LIST OF MATERIALS

NON-EXHAUSTIVE

ALUMINIUM ALLOYS

Designation according to EN 573		Mass density (g/cm³)	Mechanical properties (minimum values)					General properties									
								Corrosion resistance		Suitability for anodization			Weldability			Machinability	
			State	Rp0.2 (MPa)	RM (MPa)	A5 (%)	Hardness (HB)	Air	Marine	Protection	Tough	Brightness	ARC (TIG & MIG)	Soldering	Electron beam	Fragmentation wood chips	Brightness of the surface
EN AW 2014	Al Cu 4 Si Mg	2.80	T6	380	440	7	120	C	D	C	B	C	D	B	B	B	C
EN AW 2017	Al Cu 4 Mg Si	2.79	T6	315	420	10	105	C	D	C	B	C	D	B	B	B	B
EN AW 2024	Al Cu 4 Mg 1	2.77	T6	345	425	6	120	C	D	C	B	C	D	B	B	B	B
EN AW 6061	Al Mg 1 Si Cu	2.70	T6	240	260	8	85	A	B	A	A	C	B	B	A	C	A
EN AW 6082	Al Si 1 Mg Mn	2.71	T6	300	340	10	95	A	B	A	A	C	B	B	A	C	A
EN AW 7075	Al Zn 5,5 Mg Cu	2.80	T73	375	440	8	120	C	D	B	A	C	D	C	B	B	B

TITANIUM ALLOYS

ASTM designation		Mass density (g/cm³)	Mechanical properties (minimaum values)					General properties								
								Corrosion resistance		Suitability for surface treatments			Weldability			Machinability
			State	Rp0.2 (MPa)	RM (MPa)	A5 (%)	Hardness (HB)	Air	Marine	Protection	Colour	Biocom-patibility	ARC (TIG & MIG)	Soldering	Electron beam	
TA6V	Ti 6 Al 4 V	4.43	Annealed	830	900	10	265	A	B*	A	A	A	B	-	B	C

*Risk of stress corrosion in the case of acute notches

A => Very good
B => Good
C => Average
D => Bad, to be avoided

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COPPER ALLOYS

Designation according to EN 12163		Mass density (g/cm³)	Mechanical properties (minimum values)					General properties								
								Corrosion resistance		Suitability for surface treatments			Weldability			Usinabilité
			State	Rp0.2 (MPa)	RM (MPa)	A5 (%)	Hardness (HB)	Air	Marine	Polishing	Electrolytic	Galvanisa-tion	ARC (TIG & MIG)	Soldering	Blowtorch	
EN CW 004A	Cu ETP	8.90	Semi-hard	250	300	12	90	A	B	B	A	A	D	A	D	D
EN CW 009A	CU OFE	8.94	Semi-hard	250	300	12	90	A	B	B	A	A	A	A	B	D
EN CW 508 L	Cu Zn 37	8.43	Untreated	280	380	28	110	B	C	A	C	A	C	A	C	D
EN CW 616 N	Cu Zn 40 Pb 1 Al	8.40	Untreated	360	460	18	135	B	C	B	D	A	D	A	D	A
EN CW 713 R	Cu Zn 37 Mn 3 Al 2 Pb Si	8.20	Untreated	320	580	12	150	B	B	B	D	C	B	D	C	B
EN CW 401 J	Cu Ni 7 Zn 27 Pb 3 Mn 2	8.50	Cold-drawn + tempered	650	750	6	200	A	A	A	A	A	C	A	C	D
EN CW 111 C	Cu Ni 2 Si	8.90	Cold-drawn + tempered	640	700	6	195	A	A	B	B	B	A	B	C	D
EN CW 307 G	Cu Al 10 Ni 5 Fe 4	7.60	Untreated	450	650	15	190	A	A	A	A	A	B	C	B	D

MAGNESIUM ALLOYS

ASTM designation		Mass density (g/cm³)	Mechanical properties (minimum values)					General properties								
								Corrosion resistance *1		Suitability for surface treatments			Weldability *2			Machinability
			State	Rp0.2 (MPa)	RM (MPa)	A5 (%)	Hardness (HB)	Air	Marine	Mordanting + resin + paint	Mordanting + peinture	Anodizing + paint	ARC (TIG & MIG)	Soldering	Electron beam	
AZ31A	Mg Al 3 Zn	1.77	F	150	230	10	60	B	C	A	A	A	A	B	A	B
AZ61A	Mg Al 6 Zn	1.80	F	180	260	8	80	B	C	A	A	A	B	C	B	B
AZ80A	Mg Al 8 Zn	1.80	T5	200	280	6	85	B	C	A	A	A	B	C	B	B
ZK30	Mg Zn 3 Zr	1.80	T5	200	290	7	85	C	D	A	A	A	C	C	C	B
ZK60	Mg Zn 6 Zr	1.83	T5	220	300	7	90	C	D	A	A	A	D	C	D	B

* 1: Surface protection is required to improve the corrosion resistance

* 2: Annealing required to release stress after welding operations

A => Very good

B => Good

C => Average

D => Bad, to be avoided

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