



Physical & Mechanical Properties

Physical Properties	Density	Melting Range		Thermal Conductivity	Coefficient of Thermal Expansion	Electrical Conductivity	SOLUTIONS ID CASTING
	g/cm ³	°C	°F	W/m K	um/m ³ K	%IACS	
Zinc							
ZAMAK 2	6.60	370-390	715-734	104.7	27.7	25.0	
ZAMAK 3	6.60	381-387	718-728	113.0	27.4	27.0	
ZAMAK 5	6.60	380-386	717-727	108.9	27.4	26.0	
ZAMAK 7	6.60	381-387	718-728	113.0	27.4	27.0	
ZA 8	6.30	375-404	707-759	114.7	23.3	27.7	
ZA 27	5.00	375-487	708-903	125.5	26.0	29.7	
Beric	6.8	379-392	714.2-737.6	-	-	27.5	
ACuZinc5	6.85	402-502	755-936	106.0	24.1	26.9	
Magnesium							
AZ91D	1.81	470-595	875-1105	72.3	25.2	12.2 (NA)	
AM60B	1.79	540-615	1005-1140	61.0	25.6	12.4 (NA)	
Aluminium							
AlSi9C	2.71	538-593	1000-1100	96.0	21.2	27.0	
AlSi12	2.74	516-582	960-1080	96.0	21.1	23.0	
Brass							
C38500	8.4	880-900	1616-1652	113.0	26.0	26.0	
C38800	8.4	900-920	1652-1688	109.0	21.0	25.0	
Steel							
SAE1008	7.8	1426	2600	60.0	-	12.0	
Polymers							
ABS	1.02-1.21	130	266	0.128-0.19	65-150	-	
Nylon PA66	1.03-1.16	225	437	0.25-0.28	54-150	-	
PA66 30% glass fiber reinforced	1.11-1.41	255	491	0.22-0.5	17-104	-	
Polycarbonate	1.17-1.45	220	428	0.19-0.21	32-120	-	
Polycarbonate 30% glass fiber reinforced	1.33-1.45	-	-	0.35	22-23.4	-	
Polypropylene	0.9-1.24	180	356	0.1-0.13	25-185	-	
Polypropylene 30% glass fiber reinforced	1.08-1.47	-	-	0.32-0.33	32-41	-	

Mechanical Properties	Ultimate Tensile Strength	Yield Strength	Impact Strength	Shear Strength	Hardness	Elongation	SOLUTIONS ID CASTING
	MP a	MP a	J	MP a	Brinell	% in 50mm	
Zinc							
ZAMAK 2	359	283	47	317	100	7	
ZAMAK 3	283	221	58	214	82	10	
ZAMAK 5	328	228	65	262	91	7	
ZAMAK 7	283	221	58	214	80	13	
ZA 8	374	290	42	275	103	6-10	
ZA 27	425	376	12.8	325	119	1-3	
Beric	414	393	47	-	146	-	
ACuZinc5	407	338	-	280	115	5	
Magnesium							
AZ91D	230	160	3.0	140	63	3	
AM60B	220	130	-	-	62	8	
Aluminium							
AlSi9C	317	159	4	195	80	3.5	
AlSi12	330	165	4	186	75	3.5	
Brass							
C38500	430-530	228	17	-	143	15-25	
C38800	420-460	228	16	-	133	20-25	
Steel							
SAE1008	290-360	140-275	-	-	125	30	
Polymers							
ABS	30-65	29.5-65	-	-	-	2-110	
Nylon PA66	40-85.5	40-86	5	-	-	4.8-300	
PA66 30% glass fiber reinforced	70-210	128-210	6	-	-	1.9-150	
Polycarbonate	54-72	59-70	-	-	-	8-135	
Polycarbonate 30% glass fiber reinforced	76-138	114-128	-	-	-	2-4	
Polypropylene	19.7-80	12-43	-	-	-	3-887	
Polypropylene 30% glass fiber reinforced	42-100	55-79	-	-	-	1.5-16	