



MADE SMARTER. **MADE FASTER.**



SUPER ANODE

HIGH PERFORMANCE IN TOUGH CONCRETE ENVIRONMENTS

- ✓ Over 20 years of protection
- ✓ Comprehensive application
- ✓ Environmentally friendly



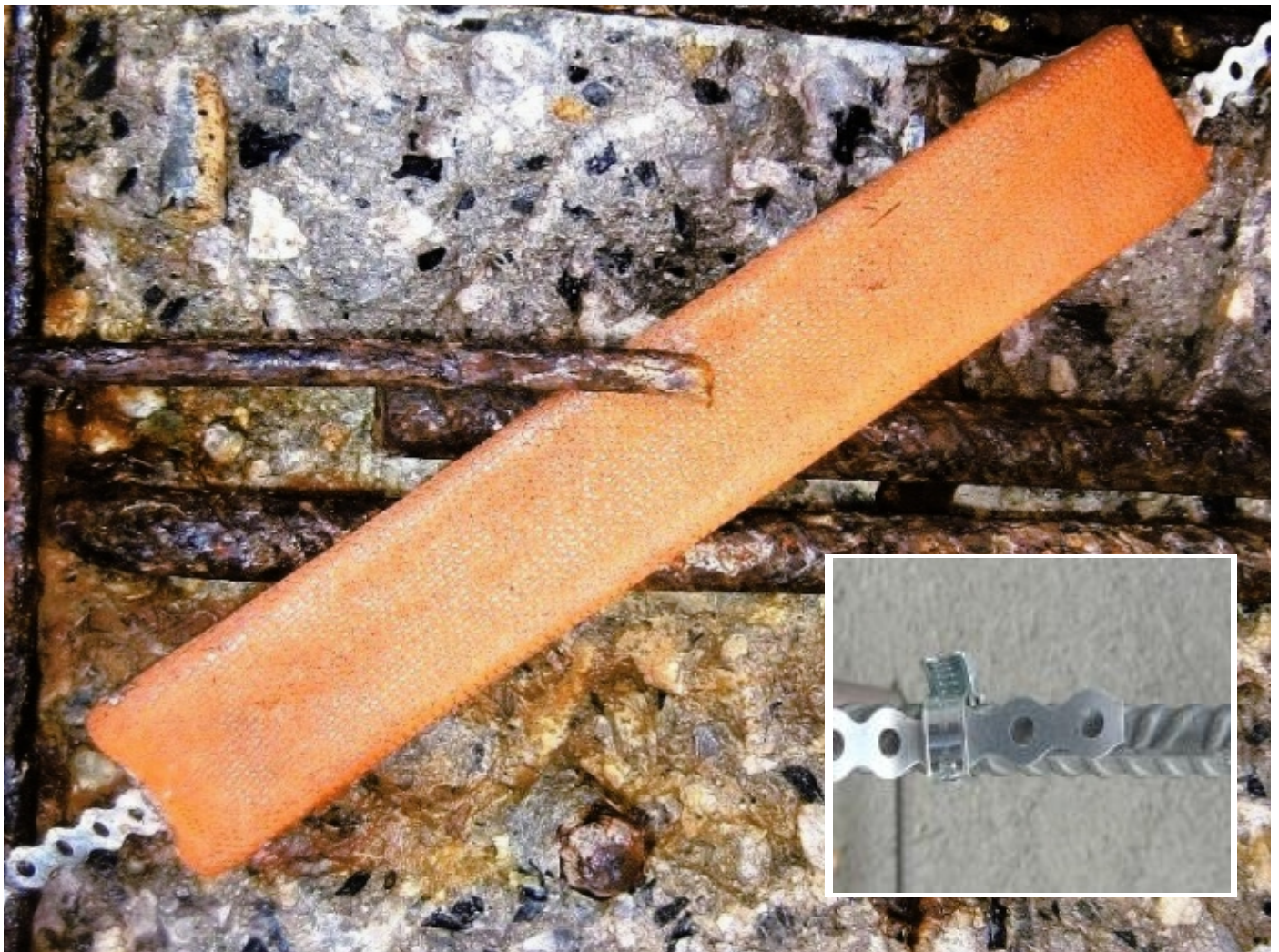
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Super Anodes are specifically designed to inhibit the corrosion of concrete reinforced structures.

The anodes are typically embedded within the concrete or repair mortar and are electrically connected to the reinforcement.

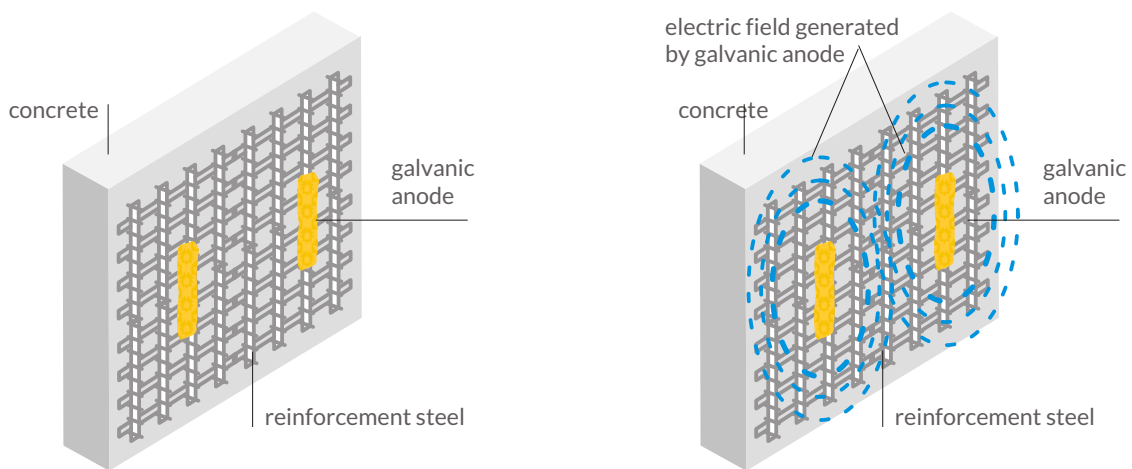
Super Anodes are made of laminated zinc with a 99.99% purity covered by two layers of zinc-anode-activator-paste. The anode's designed service life is between 10 years and 20 years depending upon selected size and correct system design.

Each anode is sealed in a plastic bag to avoid contamination during shipping and storing. Prior to application the packing is removed, and the anode is ready to be applied.



ADVANTAGES OF SUPER ANODES

- Needs no anode wiring
- Simple installation
- When correctly designed will give enough current in dry and arid environments.
- Pre-stressed or post-tensioned tendons will not be subject to hydrogen embrittlement due to acceptable operating potentials.
- Extremely suitable for patch repairs
- Current densities are naturally self-adjusting depending on the current required by the structure.
- When applied in aggressive environments the current densities are comparable with impressed current systems.
- Need no servicing or monitoring.



FIELD OF APPLICATION

Protection of reinforced structures which are newly build or need to be repaired.





Several typical examples of applications:

- Bridge deck or viaduct beam supports and columns
- Bridge decks
- Zones of newly casted concrete adhered onto an existing structure
- Balcony facings and concrete facades
- Floorings

The Super Anodes are based upon a composed zinc core coated with a patented ion-conductive self-moistening overlay paste keeping the anodes active during their entire service-life. These anodes are utilized in those areas where high expectancy of corrosion is ascertained. They guarantee a strong reduction of corrosion and preventing new locations with initiation of corrosion.

The service life of the anodes is directly related to the following variables : total zinc weight per unity surface area, steel surface area (steel density), presence and availability of oxidizing agents (O₂, H₂O) to maintain the cathodic reactions on the steel structure, and the anode's capacity.

Thanks to the ease and quickness of the installation application costs can be reduced to a minimum. The eventual driving force between those anodes and the steel reinforcement guarantees a long and corrosion-inhibited service life of the structure.

TYPICAL FEATURES

Typical corrosion defined as galvanic corrosion occurs when two different types of metal are in contact with each other and surrounded totally or partially by an electrolyte.

The metal with the most negative electrodepotential will corrode or sacrifice itself to protect the other metal with a more positive electrodepotential. In a similar way the Super Anodes will corrode and sacrificing themselves protecting the steel or reinforcing structure being hooked up onto it. Each anode will create an extended electric field around itself within the electrolyte which is called “throwing power” which is the protecting zone of the anode.

These anodes are in 4 different types available with 2 different length : 10 and 30cm of which each length can be chosen with a service life of 10 or 20 years.

Long term experiments showed that these Super Anodes comply with the criteria mentioned in the European EN12696 standard.

IMPORTANT NOTICE

Super Anodes are designed to operate in zones with structural damage.

- The use and application of the repair mortars can be found in the manufacturers application guides of the mortars.
- It is not recommended to carry out applications below 5o C.



INSTRUCTIONS of APPLICATION

Concrete area preparation

The area where the anodes will be placed should be seen and treated like a normal structural event of repair. Remove all damaged and deteriorated concrete up to structurally sound concrete is found. It is also recommended to remove old patched up areas. Subsequently cleaning up thoroughly the dust, corrosion, and other contaminations by sand or high pressure steamblasting. It's important that the corrosion on the steel bars will be properly removed to guarantee perfect metallic or electric connection of the anode when being installed. When installed verify the connection of the anode with the steel bars by use of a resistance meter. The resistance between the anode and rebar should be less than 1 Ohm.

Anode installation

Place and fasten the anodes securely on the steel bars so they will not move and loosen during the repair mortar application or concrete casting. Be aware of enough spacing between the anode and the existing concrete. In that way the repair mortar or concrete can easily force its way around the anode and create a good adherence with the paste for sound electrolytic continuity between the anode and the concrete structure.

Repair mortar application

Use mortars with resistivities compared to the concrete used. The mortars should be mineral based and should contain as less as possible PCC admixtures. Subsequently accomplish the repair work according the spec.

WARNINGS

The instructions described above corresponds to our best knowledge and experience but are approximate indications. However due to variations of the environmental conditions instructions should always be checked with our specialists to minimize performance failures.



TECHNICAL DATA

Normal Application

Super Anode 30/10 or 30/20 : 3 anodes per m²
concrete surface area Super Anode 10/10 or 10/20 :
4 anodes per m² concrete surface area

Warehousing

Anodes should not be stored in areas with high
temperatures, high relative humidity (RH),
or for longer than 12 months.
Preferably < 30°C and < 50% RH.

Packaging

Super Anode 30/10 or 30/20 : 12 anodes per box
Super Anode 10/10 or 10/20 : 24 anodes per box

Sizes available:

GSC10/10 -----100 mm x 55 mm x 12 mm
GSC10/20 -----100 mm x 55 mm x 15 mm
GSC30/10 -----300 mm x 50 mm x 10 mm
GSC30/20 -----300 mm x 50 mm x 12 mm

SUPERANODE		10/10	10/20	30/10	30/20
Dimension	mm	100 x 50 ± 5%	100 x 50 ± 5%	300 x 50 ± 5%	300 x 50 ± 5%
Height	mm	12 ± 10%	15 ± 10%	10 ± 10%	12 ± 10%
Weight	gr.	230 ± 10%	320 ± 10%	450 ± 10%	570 ± 10%
Stock conditions	/	< 30oC < 50% RH	< 30oC < 50% RH	< 30oC < 50% RH	< 30oC < 50% RH
Maximum storage time	month	12 (original packing)	12 (original packing)	12 (original packing)	12 (original packing)
Packing	/	PE vacuum-packed	PE vacuum-packed	PE vacuum-packed	PE vacuum-packed
Tariff nr.		7905 00 00	7905 00 00	7905 00 00	7905 00 00

Dniu Spółka z ograniczoną odpowiedzialnością

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