

Table 1

Formula Table of WPCs (by weight).

Sample code	PP(g)	WF(g)	WF/SiO ₂ (g)	MEL(g)	APP(g)	DPER(g)
WPC-0	70	30	/	/	/	/
WPC-1	70	/	30	/	/	/
WPC-2	70	30	/	5	25	10
WPC-3	70	/	30	5	25	10

Table 2

LOI and UL-94 test results for WPCs

Sample code	LOI (%)	UL-94	
		Rating	Dripping
WPC	18.1	NR	Yes
WPC-1	18.1	NR	Yes
WPC-2	29.9	NR	Yes
WPC-3	39.0	V-0	No

Table 3

TG pyrolysis data of WPCs

Sample code	T1 _{max} (°C)	M1(%)	T2 _{max} (°C)	M2(%)	Char(wt%)
WPC-0	348.2	19.2	473.6	74.1	3.7
WPC-1	373.4	9.6	472.1	75.1	14.2
WPC-2	256.8	21.6	489.4	58.6	19.6
WPC-3	358.0	14.0	486.7	55.94	28.1

Table 4

Cone calorimetry data of WPCs

Sample code	TTI(s)	pHRR(kW/m ²)	THR(MJ/m ²)	Residue(wt%)
WPC-0	32	540.42	103.59	6.19%
WPC-1	28	633.09	103.70	20.28%
WPC-2	41	202.38	83.44	24.03%
WPC-3	32	221.48	78.81	33.10%

Table 5

Elemental Composition Table of WPCs after Combustion

Sample code	C	N	O	Si	P
WPC-0	75.39	0	24.61	0	0
WPC-1	29.00	0	29.00	26.63	0
WPC-2	11.57	0	41.37	0	47.06
WPC-3	39.99	3.20	34.65	2.27	19.89