The invention relates to welding technology. Composition of flux-cored wire for the production of special high-entropy alloys using additive manufacturing via arc welding contains, by weight %: nickel – 18.0–24.0, cobalt – 19.0–22.0, aluminum – 4.0–6.0, tantalum – 3.0–4.5, steel coating – the rest. The invention provides increased hardness and strength of the deposited metal, high corrosion resistance, and paramagnetic properties, and also allows for a wide range of predictable chemical compositions in high-entropy multilayer cladding.