

# CASTABLES for MINERAL PROCESSING

## CEMENT, LIME, ORE

### CONVENTIONAL CEMENT

Products	Chemistry (%)		Density (815°C, 1500°F)		C.C.S. (815°C, 1500°F)		Temp. Limit		Installation Method
	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	g/cm <sup>3</sup>	lb/ft <sup>3</sup>	Mpa	psi	°C	°F	
TUFFLOOR™	34.1	44.5	2.11	132	48.92	7,100	649	1200	Cast
TUFFCRETE® 2800	44.4	48	2.27	142	82.68	12,000	1538	2800	Vib Cast, Pump, Shot
CAST 3400	95.3	0.1	2.77	173	75.79	11,000	1871	3400	Cast

### ULTRA LOW CEMENT

Products	Chemistry (%)		Density (815°C, 1500°F)		C.C.S (815°C, 1500°F)		Temp. Limit		Installation Method
	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	g/cm <sup>3</sup>	lb/ft <sup>3</sup>	Mpa	Psi	°C	°F	
TUFFCRETE® 61 A ULC	61	35.5	2.61	163	70.28	10,200	1704	3100	Vib Cast, Pump, Shot
TUFFCRETE® 90	90.4	8.2	2.98	186	62.01	9,000	1871	3400	Vib Cast
ULTRACON 34 C	92.8	6.2	3.03	189	73.03	10,600	1760	3200	Vib Cast
ULTRACON 95	94.4	5	2.98	186	-	-	1871	3400	Vib Cast

### HIGH STAINLESS FIBER CONTENT

Products	Chemistry (%)				Density (815°C, 1500°F)		C.C.S. (815°C, 1500°F)		Temp. Limit		Installation Method
	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	ZrO <sub>2</sub>	SiC	g/cm <sup>3</sup>	lb/ft <sup>3</sup>	Mpa	psi	°C	°F	
ARMORMAX® 28 SiC	45.4	21.8	1.00	27.3	2.69	168	82.68	12,000	1427	2600	Vib Cast, Pump, Shot
ARMORMAX® 608	59.9	27.1	-	8.2	2.63	164	103.96	15,089	1316	2400	Vib Cast, Pump, Shot
ARMORMAX® 70 SR	70.1	25.5	-	-	2.66	166	117.13	17,000	1427	2600	Vib Cast, Pump, Shot
ARMORMAX® NRSA	82.4	11.9	-	-	3.00	187	185.34	26,900	1427	2600	Vib Cast, Pump, Shot
ARMORMAX® 85	84.4	10.5	-	-	2.92	182	175.70	25,500	1427	2600	Vib Cast, Pump, Shot
ARMORAX® 90 SR	89.2	7.8	-	-	3.00	187	113.69	16,500	1427	2600	Vib Cast, Pump, Shot
ARMORMAX® AZS 5 HZR	40.9	28.7	26.8	-	3.16	197	112.72	16,360	1316	2400	Vib Cast, Pump, Shot

## LOW CEMENT

Products	Chemistry (%)				Density (815°C, 1500°F)		C.C.S. (815°C, 1500°F)		Temp. Limit		Installation Method
	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	ZrO <sub>2</sub>	SiC	g/cm <sup>3</sup>	lb/ft <sup>3</sup>	Mpa	psi	°C	°F	
LCF 798 P	61.5	35	-	-	2.74	171	59.94	8,700	1704	3100	Vib Cast, Pump
DURACON® 28	46.2	48.1	-	-	2.23	139	53.74	7,800	1538	2800	Vib Cast
DURACON® 30	47.2	46.3	-	-	2.34	146	68.80	9,985	1649	3000	Vib Cast
DURACON® 32	63.1	31.6	-	-	2.55	159	106.17	15,410	1760	3200	Vib Cast
DURACON® 70 C	69.2	25.6	-	-	2.71	169	113.69	16,500	1760	3200	Vib Cast
DURACON® NRSA	77	18.1	-	-	2.77	173	87.16	12,650	1760	3200	Vib Cast
DURACON® 86	87	8.7	-	-	2.93	183	109.55	15,900	1788	3250	Vib Cast
TUFF-FLO FSM	34.8	61.3	-	-	2.18	136	54.29	7,880	1204	2200	Vib Cast, Pump
TUFFCRETE® FS	15.6	81.8	-	-	2.00	125	82.68	12,000	1204	2200	Vib Cast, Pump, Shot
TUFFCRETE® 47	47.1	46.5	-	-	2.21	138	82.68	12,000	1538	2800	Vib Cast, Pump, Shot
TUFFCRETE® ARZ	43.9	44.3	1.1	4.9	2.32	145	89.57	13,000	1649	3000	Vib Cast, Pump, Shot
TUFFCRETE® 60 A SR	59.6	36.2	-	-	2.58	161	104.73	15,200	1704	3100	Vib Cast, Pump, Shot
TUFFCRETE® 60 M	60.5	34.3	-	-	2.52	157	106.80	15,500	1704	3100	Vib Cast, Pump, Shot
TUFFCRETE® 60 MZ	58.1	34.1	2.7	-	2.56	160	75.79	11,000	1704	3100	Vib Cast, Pump, Shot
TUFFCRETE® 604 Z	59.5	32.3	3.6	-	2.52	157	82.68	12,000	1649	3000	Vib Cast, Pump, Shot
TUFFCRETE® 60 M ARZ	54.5	33.8	1.1	5.0	2.58	161	146.76	21,300	1704	3100	Vib Cast, Pump, Shot
TUFFCRETE® 60 X	60.3	33.9	-	-	2.48	155	92.33	13,400	1649	3000	Vib Cast, Pump, Shot
TUFFCRETE® 60 SiC	21.3	12.1	-	63.6	2.60	162	113.69	16,500	1649	3000	Vib Cast, Pump, Shot
TUFFCRETE® 28 SiC Z	44.4	21.5	1.1	28.3	2.63	164	126.09	18,300	1704	3100	Vib Cast, Pump, Shot
TUFFCRETE® 63 X	62.4	31.4	-	-	2.53	158	103.35	15,000	1649	3000	Vib Cast, Pump, Shot
TUFFCRETE® 65 M	64.8	30.5	-	-	2.61	163	138.39	20,085	1704	3100	Vib Cast, Pump, Shot
TUFFCRETE® 66 M	64.5	30.2	-	-	2.58	161	78.55	11,400	1704	3100	Vib Cast, Pump, Shot
TUFFCRETE® 70 ABR	69.6	24.8	-	-	2.69	168	144.69	21,000	1760	3200	Vib Cast, Pump, Shot
TUFFCRETE® 70 M	71.3	23.6	-	-	2.66	166	158.47	23,000	1760	3200	Vib Cast, Pump, Shot
TUFFCRETE® 70 X	68	25.8	-	-	2.58	161	98.53	14,300	1649	3000	Vib Cast, Pump, Shot
TUFFCRETE® 72 M	71.5	22.6	-	-	2.60	162	112.31	16,300	1704	3100	Vib Cast, Pump, Shot
TUFFCRETE® 733	65	24.5	-	-	2.58	161	83.37	12,100	1566	2850	Vib Cast, Pump, Shot
TUFFCRETE® 74	74.3	20.2	-	-	2.69	168	67.18	9,750	1760	3200	Vib Cast, Pump, Shot

**NO CEMENT**

Products	Chemistry (%)				Density (815°C 1500°F)		C.C.S. (815°C,1500°F)		Temp. Limit		Installation Method
	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	ZrO <sub>2</sub>	SiC	g/cm <sup>3</sup>	lb/ft <sup>3</sup>	Mpa	psi	°C	°F	
NANO-TEK® FS P	0.2	99.5	-	-	1.84	115	31.69	4,600	1204	2200	Vib Cast, Pump, Shot
NANO-TEK® 61 HS	61.4	35.2	-	-	2.45	153	97.84	14,200	1704	3100	Vib Cast, Pump, Shot
NANO-TEK® 60 Z HS	58.4	35.5	2.8	-	2.52	157	99.28	14,410	1704	3100	Vib Cast, Pump, Shot
NANO-TEK® 55 A SR HS	56	36.3	1.3	4.9	2.53	158	62.35	9,050	1704	3100	Vib Cast, Pump, Shot
NANO-TEK® 805 ARZ	48.4	34.7	5.7	8.1	2.50	156	84.23	12,225	1704	3100	Vib Cast, Pump, Shot
NANO-TEK® 90	89.6	9.3	-	-	2.90	181	30.32	4,400	1704	3100	Vib Cast, Pump, Shot
NANO-TEK® 75 SiC	17.1	5.2	-	74.9	2.66	166	35.66	5,175	1649	3000	Vib Cast, Pump, Shot
QUICK-FIRE® 55	55.4	36.7	-	-	2.32	145	15.36	2,230	1593	2900	Vib Cast
QUICK-FIRE® 88	88.2	3.9	-	-	2.74	171	18.95	2,750	1649	3000	Vib Cast
QUICK-FIRE® 90	89.1	2.1	-	-			36.93	5,360	1704	3100	Vib Cast
STACKLINE B PC	98.1	0.2	-	-	2.18	136	58.57	8,500	816	1500	Vib Cast, Pump, Shot

**HIGH STAINLESS FIBER CONTENT**

Products	Chemistry (%)				Density (815°C,1500°F)		C.C.S. (815°C,1500°F)		Temp. Limit		Installation Method
	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	ZrO <sub>2</sub>	SiC	g/cm <sup>3</sup>	lb/ft <sup>3</sup>	Mpa	psi	°C	°F	
ARMORMAX® 28 SiC	45.4	21.8	1.00	27.3	2.69	168	82.68	12,000	1427	2600	Vib Cast, Pump, Shot
ARMORMAX® 608	59.9	27.1	-	8.2	2.63	164	103.96	15,089	1316	2400	Vib Cast, Pump, Shot
ARMORMAX® 70 SR	70.1	25.5	-	-	2.66	166	117.13	17,000	1427	2600	Vib Cast, Pump, Shot
ARMORMAX® NRSA	82.4	11.9	-	-	3.00	187	185.34	26,900	1427	2600	Vib Cast, Pump, Shot
ARMORMAX® 85	84.4	10.5	-	-	2.92	182	175.70	25,500	1427	2600	Vib Cast, Pump, Shot
ARMOMAX® 90 SR	89.2	7.8	-	-	3.00	187	113.69	16,500	1427	2600	Vib Cast, Pump, Shot
ARMORMAX® AZS 5 HZR	40.9	28.7	26.8	-	3.16	197	112.72	16,360	1316	2400	Vib Cast, Pump, Shot



**INSULATING MIXES**

Products	Chemistry (%)		Density (815°C, 1500°F)		C.C.S. (815°C, 1500°F)		Temp. Limit		Installation Method
	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	g/cm <sup>3</sup>	lb/ft <sup>3</sup>	Mpa	psi	°C	°F	
INSULMIX® 2025	15.4	38.3	0.32-0.48	20-30	0.4-0.7	60-100	1090	2000	Cast, Gun
INSULMIX® 2570	41.3	42.1	1.09-1.15	68-72	2.8-6.9	400-1000	1370	2500	Cast, Gun
INSULMIX® 2035 LI	37.9	42.3	0.6	36	1.0-1.7	150-250	1100	2000	Cast, Gun
INSULMIX® 2350	38.2	39.9	0.80	50	1.4-2.8	200-400	1260	2300	Cast, Gun
INSULMIX® 2570	41.3	42.1	1.09-1.15	68-72	2.8-6.9	400-1000	1370	2500	Cast, Gun
INSULMIX® 2460 LI	43.8	36.0	1.0	62	4.8	600-800	1315	2400	Cast, Gun
INSULMIX® 25 HS	29.0	50.6	1.47	92	17.2-20.7	2500-3000	1371	2500	Cast, Gun
INSULMIX® 2690 LI	42.5	46.3	1.44	90	6.2-9.0	900-1300	1425	2600	Cast, Gun
PUMPLITE 60 LI	39.7	47.6	1.02	64	4.1-5.5	600-800	1370	2500	Pump, Shot
PUMPLITE 80 LI	42.2	46.7	1.28	80	6.2-9.7	900-1400	1425	2600	Pump, Shot

