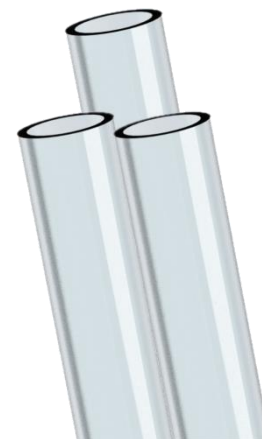


High-silica glass tubes are designed for casting microwires with a core of refractory metals using the Ulitovsky-Taylor method. Utilizing high-silica glass tubes allow to produce a microwire with a core thickness of 200 to 1 μm by pulling a microwire from a molten metal.



The glass shell of the microwire has several functions:

- electrical insulation,
- chemical resistance
- added stiffness to the microwire coil

High-silica glass is a glass with a high content of SiO_2 ($\text{SiO}_2 = 92\%$) obtained by leaching sodium borosilicate glass and subsequent sintering of a porous skeleton. The glass obtained in this way has the necessary viscosity in the operational interval of the casting process at the melting point of platinum (1770 °C) and has good adhesion to the metal.

| | |
|--|-------------------|
| Outer tube diameter, mm | 7,5 - 10,5 |
| Tube wall thickness, mm | 0,9 - 1,2 |
| Tube length, mm | 150 or 260 |
| Temperature coefficient of linear expansion in the range 20-300 °C , 10^{-7} Celsius ⁻¹ | 12 - 14 |
| Heat resistance, not less than °C | 850 |
| Density, g / cm ³ | 2,18 |
| Viscosity, poise | $10^3 - 10^{3,6}$ |