

**AFEC E.R.M.A Ltd.**

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**אפק א.ר.מ.ע בע"מ**

ת.ד. 13379 אזורה"ת הישן, נתניה 4237927  
טל. 072-2121311  
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דוא"ל info@afecerma.com

- Product name:** NL-93
- Supplier:** AFEC e.r.m.a Ltd.
- Manufacturer:** AFEC e.r.m.a Ltd.
- Description:** NL-93 is a high-performance retarding super plasticizer, based on modified sodium gluconates and lignosulphonate. particularly recommended for ready mix concrete and civil Engineering construction.  
NL-93 intends to create a water reduction and/or an increased period of workability retention.  
It allows manufacturing concrete with long workability retention.  
NL-93 may be used in a large concrete range.  
NL-93 is compatible with most of the cement's types.  
NL-93 complies with the Israeli standard 896 part 1 and EN 934 part 2.
- Fields of applications:**
- Manufacturing of ready mixed concrete.
  - Manufacturing high quality and high durability concrete.
  - Manufacturing of high-performance concrete with high density, low permeability.
  - Manufacturing ready mixed concrete with long delivery time.
- Advantages:**
- Medium to Low water/cement ratio.
  - Flowable concrete with no segregation or bleeding.
  - Less or no vibration required even in case of high steel reinforcement.
  - Improves concrete durability.
  - NL 93 can work with low cement content without changing the concrete properties.

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**Properties:**

Color: Brown	Nature: Liquid
PH: $5.5 \pm 2$	Density: $1,08 \pm 0,05$
Na <sub>2</sub> O equivalent: < 1,0 %	Cl <sup>-</sup> ions contents: $\leq 0,02$ %

**Direction of use:**

NL-93 can be put in the mixer with the first amount of water before the dry ingredients. The mixture should be mixed for 5 minutes in the fastest range possible.

Correct the needed water content.

At site before discharging mix at high speed for several minutes.

**Precautions and limitations:**

Overdose of NL-93 will make the mix unworkable and with a long initial setting time.

**Remarks:**

Before beginning the work, you should make a trail mix at the laboratory and adjust the concretes desired properties.

**Accumulation:**

Liquid

**Chemical Stability:**

Stable between 6°C-55°C

**Possible health Influence:**

Low toxic range. Do not swallow.

**First aid:**

Rinse with water and seek medical advice.

**Personal Hygiene:**

Do not inhale! Protect eyes during use. Use relevant shield. Rinse hands after use.

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- Dosage:** 0.6%-1.6 % of the cement content in 1m<sup>3</sup> of concrete.
- Package:** Plastic containers of 1000 liter mini containers.
- Handling & storing:** Closed packages – up to 6 months in closed containers  
Do not expose to direct sunshine.