

## MINTEK TBRC Refractory Materials BOQ

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*All tables show the BOQ of all refractory and associated materials supplied by RMS and referenced drawings*

Gross Quantity	Unit	Quality	Description/Size if brick	Ratio per ring	Drawing Number	Thickness mm	Function	Unit Mass, kg	Total Mass Tonnes
288	Ea	VR90B	Floor 300x76x76	1	MIN-TBRC-1500-01; MIN-TBRC-1500-04	300	Working lining	5,03	1,447
20	Ea	VR90B	Ring 1 230x76x76/46	1	MIN-TBRC-1500-02	460	Working lining	3,09	0,062
47	Ea	VR90B	Ring 1 230x76x76/51	3	MIN-TBRC-1500-02	460	Working lining	3,22	0,151
16	Ea	VR90B	Ring 2 230x76x76/46	1	MIN-TBRC-1500-02	460	Working lining	3,09	0,049
59	Ea	VR90B	Ring 2 230x76x76/51	6	MIN-TBRC-1500-02	230	Working lining	3,22	0,190
71	Ea	VR90B	Ring 3 230x76x76/51	1	MIN-TBRC-1500-03	230	Working lining	3,22	0,229
858	Ea	VR90B	Rings 4 to 16 230x76x76/51	11	MIN-TBRC-1500-03	230	Working lining	3,22	2,762
78	Ea	VR90B	Rings 4 to 16 230x76x76/64	1	MIN-TBRC-1500-03	230	Working lining	3,55	0,277
2	Box/Roll	Insulation Fibre 6mm	Shell working areas		MIN-TBRC-1500-01	24	Insulating Lining	10,00	0,020
68	Bag	Castable LCast 18	Top Cone		MIN-TBRC-1500-05		Castable for top cone	25,00	1,700
10	Bag	Castable LCast 18	Shell and hearth gap Floor		MIN-TBRC-1500-05		Castable for floor area	25,00	0,250
18	Ea	180mm 310 SS Anchors	Top Cone		MIN-TBRC-1500-05		Anchors for cone lip	1,00	0,018
80	Ea	200mm 310 SS anchors	Top Cone		MIN-TBRC-1500-05		Anchors for cone	1,00	0,080
7	Ea	Batifix Glue	Glue for Insulation		MIN-TBRC-1500-06		Glue to install insulation felt	5,00	0,035
									7,235

*Spares have been calculated based on industry standard practice.*

**VR90B - Mullite bonded tabular alumina**

Chemical analysis: 9% SiO<sub>2</sub>, 90% Al<sub>2</sub>O<sub>3</sub>, 0.2% Fe<sub>2</sub>O<sub>3</sub>, 0.2% TiO<sub>2</sub>, 0.1% CaO, 0.1% MgO, 0.4% Na<sub>2</sub>O+K<sub>2</sub>O

Physical properties: 17% App. porosity, 2970 kg/m<sup>3</sup> bulk density, 3.48 app. specific gravity, 90 MPa cold crushing strength, 2.7 W/mK thermal conductivity at 1000 degrees celcius

**Castable L-cast 18: Tab/fused alumina**

Chemical analysis: 5.6% SiO<sub>2</sub>, 89.7% Al<sub>2</sub>O<sub>3</sub>, 0.3% Fe<sub>2</sub>O<sub>3</sub>, 1.7% CaO/MgO, 2.1% TiO<sub>2</sub>

Physical properties: 1800 degrees celcius max service temperature, 2910 kg/m<sup>3</sup> bulk density, 69 MPa cold crushing strength, 6mm grading: max size, 5% water required