

Technical data

Sacrificial zinc anodes imbedded in an ion-conductive auto moistening paste, for cathodic protection of reinforced concrete structures.

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 GSC SuperAnodes 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 electrode potential will corrode or sacrifice itself to protect the other metal with a more positive electrode potential. In a similar way the GSC SuperAnodes 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 different lengths: 10, 15 and 30 cm of which each length can be chosen with a service life from 10 to 50 years and over.

Long term experiments showed that these GSC SuperAnodes comply with the criteria mentioned in the standard EN ISO 12696.

IMPORTANT NOTICE

These GSC SuperAnodes are designed to operate in zones with structural damage.

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

DIRECTIONS or 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 steam blasting.

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.

PACKAGING

GSC SuperAnode 70	:	50 pcs. / Carton box
GSC SuperAnode 105	:	50 pcs. / Carton box
GSC SuperAnode 10/10 o 10/20	:	24 pcs. / Carton box
GSC SuperAnode 30/10 or 30/20	:	12 pcs. / Carton box

WAREHOUSING

Avoid storing the anodes in areas with high temperatures, high humidity, and longer than 12 months. Preferably < 30°C and < 50% RH.

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

GSC SUPERANODE		70	105
Dimension	mm	100 x 53 ± 5%	150 x 53 ± 5%
Thickness	mm	4 ± 1	4 ± 1
Weight	gr.	110 ± 10%	150 ± 10%
Mass of Zinc	gr.	75 ± 5%	105 ± 5%
Stock conditions	/	In a cool, dry area in sealed packaging	In a cool, dry area in sealed packaging
Maximum storage time	month	12 (original packing)	12 (original packing)
Outside colour	-	Blue	Blue
Packing	/	PE vacuum-packed	PE vacuum-packed
Tariff nr.		7905 00 00	7905 00 00

GSC SUPERANODE	U.M.	10/10	10/20
Dimension	mm	100 x 53 ± 5%	100 x 53 ± 5%
Thickness	mm	8 ± 1	10 ± 1
Weight	gr.	200 ± 10%	300 ± 10%
Mass of Zinc	gr.	160 ± 5%	225 ± 5%
Stock conditions	/	In a cool, dry area in sealed packaging	In a cool, dry area in sealed packaging
Maximum storage time	month	12 (original packing)	12 (original packing)
Outside colour	-	Blue	Blue
Packing	/	PE vacuum-packed	PE vacuum-packed
Tariff nr.		7905 00 00	7905 00 00



GSC SuperAnode

GSC SUPERANODE		30/10	30/20
Dimension	mm	300 x 53 ± 5%	300 x 53 ± 5%
Thickness	mm	6 ± 1	8 ± 1
Weight	gr.	400 ± 10%	520 ± 10%
Mass of Zinc	gr.	330 ± 5%	450 ± 5%
Stock conditions	/	In a cool, dry area in sealed packaging	In a cool, dry area in sealed packaging
Maximum storage time	month	12 (original packing)	12 (original packing)
Outside colour	-	Blue	Blue
Packing	/	PE vacuum-packed	PE vacuum-packed
Tariff nr.		7905 00 00	7905 00 00