Materials Specifications Guide

DYSON THERMAL TECHNOLOGIES

Kiln Furniture

Drawing upon decades of experience as world-leaders in the development and production of quality, high-performance kiln furniture, Dyson Thermal Technologies (Kiln Furniture) can offer the best choice of materials for use in a wide variety of applications.

From the traditional, tried and trusted, to cutting-edge products for today's more demanding processes, the materials listed represent the optimum range covering the majority of our customers' needs. More specialised requirements can often be catered for - Please contact our sales team to discuss how we can help.

Dycor

Good general-purpose material for primary kiln furniture, offering an optimum balance of hot and cold strength, thermal shock resistance and resistance to glaze attack.

Dyral

High cold strength and abrasion resistance, as well as low thermal expansion make this an ideal material for use in automated systems and roller kilns. It is the preferred material for most higher-temperature secondary kiln furniture.

Dytrex

Very low thermal expansion gives excellent thermal shock resistance. The recommended material for fast-fire applications.

Dylite

Very lightweight material useful in a number of primary and secondary kiln furniture applications where bending strength is not too critical. Its low thermal mass is becoming increasingly attractive as energy costs soar.

Hybrid Dylite

Offers a compromise between the very low density of Dylite and the performance of Dycor, and has particularly good thermal shock resistance.

Multec

Excellent bending resistance and good strength at higher temperatures.

	Dycor	Dyral	Dytrex	Dylite	Hybrid Dylite	Multec
Physical Properties						
Density (g/cm^3)	1.95	1.85	1.95	1.1	1.55	2.2
Apparent porosity (%)	27	27	24	45	35	22
MoR @ 20°C (MPa)	11	18	9	7	9	15
MoR @ 1250°C (MPa)	10	8	10	7	9	13
Thermal expansion 20 - 1000°C (%)	0.27	0.28	0.18	0.25	0.22	0.35
Max usage temperature (°C)	1300	1300	1300	1300 *	1300	1350
Chemical Analysis (%)						
Al_2O_3	46	35	40	42	41	58
SiO_2	44	54	48	49	**49**	35
MgO	5.5	7	7	5.5	6	4.5
Fe_2O_3	1.6	1.1	1.3	0.7	0.9	0.5

* Although Dylite is suitable for use at 1300°C under compression or in non load-bearing applications, it is not recommended for load-bearing batts used at temperatures above 1000°C.

Chemical analysis is determined by x-ray fluorescence.

Properties quoted are typical figures determined using laboratory test pieces, which may not always be an accurate representation of production items. Figures are provided for comparison only and do not constitute a specification or imply any guarantee.

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