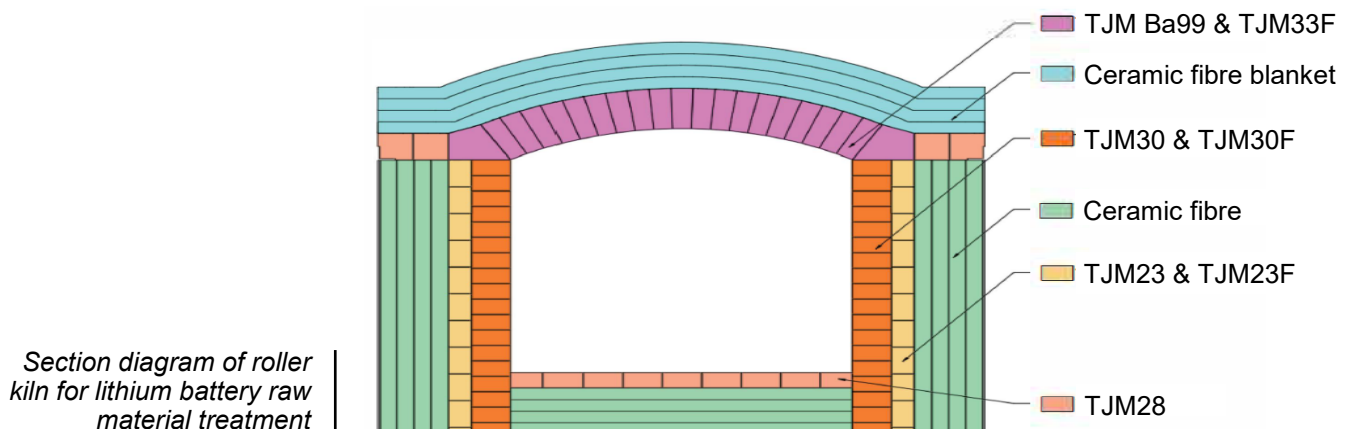


Lithium Ion Battery Cathode & Anode Furnace Lining Solutions

TJM™ insulating firebricks and bubble alumina bricks kiln lining with excellent strength at high temperature, high insulating performance and strong chemical attack resistance

All our insulating firebricks are made from high-purity refractory clay with graduated additions of alumina for the higher temperature-rated products. Carefully-graded organic fillers burn out during firing to give a uniform, controlled pore structure.



TJM Bricks - Key Features

- Excellent ambient and hot strength
- High compressive and crushing strength at elevated temperature
- Good chemical stability - strong resistance to acidic or alkaline attack
- Precise dimension control for ease of installation and stability
- Very low levels of iron and other impurities (especially for resistance to reducing atmosphere conditions)
- Lower heat storage than denser refractories

TJM-Ba99 - Key Features

- Good chemical stability - strong resistance to acidic or alkaline slag, metal and glass liquid
- Good corrosion resistance and erosion resistance
- High purity
- High hot load deformation point and high temperature crushing strength
- Precise dimension control - better installation efficiency and stability
- Availability of big bricks and special shapes to reduce blocks and joints

Product Dimensions & Availability

- Standard Size: 230 x 114 x 65 mm
- Specially designed packaging for optimal protection during transportation

Product Data for Li Battery Furnace Lining IFB Solutions

	TJM 23	TJM 26	TJM 28	TJM 30	TJM-Ba99
Classification Temperature, °C	1260	1430	1540	1600	1800
Density, kg/m³, ASTM C-134	500	800	900	1000	1450
Modulus of Rupture, MPa, ASTM C-133	0.7	1.5	1.8	2.0	3.5
Cold Crushing Strength, MPa, ASTM C-133	1.0	2.0	2.5	3.0	10
Permanent Linear Shrinkage, % after 24 hours of soaking (ASTM C-210)					
1230°C	-0.2	-	-	-	-
1400°C	-	-0.5	-	-	-
1510°C	-	-	-0.7	-	-
1570°C	-	-	-	-1.0	-
Permanent Linear Shrinkage, % after 5 hours of soaking (ASTM C-113)					
1600°C	-	-	-	-	-0.2
Reversible Linear Expansion, max. %	0.6	0.7	0.8	0.9	-
Deformation under hot load, % after 90 min. (ASTM C-16)					
1100°C @ 0.034 MPa	0.1	-	-	-	-
1260°C @ 0.069 MPa	-	0.3	-	-	-
1320°C @ 0.069 MPa	-	-	0.2	0.1	-
1540°C @ 0.069 MPa	-	-	-	-	0.2
Thermal Conductivity, W/(m•K), ASTM C-182					
200°C	0.15	0.28	0.32	0.36	-
400°C	0.18	0.29	0.33	0.38	-
600°C	0.22	0.32	0.34	0.41	-
800°C	0.27	0.35	0.37	0.43	-
1000°C	0.32	0.39	0.41	0.45	-
1200°C	-	0.43	0.46	0.48	-
Thermal Conductivity, W/(m•K), ASTM C-201					
200°C	-	-	-	-	0.7
400°C	-	-	-	-	0.75
600°C	-	-	-	-	0.8
800°C	-	-	-	-	0.9
1000°C	-	-	-	-	0.9
Chemical Analysis, % (tr = trace amount)					
Al ₂ O ₃	45.0	55.0	65.0	73.0	99
SiO ₂	48.0	41.0	32.0	25.0	0.3
Fe ₂ O ₃	1.0	0.9	0.7	0.6	0.1
TiO ₂	0.8	0.5	0.4	0.2	0.1
CaO	0.8	0.4	0.2	0.1	tr
MgO	0.5	0.2	0.1	0.1	tr
K ₂ O + Na ₂ O	1.2	0.9	0.8	0.7	0.2

Note: Product size and shape can be customised. Available in large bricks and special shapes to minimise number of assembly parts.

For all enquiries, please contact our specialist sales offices:

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Thermals Ceramics is a business of Morgan Advanced Materials