

## Lithium-sodium water glass

**Characteristics:** Lithnosodné water glass is colorless, clear to slightly turbid low-viscosity liquid is a mixture of lithium and sodium silicate.

**Specifications:**

Parameters	Units	Guaranteed
Contents Na <sub>2</sub> O	%	1,1- 1,4
Contents SiO <sub>2</sub>	%	17,7 – 22,2
Contents Li <sub>2</sub> O	%	1,7 – 1,9
pH		12,5 – 13,5
Density	kg. cm <sup>-3</sup>	Min. 1190
Viscosity	mPas	Min. 3

**Packaging:** Metal barrels (200 l), polyethylene barrels (40 or 50 l), other packages by the customer.

**Application:**

**1) The binder for anti-corrosion coating:** Unlike the alkali metal silicate (Na, K) forming aqueous solutions of lithium silicate films upon drying water-difficult soluble, which can be cured at lower temperatures. The mechanism of the curing process is not completely understood. The properties of the film changes with time, indicating that the curing process takes place. An essential part of the curing process is the reaction of zinc metal with silicate ions, thereby forming a complex of zinc silicates. The zinc powder can be replaced with lead powder, aluminum powder or zinc oxide and the like.

**2) Temporary protective coatings for metal and other surfaces:** To avoid damage during shipping or during installation is sometimes necessary to create a temporary protective coating on metal or other surface. Such a coating can easily create a spraying, coating or dipping the lithium-sodium water glass, followed by drying in air. The flexibility of the deposited films can be increased by adding lubricants, e.g. mica, graphite, molybdenum disulphide to the coating solution. The protected object can then be shaped or formed without damaging the protective coating. Thus formed coatings can be removed by washing or steam cleaning.

**3) Protective coatings for organic surfaces:** Can be applied by brush, spraying or dipping paper and fabric. By creating a protective coating becomes subject moisture resistant and nonflammable. Wood surfaces are also effectively protected against decay, ants, woodworm and other destructive insects. The addition of water-soluble dyes can also perform a painting subject.

**4) Lithium-sodium water glass as adhesive:** Lithium sodium water glass may be used in conjunction with a curing agent (borax, potassium bromide), and an inert filler such as an adhesive, which may be bonded wood, paper, cardboard, cloth, plastic, glass, porcelain, metal, concrete, brick. The joint is water-resistant.

Vodní sklo, a.s. | Praha 1 | Nové Město | Krakovská 1346/15 | PSČ 110 01 | IČ: 279 21 662

**5) Surface treatment of concrete, masonry, etc .:** Lithium-sodium water glass in conjunction with polymer emulsions (e.g. polyvinylacetát latex or butyl rubber, etc.), Inert fillers, pigments forms very good coatings for concrete and masonry. The resulting coating provides durable protection against erosion and moisture. The ratio of polymer emulsion to a lithium-sodium glass will vary according to application and ranges from 1: 1 to 4: 1 parts by weight of polymer emulsion to a lithium-sodium water glass.

**6) The water-resistant coatings:** Lithium-sodium water glass in admixture with a dispersion of metal powder and a small amount of alkali metal dichromates provides an effective protective coating with excellent adhesion, hardness and moisture resistance. The application is possible to ship bottoms, exterior walls of various water tanks etc.

**Storage:** Lithium Sodium water glass can be stored and transported at temperatures at 1 ° C in closed containers.

**Date of update:** 15. 02. 2010