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Appendix A

TABLE 1: Compositions for the phase diagram

Sample	Mass			Additives		14mm WC balls	
	Mg (g)	Al (g)	B (g)	Stearic (0,5%) (g)	Parafin (1%) (g)	(g)	Hexane
1	0.8065	4.7273	4.4662	0.0503	0.1010	879	100 ml
2	1.5126	3.9796	4.5078	0.0503	0.1010	879	100 ml
3	2.1896	3.2815	4.5289	0.0503	0.1010	879	100 ml
4	2.9811	2.4515	4.5674	0.0503	0.1010	879	100 ml
5	3.6812	1.7768	4.5420	0.0503	0.1010	879	100 ml
6	0.7513	5.6130	3.6358	0.0503	0.1010	879	100 ml
7	2.7899	3.6857	3.5244	0.0503	0.1010	879	100 ml
8	0.8931	3.5891	5.5178	0.0503	0.1010	879	100 ml
9	3.2469	1.4895	5.2637	0.0503	0.1010	879	100 ml
10	1.1994	1.3315	7.4691	0.0503	0.1010	879	100 ml

TABLE 2: Mass and atomic percents for $AlMgB_{14}$

	Mass Percent			Atomic percent		
Composition	**Al**	**Mg**	**B**	**Al**	**Mg**	**B**
$AlMgB_{14}$	13.315	11.994	74.691	6.250	6.250	87.500
Higashi	10.620	9.949	79.431	4.829	5.023	90.148
$AlMgB_{14}$+CS	19.150	13.630	67.220	9.478	7.489	83.033
$AlMgB_{14}$+CS+3%Al	22.242	13.630	67.220	10.842	7.376	81.782

TABLE 3: Compositions for the composites prepared at 1600°C

Composite	$AlMgB_{14}$	additive	added B	% mass B
	(g)	(g)	(g)	
PR1 + 30wt.%TiB_2	3.3916	1.4535	0.0000	
PR2 + 5 wt.% Si	3.5257	0.1856	0.0000	
PR3	3.3758	0.0000	0.0000	
PR4 + 25.843wt%TiC	3.3840	1.1793	0.0000	
PR5 + TiC + B	2.5000	0.8712	0.9436	21.87
PR6 + 30%WC + B	3.2284	1.3836	0.9929	17.71
PR7 + 26.713%TiN	2.7000	0.9841	0.0000	
PR8 + TiN + B	2.3000	0.8383	0.5858	15.73
PR9 + WC + TiB_2	2.1000	1.8000	0.0000	
PR9 + WC + TiB_2 +B	2.1000	1.8000	0.6458	14.21