

Alloys are **manufactured by powder metallurgy methods**, including hydrostatic pressing, sintering (impregnation) in hydrogen medium and vacuum annealing

Contain 80-97,5 % of tungsten in the form of grains and the matrix based on nickel, iron or copper

The alloys are implemented as biological protection against gamma-radiation (in gamma-fault finder GAMMAMAT-Se and a transportation/recharging container attached), as well as for production of:

- rotors for gyroscopes
- inertia masses
- erosion-resistive electrodes
- funnels for cumulative charges

High elasticity of VNZH alloys ensures their implementation as of the secure construction material

## Technical features and properties

Brand	VNZH 90	VNZH 95	VNZH 97,5	VNM-3-2	W-Cu
Density, g/cm <sup>3</sup>	16,9-17,1	17,9-18,1	18,5-18,7	17,9-18,1	16,8-17,1
Tensile strength limit, MPa	950-1000	930-950	700-750	700-720	690-720
Yield stress, MPa	650-700	680-700	700-730	620-630	670-680
Relative lengthening, %	15-20	8-12	~1	3-4	~1
Shock viscosity, J/cm <sup>2</sup>	4-5	3-4	~1	2-3	~1

Configuration – cylinders, bushings, complex-configured matrices with curved surfaces

Parts of up to 100 kg mass and size of up to 300 mm can be produced on a trial or small-series production scale

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