

TABLE 1. Mixture proportions

Component (1)	Series (kg/m <sup>3</sup> )				
	<i>s1</i> (2)	<i>s2</i> (3)	<i>s3</i> (4)	<i>s4</i> (5)	<i>s5</i> (6)
Cement (OPC) ( <i>c</i> )	450	450	450	450	450
Sand ( $\leq 3$ mm)	729	819	729	729	716
Fine aggregates (3-5 mm)	500	455	500	500	533
Coarse aggregates (5-15 mm)	500	455	500	500	533
Water ( <i>w</i> )	202.5	157.5	202.5	202.5	171
Additive (Rheobuild 561)	-	4.5	-	-	2.25
Dramix steel fibers ZP30/.50	0, 45, 60		0, 30, 45, 60		
Dramix steel fibers ZX60/.80		0, 30, 45, 60		0, 30, 45, 60	0, 30, 45
Characteristics					
<i>w/c</i>	0.45	0.35	0.45	0.45	0.38
Additive in weight of cement	-	1	-	-	0.5
Fiber content in volume (%)	0,0.38,0.57	0,0.38,0.57,0.76	0,0.38,0.57,0.76	0,0.38,0.57,0.76	0,0.38,0.57
Fiber content in weight (%)	0,1.85,2.5	0,1.25,1.85,2.5	0,1.25,1.85,2.5	0,1.25,1.85,2.5	0,1.25,1.85

TABLE 2. Average compression strength,  $f_{cm}$ , in MPa

Content of fibers (kg/m <sup>3</sup> ) (1)	Series				
	<i>s1</i> (2)	<i>s2</i> (3)	<i>s3</i> (4)	<i>s4</i> (5)	<i>s5</i> (6)
0	31.7 (2.5) <sup>1</sup>	56.0 (3.2)	32.2 (0.6)	32.6 (1.0)	41.5 (2.2)
30	—	52.5 (2.1)	36.2 (0.9)	32.3 (1.3)	43.4 (1.4)
45	32.6 (2.9)	51.6 (1.2)	35.8 (1.0)	33.2 (0.8)	47.4 (4.3)
60	33.6 (1.4)	51.8 (4.2)	32.9 (1.5)	31.2 (3.5)	—

1 - Standard deviation in MPa

TABLE 3. Notch depth/beam depth ratio ( $a/d$ ) of the specimens

Series	$s1$	$s2$	$s3$	$s4$	$s5$
(1)	(2)	(3)	(4)	(5)	(6)
$(a/d)$	0.25	0.25	0.5	0.5	0.25 and 0.5

TABLE 4. Data for the analysis of beams tested by Kormeling *et al.* (1980)

Concrete	$f_{cm} = 41 \text{ MPa}$	Plain concrete: $f_{ctm} = 2.0 \text{ MPa}$
	$E_{ci} = 34400 \text{ MPa}$	SFRC: $f_{ctm} = 2.6 \text{ MPa}$
	Softening law	Plain concrete: $g_f = 1.678 \times 10^{-3} \text{ N.mm}^{-2}$ , $\alpha = 1/3$ , $p_1 = 1.0$
		SFRC: $g_f = 4.9 \times 10^{-2} \text{ N.mm}^{-2}$ , $\alpha = 0.56$ , $p_1 = 1.1$
Steel bars ( $\phi_s = 4 \text{ mm}$ )	$A_s = 25.1 \text{ mm}^2$ ,	$E_s = 200 \text{ GPa}$ , $f_{su} = 756 \text{ MPa}$ , $\varepsilon_{su} = 5.0 \times 10^{-3}$ , $\beta = 0.94$ , $\rho_{s,ef} = 1.0 \%$ , $\Delta f_{su} = 43 \text{ MPa}$

TABLE 5. - Values used for the model variables

Concrete					Reinforcement (linear-parabola diagram)
Fiber content (kg/m <sup>3</sup> )					
Property (1)	0 (2)	30 (3)	45 (4)	60 (5)	
$f_{cm}$ [MPa]	60	60	60	60	$f_{su} = 800$ MPa
$E_{ci}$ [MPa]	30000	30000	30000	30000	$E_s = 200$ MPa
$f_{cm}$ [MPa]	4	4	4	4	$\beta = 0.7$
$G_f$ [N.mm / mm <sup>2</sup> ]	0.1	2.1	4.1	7.1	$\epsilon_{su} = 12 \times 10^{-3}$
$\alpha$ [-]	1/3	0.45	0.55	0.7	$A_s = 40$ mm <sup>2</sup>
$p_1$ [-]	3	1.5	2	2	$\rho_{s,ef} = 0.73$ %
$l_b$ [mm]	45	100	80	40	$\Delta f_{su} = 111$ MPa