4.11 Zinc sacrificial anodes. New Bi-Tec® Alloy

Subtitle-GIANGO-.

What the new Bi-Tec® anodes are

Ongoing improvement, a desire to be close to market needs, and respect for the environment have led Tecnoseal to develop a new fully environmentally sustainable zinc-based anode alloy.

Currently, the world market offers zinc-based anodic alloys with cadmium as an activator.

As is well known, cadmium is a carcinogenic heavy metal, banned by major environmental regulations both within the EU and outside Europe.

In the U.S., for example, Prop.65 rule lists cadmium among the elements extremely harmful to the environment and human health, so it bans its use.

In recent years, aluminum anodic alloy has gained large market shares, which being eco-friendly, under appropriate conditions can be used to replace zinc anodes.

Tecnoseal has conducted a study of a new zinc-based anodic alloy free of heavy metals to obtain a product that could completely replace the current anodic zinc.

The tests carried out, led to the definition of a new zinc-based anodic product containing Bismuth instead of cadmium as an activator.

The new alloy was completely studied and developed by Tecnoseal at the production plant in Grosseto, Italy, where in addition to purely electrochemical validation, important assessments were made to characterize its machinability in the workshop.

Compliance with the DNV RP B401 standard has been validated at the laboratories of the Department of Chemistry, Materials and Chemical Engineering “Giulio Natta” of the Polytechnic of Milan.

All anodes in the catalog, can be manufactured according to the new alloy specification.

Bi Tec® anodic alloy:

Element:	Amount (%)
Aluminum:	0.10-0.5
Bismuth:	0.03-0.065
Copper:	0.005 max
Indium:	NA
Iron:	0.005max
Magnesium:	NA
Nickel:	NA
Silicon:	NA
Zinc:	Remaining
Other elements:	0.10 max