Typical Data		STANDARD ASTM C 155 GRADES								
Properties		**BNZ-20**	**BNZ-23**	**BNZ-23 HS**	**BNZ-23A**	**BNZ-26**	**BNZ-26-60**	**BNZ-28**	**BNZ-3000**	**BNZ-32**
ASTM Classification		20/23	23	23	23	26	26	**28**	30	32
Temperature Use Limit	*°F*	2300	2300	2300	2300	2600	2600	**2800**	3000	3200
(Normal oxidizing atmosphere)	*°C*	1260	1260	1260	1260	1427	1427	**1538**	1649	1760
Density, Avg.	*lb/ft²*	36	37	42	33	48	50	**55**	65	75
nbsp; ASTM C 134	*kg/m²*	577	593	673	529	769	801	**881**	1041	1201
	lb/BEq	2.1	2.2	2.5	1.93	2.8	2.9	**3.2**	3.8	4.4
	kg/str.	0.9	1.0	1.1	0.86	1.3	1.3	**1.5**	1.7	2.0
Modulus of Rupture	*lb/in²*	95	105	140	115	200	190	**220**	250	300
ASTM C 133	*MPa*	0.7	0.7	1.0	0.79	1.4	1.3	**1.5**	1.7	2.1
	kg/cm²	6.7	7.4	9.9	8	14.1	13.4	**15.5**	17.6	21.1
Cold Crushing of Strength	*lb/in²*	105	125	190	145	270	290	**340**	440	450
ASTM C 133	*MPa*	0.7	0.9	1.3	1	1.9	2.0	**2.3**	3.0	3.1
	kg/cm²	7.4	8.8	13.4	10.2	19.0	20.4	**23.9**	31.0	31.7
Permanent Linear Change	%									
ASTM C 210										
24 hrs at soaking										
temp: °F *(°C)*										
2250 (1232)		0.0	0.0	0.0	0.0	-	-	-	-	-
2350 (1290)		-	-	-		-	-	-	-	-
2450 (1343)		-	-	-		-	-	-	-	-
2550 (1399)		-	-	-		-0.1	-0/2	-	-	-
2750 (1510)		-	-	-		-	-	**-0.7**	-	-
2800 (1538)		-	-	-		-	-	-	-	-
2950 (1621)		-	-	-		-	-	-	-0.7	-
3150 (1732)		-	-	-		-	-	-	-	-0.4
Reversible Linear Thermal Expansion	%									
at 2000°F (1093°C)		0.6	0.6	0.6	0.6	0.6	0.6	**0.65**	0.65	0.65
Hot Load Strength	%									
ASTM C 16	deformation									
10 psi load for 11/2 hours: °F *(°C)*										
2000 (1093)		0	0	0	0	-	-	-	-	-
2200 (1204)		-	-	-		0.2	0.1	**0.1**	-	-
2400 (1316)		-	-	-		-	-	-	0.3	0.2
Thermal Conductivity	Btu-in/ft², *hr,* °F									
ASTM C 182	(W/mk)									
Mean temperature, °F *(°C)*										
500		0.9	1.0	1.2	.92	1.6	1.8	**2.3**	2.8	3.9
(260)		0.13	0.14	0.17	0.13	0.23	0.26	**0.33**	0.40	0.56
1000		1.2	1.3	1.5	1.14	1.9	2.0	**2.4**	2.9	4.1
(538)		0.17	0.19	0.22	0.16	0.27	0.29	**0.35**	0.42	0.59
1500		1.5	1.6	1.7	1.39	2.2	2.1	**2.6**	3.1	4.2
(816)		0.22	0.23	0.25	0.2	0.32	0.30	**0.37**	0.45	0.61
2000		1.7	1.8	2.0	1.64	2.6	2.3	**2.7**	3.3	4.3
(1093)		0.24	0.26	0.29	0.24	0.37	0.33	**0.39**	0.48	0.62
To convert Btu-in/ft², *hr,* °F to Kcal-m², *hr,* °C, *multiply by 0.124.*										
Chemical Analysis										
Alumina – Al_2O_3		35	35	35	38	47.0	60.4	**67.0**	69.9	78.3
Silica – SiO2		60.3	60.3	60.3	45	48.6	36.1	**30.5**	28.1	20.7
Ferric Oxide – Fe_2O_3		0.9	.9	0.9	0.3	0.7	0.4	**0.3**	0.3	0.2
Titanium Oxide – Ti_2O_2		1.3	1.3	1.3	1.6	1.3	1.0	**0.9**	1.2	0.5
Calcium Oxide – CaO		2.1	2.1	2.1	15	0.3	0.1	**0.3**	0.2	0.1
Magnesium Oxide – MgO		0.0	0.0	0.0	0.1	0.1	0.2	**0.0**	0.1	0.1
Alkalies, as Na_2O & K_2O		0.4	0.4	0.4	0.5	2.0	1.8	**1.0**	0.2	0.1