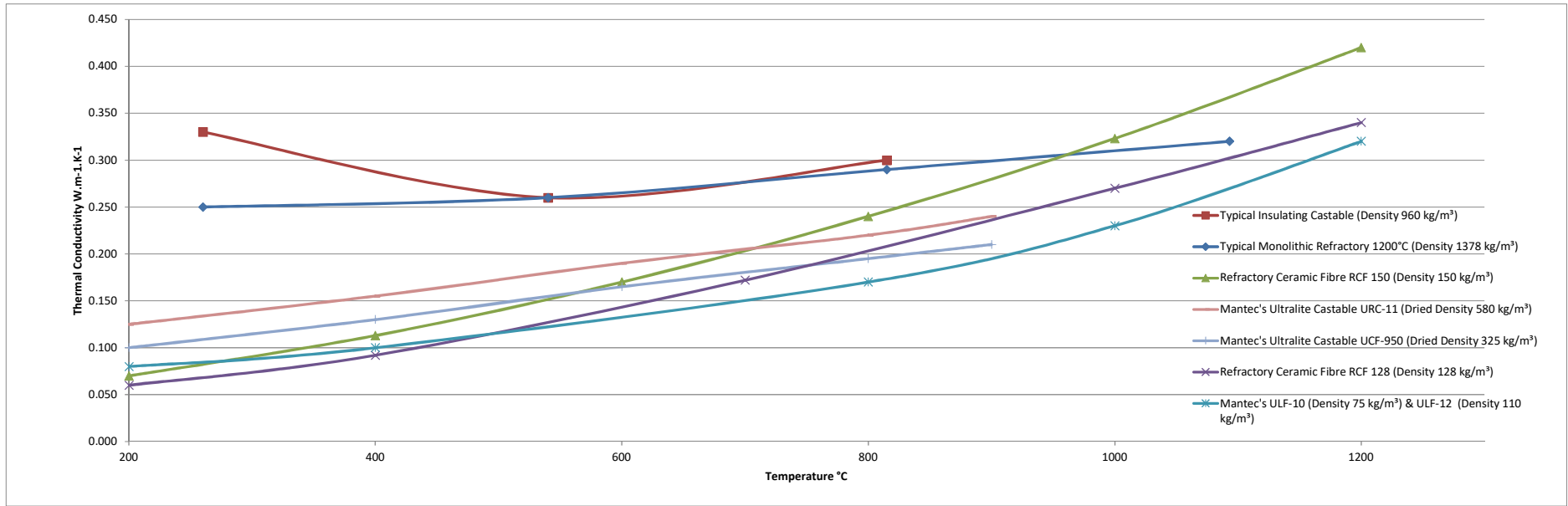


## Thermal Conductivity Comparison - Mantec's Ultralite Products vs. Conventional Refractories (Heavy Clay)



Typical Insulating Castable (Density 960 kg/m³)	Temp °C	100	200	260	400	540	600	800	815	900				
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>			0.330		0.260			0.300					
Expanded Clay (Density 345 kg/m³)	Temp °C	100	200		400		600	800		900				
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>		0.165		0.255		0.395	0.575		0.685				
Vermiculite (Density 90 kg/m³)	Temp °C	100	200		400		600	800		900				
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>	0.085	0.110		0.180		0.280	0.400		0.475				
Refractory Ceramic Fibre RCF 150 (Density 150 kg/m³)	Temp °C	100	200		400		600	800		900	1000		1200	
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>		0.070		0.113		0.170	0.240			0.323		0.420	
Refractory Ceramic Fibre RCF 128 (Density 128 kg/m³)	Temp °C	100	200		400		700	800		900	1000		1200	
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>		0.060		0.092		0.172				0.270		0.340	
Mantec's Ultralite Castable UCF-950 (Dried Density 325 kg/m³)	Temp °C	100	200		400		600	800		900				
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>		0.100		0.130		0.165	0.195		0.210				
Mantec's Ultralite Castable URC-11 (Dried Density 580 kg/m³)	Temp °C	100	200		400		600	800		900				
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>		0.125		0.155		0.190	0.220		0.240				
Mantec's Ultralite Castable URC-13 (Dried Density 600 kg/m³)	Temp °C	100	200		400		600	800		900				
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>		0.210		0.220			0.250						
Mantec's ULF-10 (Density 75 kg/m³) & ULF-12 (Density 110 kg/m³)	Temp °C	100	200		400			800			1000		1200	
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>		0.080		0.100			0.170			0.230		0.320	
Typical Monolithic Refractory 1200°C (Density 1378 kg/m³)	Temp °C	100	200	260	400	540	600	800	815	900	1000	1093		
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>			0.250		0.260			0.290			0.320		
Typical Monolithic Refractory 1300°C (Density 1482 kg/m³)	Temp °C	100	200	260	400	540	600	800	815	900	1000	1093	1371	
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>			0.400		0.430			0.460			0.510		0.530

## Thermal Conductivity Comparison - Mantec's Ultralite Products vs. Conventional Refractories (Sanitaryware)



Typical Insulating Castable (Density 960 kg/m <sup>3</sup> )	Temp °C	100	200	260	400	540	600	800	815	900				
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>			0.330		0.260			0.300					
Expanded Clay (Density 345 kg/m <sup>3</sup> )	Temp °C	100	200		400		600	800		900				
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>		0.165		0.255		0.395	0.575		0.685				
Vermiculite (Density 90 kg/m <sup>3</sup> )	Temp °C	100	200		400		600	800		900				
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>	0.085	0.110		0.180		0.280	0.400		0.475				
Refractory Ceramic Fibre RCF 150 (Density 150 kg/m <sup>3</sup> )	Temp °C	100	200		400		600	800		900	1000		1200	
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>		0.070		0.113		0.170	0.240		0.323	0.420			
Refractory Ceramic Fibre RCF 128 (Density 128 kg/m <sup>3</sup> )	Temp °C	100	200		400		700	800		900	1000		1200	
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>		0.060		0.092		0.172			0.270	0.340			
Mantec's Ultralite Castable UCF-950 (Dried Density 325 kg/m <sup>3</sup> )	Temp °C	100	200		400		600	800		900				
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>		0.100		0.130		0.165	0.195		0.210				
Mantec's Ultralite Castable URC-11 (Dried Density 580 kg/m <sup>3</sup> )	Temp °C	100	200		400		600	800		900				
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>		0.125		0.155		0.190	0.220		0.240				
Mantec's Ultralite Castable URC-13 (Dried Density 600 kg/m <sup>3</sup> )	Temp °C	100	200		400		600	800		900				
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>		0.210		0.220		0.250							
Mantec's ULF-10 (Density 75 kg/m <sup>3</sup> ) & ULF-12 (Density 110 kg/m <sup>3</sup> )	Temp °C	100	200		400			800			1000		1200	
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>		0.080		0.100			0.170		0.230		0.320		
Typical Monolithic Refractory 1200°C (Density 1378 kg/m <sup>3</sup> )	Temp °C	100	200	260	400	540	600	800	815	900	1000	1093		
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>			0.250		0.260			0.290			0.320		
Typical Monolithic Refractory 1300°C (Density 1482 kg/m <sup>3</sup> )	Temp °C	100	200	260	400	540	600	800	815	900	1000	1093		1371
	Thermal Conductivity W.m <sup>-1</sup> .K <sup>-1</sup>			0.400		0.430			0.460			0.510		0.530