Table 3 — FRCEFR compositions (per concrete cubic meter)

C[(1)] [kg]	W [kg]	SP[(2)] [kg]	LF [kg]	FS [kg]	CS [kg]	CA_1 [kg]	CA_2 [kg]	SF [kg]
300.2	228.0	127.7	7.0	533.6	457.6	295.0	294.3	60.0

(1) - Type I 42.5R and type I 52.5R; (2) – SP - Sika ViscoCrete® 3002 HE; 1 kg = 2.2 lbs

Table 4 — Concrete compositions of the tunnel segments (per m^3)

	C [kg]	W [kg]	SP(1) [kg]	LF [kg]	FS [kg]	CS [kg]	CA_1 [kg]	CA_2 [kg]	SF [kg]	PF [kg]
Specimen 1	205	165	5.44	-	580.0	220.0	530.0	540.0	-	-
Specimen 2					550.5	451.8	289.7	289.4	75	
Specimen 3	360	114	8.51	247	524.5	460.3	297.3	297.1	45	2
Specimen 4					533.6	457.6	294.5	294.3	60	

(1) - Sika ViscoCrete® 3002 HE; 1 kg = 2.2 lbs

List of Figures:

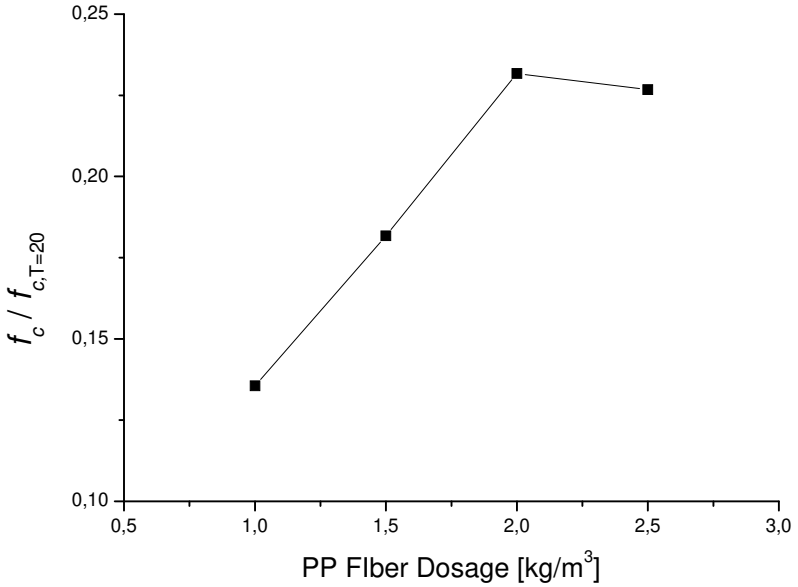
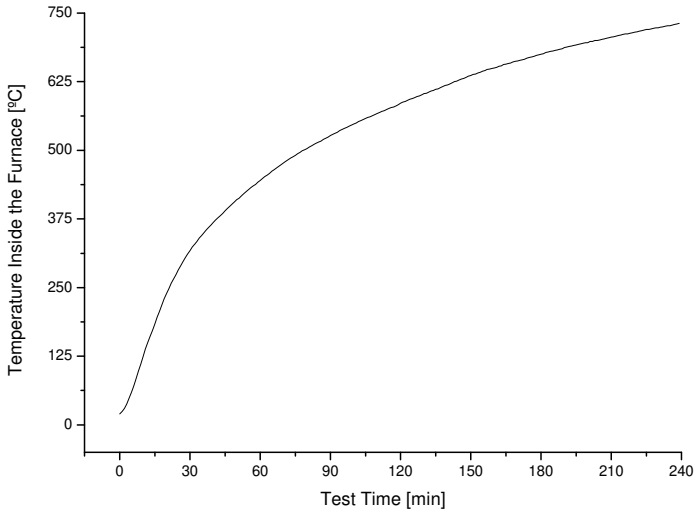
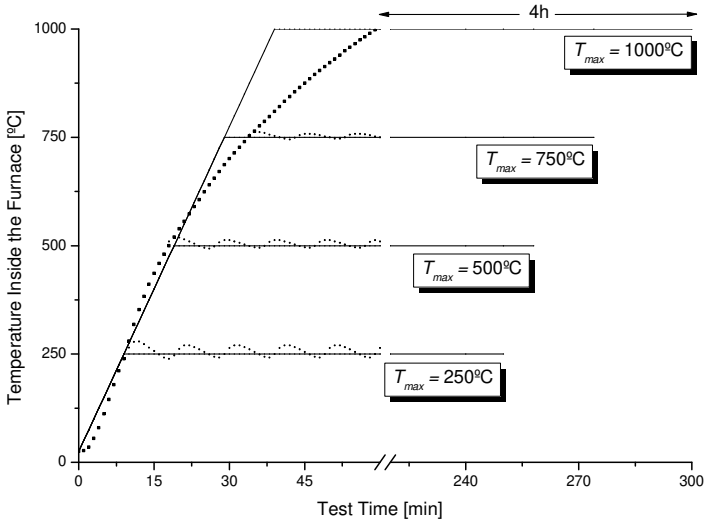


Figure 1 — Influence of the content of PP fibers on the relative residual compressive strength; specimens subjected to 750 ºC [1 MPa = 146 psi; 1 kg/m^3 = 0.062 lb/ft^3]



a)



b)

Figure 2 — Heating rate profiles used to a) select the nonmetallic fiber type; b) evaluate the compression and flexural behavior of FRCEFR (straight line – planned heating rate profile; dot line – real heating rate profile) [ºF = ºC x 1.8 + 32]

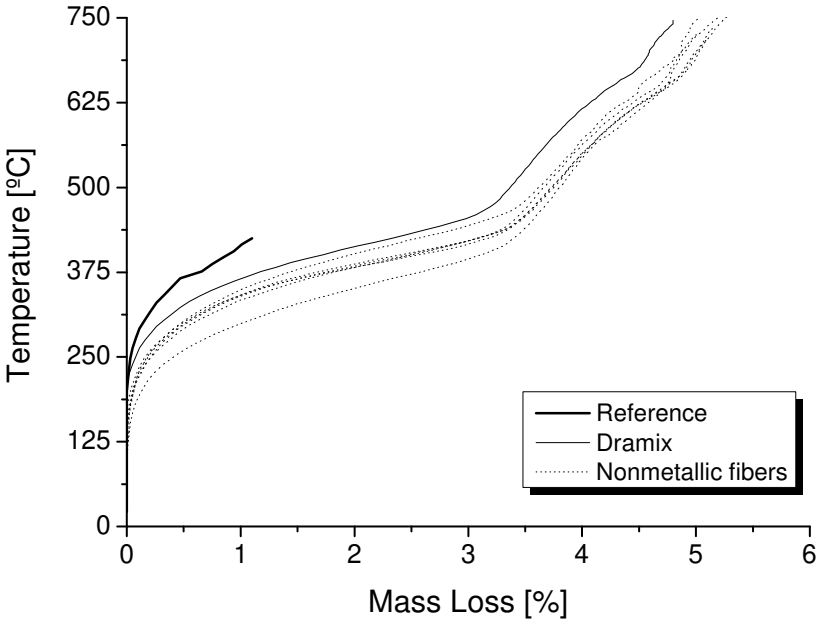


Figure 3 — Mass loss (heating phase) [ºF = ºC x 1.8 + 32]

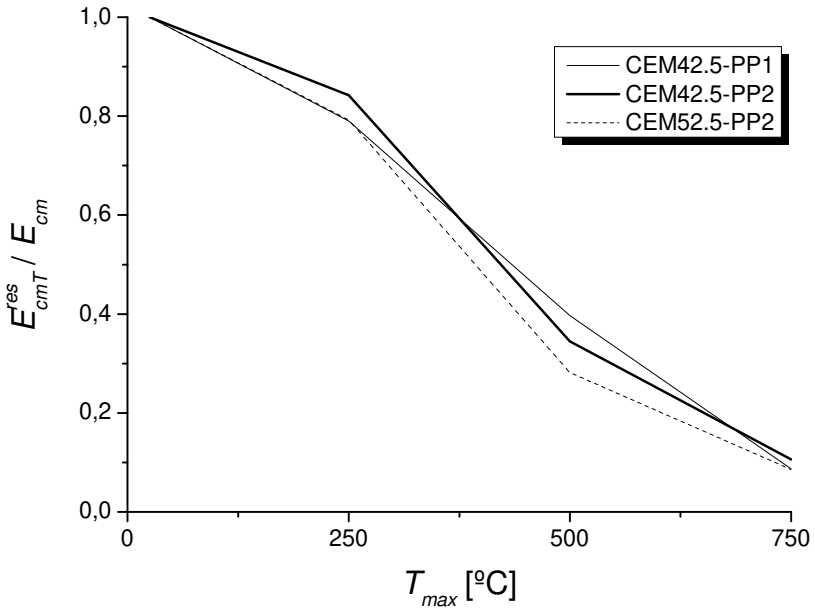


Figure 4 — Influence of the level of temperature exposure on the Young's modulus
[ºF = ºC x 1.8 + 32]

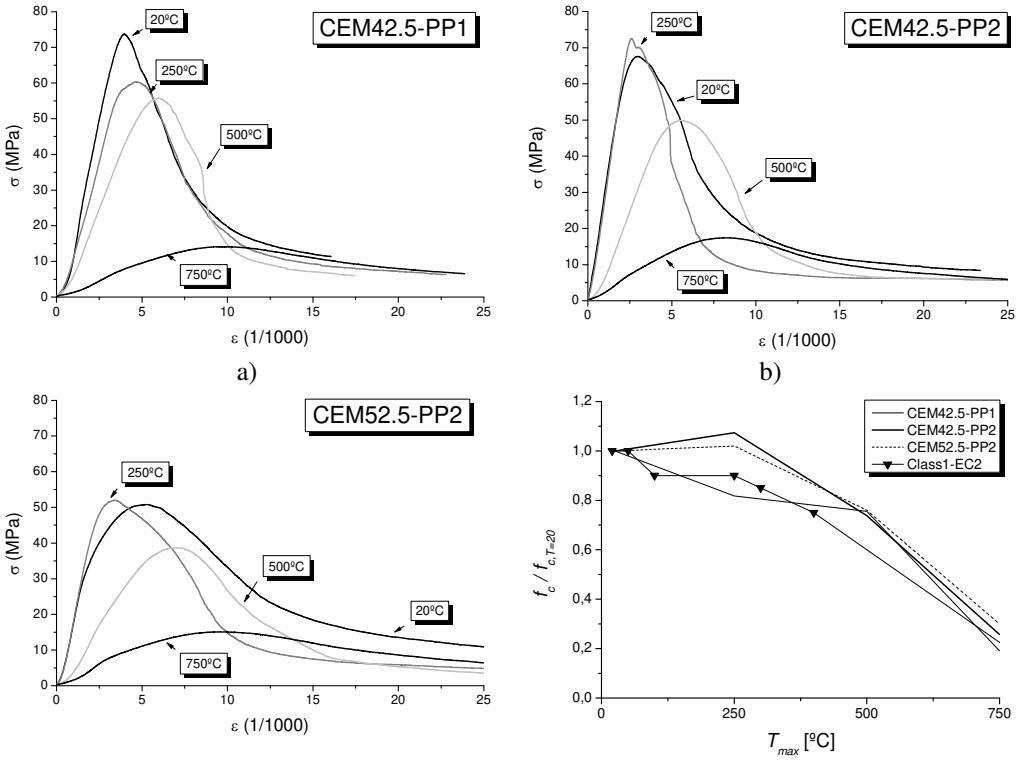


Figure 5 — Influence of the level of temperature exposure on the compressive behavior [ºF = ºC x 1.8 + 32; 1 MPa = 146 psi]

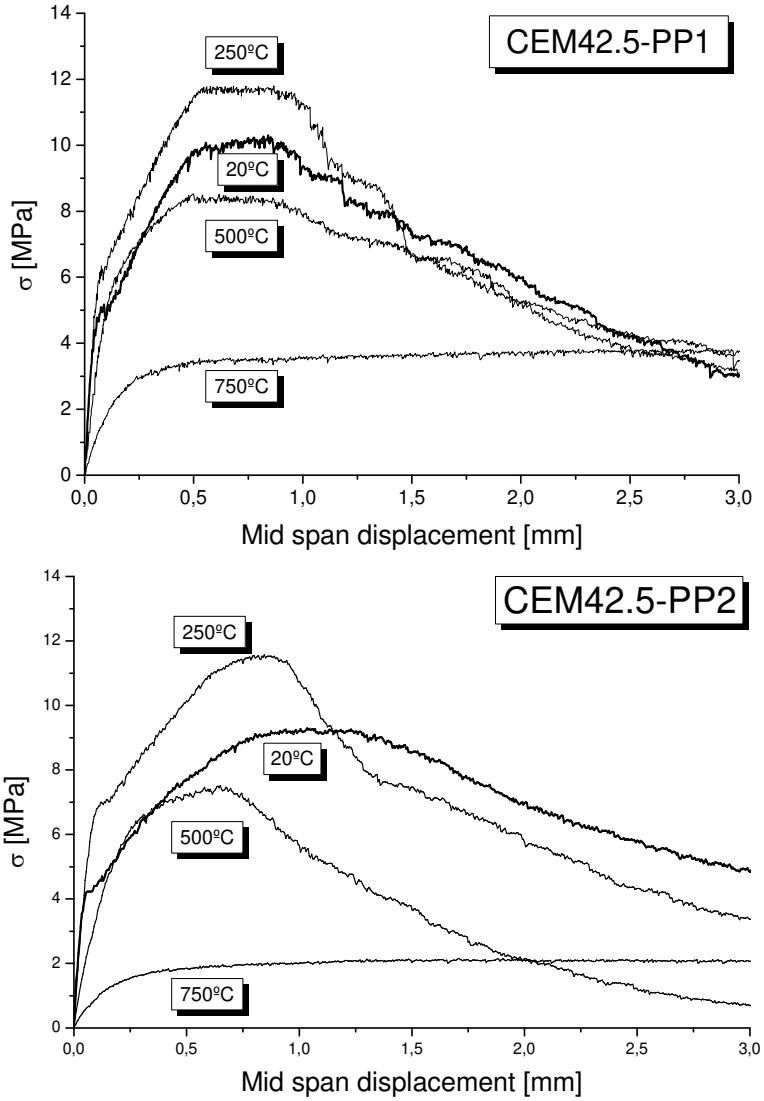


Figure 6 — Influence of the level of temperature exposure on the flexural behavior [ºF = ºC x 1.8 + 32; 1 MPa = 146 psi; 1 mm = 0.0394 in]

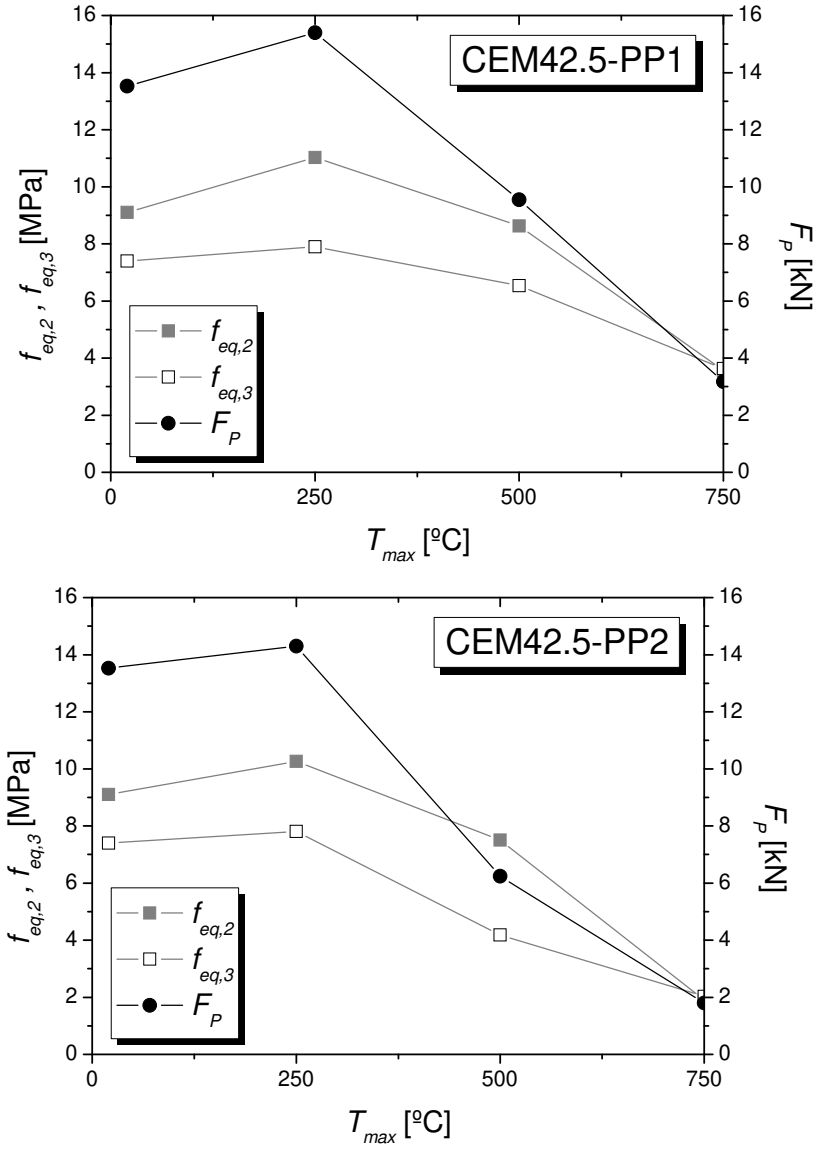


Figure 7 — Influence of the level of temperature exposure on the equivalent flexural tensile strength parameters [ºF = ºC x 1.8 + 32; 1 MPa = 146 psi; 1 N = 0.2248 lb]