Tabla 4.1: Aplicación de los tres modelos a los ensayos de Lukas et al.

MATERIAL					LUKAS et al.		MURAKAMI et al.		MM	
	R	ρ (μm)	K_t	σ_{FL}(exp.) (MPa)	σ_{FL} (pred.) (MPa)	E [¤] (%)	σ_{FL} (pred.) (MPa)	E [¤] (%)	σ_{FL} (pred.) (MPa)	E [¤] (%)
2.25Cr-1Mo	-1	10	3.04	222.5	220	1.12	229.68	-3.2	216.3	2.8
		30	2.99	221	220	0.005	191.25	13.5	199	9.9
		50	2.95	211	220	-4.09	175.65	16.8	187.5	11
		70	2.92	165	205.3	-24.4	166.07	-0.65	176.5	-7
		200	2.67	140.5	148.5	-5.7	139.41	0.78	141.2	-5
		410	2.32	150	137.33	8.4	123.7*	17.5*	120.8*	19.5*
		760	1.87	160	148.4	7.25	111.6*	30.3*	124.1*	22*
Electrolytic Copper	-1	50	2.95	72	73	-1.39	102.1	-41.8	61.8	14.2
		100	2.87	56	57.16	-2.07	90.94	-62.39	55.8	0.4
		150	2.76	47.3	50.87	-7.55	85	-79.7	51.6	-9.1
		200	2.67	49	47.55	2.96	81.02	-65.3	48.5	1.0
		300	2.51	47	44.58	5.15	75.73	-61.1	44.2	6.0
		500	2.19	46	44.85	2.5	69.55*	-51.2*	39.1*	15*
		800	1.83	49	48.96	0.08	64.31*	-31.2*	34.9*	28.8*

[¤] Error(%): (exp.-pred.)/exp. ×100
*Fuera del rango de aplicación del modelo

Tabla 4.2: Aplicación de los tres modelos a los ensayos de Murakami et al.

MATERIAL					LUKAS et al.				MURAKAMI et al.		MM	
	R	ρ (μm)	K_t	σ_{FL} (exp.)	σ_{FL}(pred.) (MPa)	E (¤) (%)			σ_{FL} (pred.) (MPa)	E (¤) (%)	σ_{FL}(pred.) (MPa)	E (¤) (%)
S10C	-1	20	3	181	181	0.0			188	-3.9	176.2	2.7
		25	3	181	181	0.0			174	3.9	173.9	3.9
		40	3	172	211.1	-16.6			168	2.5	167.8	2.5
		50	3	172	190.8	-10.9			162	6.0	164.2	4.5
		100	3	147	141.5	3.7			144	2.0	150.7	-2.5
S45C	-1	20	3	235	280	-19.1			228	3.2	225.7	4.0
		25	3	226	258.3	-14.3			219	3.0	220.6	2.4
		40	3	211	210.2	0.4			203	3.9	208.4	1.2
		50	3	201	191.5	4.7			195	2.8	201.7	-0.3
		100	3	181	147.2	19.7			174	3.9	177.2	2.1
	R	ρ (μm)	K_t	σ_{FL}exp (MPa)	σ_{FL} l_0 (1)	E (¤) (%)	σ_{FL} l_0 =2D	E (¤) (%)	σ_{FL} (pred.) (MPa)	E (¤) (%)	σ_{FL} (pred.) (MPa)	E (¤) (%)
Brass 70/30	-1	20	3	122.6	122.6	0.0	122.6	0.0	132.6	-8.2	111.0	9.5
		50	3	117.7	98.4	16.4	123.3	-4.7	128	-8.8	99.6	18.2
		100	3	107.9	75.4	30.2	91.8	14.9	114	-5.7	88.4	18.1
		250	3	98.1	57.2	41.7	66.2	32.5	98	0.01	71.4	27.2

¤ Error(%): (exp.-pred.)/exp. ×100

(1) $(K_t^2 - 1) \rho_0 = 4.5\ l_0$

Tabla 4.3: Aplicación de los tres modelos a los ensayos de Murakami et al.

MATERIAL					LUKAS et al.						MURAKAMI		MM					
	R	ρ (μm)	K_t	σ_{FL} (exp.)	σ_{FL} (1)	E (¤) (%)	σ_{FL} (2)	E (%)	σ_{FL} (3)	E (¤) (%)	σ_{FL} (pred)	E (¤) (%)	σ_{FL} (4)	E (¤) (%)	σ_{FL} (5.1)	E (¤) (%)	σ_{FL} (5.2)	E (¤) (%)
Aluminio 2017-T4		20	3	156.9	156.9	0.0	156.9	0.0	156.9	0.0	164	-4.5	144	8.2	158.1	-0.76	150.2	4.3
	-1	50	3	147.1	112.2	17	157.0	-6.7	261	-77.4	158	-7.4	129.8	11.7	151.5	-3.0	137.9	6.3
		100	3	122.6	87.5	28.6	117	4.6	188.7	-53.9	140	-14.2	112.6	8.2	144.1	-17.5	124.8	-1.8

¤ Error(%): (exp.-pred.)/exp. ×100

(1) $(K_t^2 - 1)\ \rho_0 = 4.5\ l_0$

(2) l_0 =D

(3) l_0 =3D

(4) $\Delta K_{th\infty}$ Murakami

(5) $K_{th\infty}$ Lukas 5.1 l_0 =3D

5.2 l_0 =D

Tabla 4.4: Aplicación de los tres modelos a los ensayos de DuQuesnay et al.

MATERIAL					LUKAS et al.				MM	
	R	ρ (μm)	K_t	σ_{FL}exp (MPa)	σ_{FL} (pred.) (MPa)		E [¤] (%)		σ_{FL} (pred.) (MPa)	E [¤] (%)
SAE 1045	-1	120	2.98	179.3	198.5		-10.7		161.1	10.2
		250	2.96	154.6	156.9		-1.5		131.2	15.4
		500	2.94	139.6	133.4		4.4		114.2	18.2
		1500	2.82	123.7	118.9		3.9		109.1	11.8
		2500	2.7	130.6	114.6		12.3		113.2	13.3
	R	**ρ (μm)**	**K_t**	**σ_{FL} (exp.) (MPa)**	**σ_{FL}(pred.) (1)**	**E [¤] (%)**	**σ_{FL}(pred.) (2)**	**E [¤] (%)**	**σ_{FL} (pred.) (MPa)**	**E [¤] (%)**
Aluminio 2024-T351	-1	120	2.98	80	110.9	-37.6	86.7	-8.3	72.9	8.9
		250	2.96	62	82.5	-33.1	67.6	-9.0	59.2	4.5
		500	2.94	62	65.9	-6.3	56.6	8.7	49.9	19.5
		1500	2.82	45	53.5	-18.9	49.5	-10	45.3	-0.7
	0	120	2.98	57.3	74.3	-29.7	48.9	14.7	53.4	6.8
		250	2.96	54.4	55.9	-2.5	40.0	26.6	43.4	20.4
		500	2.94	44.2	44.9	-1.6	35.2	20.4	36.1	18.3
		1500	2.82	31.6	36.7	-16.1	32.7	-3.5	31.45	0.47

[¤] Error(%): (exp.-pred.)/exp. ×100
(1) l_0=3.2D
(2) l_0=D