

Use of Electrolytes

The Schilling Electrolytes are the result of many years of research and development. The composition of the electrolytes has been harmonized exactly to the various metals and surfaces. Electrolytes are salt solutions with specific pH values that do not cause any harm to the skin, clothes or surroundings when used appropriately. All up-to-date safety data sheets for our mixtures / preparations are freely available for download on our website at www.schilling-marking.de.

Material, alloys, branch	ItemNo	Electrolyte	Power unit setting/voltage	pH-value / Notes
Aluminium	22.038	AE38	light/24V	approx. 2.0
Aluminium (most alloys)	22.038	AE38	light/24V	Allow a few seconds for colour to develop before cleaning
Aluminium with high magnesium or silica content	22.025	AE25	light/24V	approx. 5.0 / Black not possible unless lacquer filled
	22.038	AE38	light/24V	approx. 2.0 / Deep etch BEFORE anodizing (minimum 0.05mm)
Beryllium	22.001	AE1	dark/12V	approx. 1.5 / suitable for production runs
Black oxide	22.026	AE26	light/dark/12V	approx. 1.6 / Current setting: light & dark (eventually in change between light & dark)
	22.030	AE30	light/dark/12V	approx. 3.0 / Current setting: light & dark (eventually in change between light & dark)
Black oxide steels	22.026	AE26	light/dark/12V	approx. 1.6 / Current setting: light & dark (eventually in change between light & dark)
Brass	22.037	AE37	dark/12V	approx. 1.5
	22.025	AE25	dark/12V	approx. 5.0
Bronze	22.037	AE37	dark/12V	approx. 1.5
	22.025	AE25	dark/12V	approx. 5.0
Carbides	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
Chrome plate	22.005	AE5	dark/12V	approx. 2.0
	22.001	AE1	dark/12V	approx. 1.5 / suitable for production runs
Chrome plate (decorative)	22.005	AE5	dark/12V	approx. 2.0
	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
Cobalt alloys	22.037	AE37	dark/12V	approx. 1.5
Copper	22.037	AE37	dark/12V	approx. 1.5
	22.025	AE25	dark/12V	approx. 5.0
Copper alloys	22.037	AE37	dark/12V	approx. 1.5
	22.025	AE25	dark/12V	approx. 5.0
Copper nickel	22.030	AE30	dark/12V	approx. 3.0
CuZn alloys	22.037	AE37	dark/12V	approx. 1.5
	22.025	AE25	dark/12V	approx. 5.0
Discaloy	22.001	AE1	dark/12V	approx. 1.5 / suitable for production runs
	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
Gold & gold plate	22.010	AE10	dark/12V	approx. 1.5 / suitable for production runs
	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
Hastelloy	22.037	AE37	dark/12V	approx. 1.5
Haynes 25	22.001	AE1	dark/12V	approx. 1.5 / suitable for production runs
Inconel	22.037	AE37	dark/12V	approx. 1.5
Inconel 625	22.025	AE25	dark/12V	approx. 5.0
Inconel 718 & 750	22.030	AE30	dark/12V	approx. 3.0
Iron	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
	22.010	AE10	dark/12V	approx. 1.5 / suitable for production runs
	22.036	AE36	dark/12V	approx. 8.0 / pH-neutral, very low corrosion
Lead & alloys	22.030	AE30	dark/12V	approx. 3.0
Monel	22.038	AE38	dark/12V	approx. 2.0
	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
Nickel & alloys	22.001	AE1	dark/12V	approx. 1.5 / suitable for production runs
	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
	22.030	AE30	dark/12V	approx. 3.0

Material, alloys, branch	ItemNo	Electrolyte	Power unit setting/voltage	pH-value / Notes
Nickel plate (brass & copper)	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
	22.001	AE1	dark/12V	approx. 1.5 / suitable for production runs
Nickel, chemical	22.003	AE3	dark/12V	approx. 2.0
	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
Nickel plate (steel & alu)	22.001	AE1	dark/12V	approx. 1.5 / suitable for production runs
	22.030	AE30	dark/12V	approx. 3.0
Nickel silver	22.037	AE37	dark/12V	approx. 1.5
	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
	22.025	AE25	dark/12V	approx. 5.0
Nitraloy	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
Steels, stainless	22.001	AE1	dark/12V	approx. 1.5 / suitable for production runs
	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
	22.036	AE36	dark/12V	approx. 8.0 / pH-neutral, very low corrosion
Steels, chrome plated decorative (advertising material)	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
Steels, construction steels, corrodible	22.036	AE36	dark/12V	approx. 8.0 / pH-neutral, very low corrosion
	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
Steels, food & nutrition industry, flexible surgical catheter (probes)	22.007	AE7	dark/12V	approx. 7.0 / pH-neutral, low corrosion
Steels, surgical instruments	22.033	AE33	dark/12V	approx. 7.0 / pH-neutral, low corrosion
	22.001	AE1	dark/12V	approx. 1.5 / suitable for production runs
	22.034	AE34	dark/12V	approx. 4.0
	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
Steels, tool & high alloy	22.033	AE33	dark/12V	approx. 7.0 / pH-neutral, low corrosion
	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
Steels, hardened & unhardened	22.020	AE20	dark/12V	approx. 1.5
Steels, corrodible	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
	22.036	AE36	dark/12V	approx. 8.0 / pH-neutral, very low corrosion
Steels, until 1.4021 / 1.4310	22.001	AE1	dark/12V	approx. 1.5 / suitable for production runs
	22.033	AE33	dark/12V	approx. 7.0 / pH-neutral, low corrosion
Steels, CrCo, steels from 1.4310	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
Steels, low carbon	22.036	AE36	dark/12V	approx. 8.0 / pH-neutral, very low corrosion
	22.010	AE10	dark/12V	approx. 1.5 / suitable for production runs
	22.038	AE38	dark/12V	approx. 2.0
Tin	22.010	AE10	dark/12V	approx. 1.5 / suitable for production runs
Titanium	22.037	AE37	dark/12V	approx. 1.5 / Use minimum Electrolyte and short marking times (1-1,5s)
	22.004	AE4	dark/12V	Use minimum Electrolyte and short marking times (1-1.5s)
Tool steel	22.033	AE33	dark/12V	approx. 7.0 / pH-neutral, low corrosion
	22.010	AE10	dark/12V	approx. 1.5 / suitable for production runs
Tool steel, high alloy & harden able	22.033	AE33	dark/12V	approx. 7.0 / pH-neutral, low corrosion
	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
Tungsten (pure)	22.026	AE26	dark/12V	approx. 1.6 / without neutralisation/cleaning
Tungsten carbide	22.026	AE26	dark/12V	approx. 1.6 / without neutralisation/cleaning
Zinc & zinc plate	22.010	AE10	dark/12V	approx. 1.5 / suitable for production runs
	22.037	AE37	dark/12V	approx. 1.5
Zirconium	22.039	AE39	dark/12V	approx. 7.0 / pH-neutral, low corrosion
	22.026	AE26	dark/12V	approx. 1.6