

ASTM Test Results Report the Percentage of Rust and/or Corrosion After 30 Years!

All test results are as reported by ASTM A05.15 Subcommittee for condition of links after 30 years of exposure on Galvanized Specimen #33 and Aluminized Specimen #36 at all sites.

Test Site 1

Location: Manhattan, Kansas
Conditions: Rural, Semi-Arid



Galvanized Steel—
40% Gray, 60% Yellow



Aluminized Steel—
50% Metallic, 50% Gray

Test Site 2

Location: State College, Pennsylvania
Conditions: Rural



Galvanized Steel—
5% Gray, 95% Yellow



Aluminized Steel—100% Gray

Test Site 3

Location: Newark, New Jersey
Conditions: Severe Industrial



Galvanized Steel—100% Rust



Aluminized Steel—
10% Pinpoint Rust, 90% Black*

Test Site 4

Location: Kure Beach, North Carolina
(800 feet from the Atlantic Ocean)
Conditions: Salt Air and Spray



Galvanized Steel—
40% Rust, 60% White Corrosion



Aluminized Steel—2% Rust,
10% Metallic, 78% Gray,
10% White Corrosion

Test Site 5

Location: Brazos River, Texas
Conditions: Salt Air, High Humidity
and Heavy Dew



Galvanized Steel—60% Rust,
40% White Corrosion



Aluminized Steel—10% Rust,
15% White Corrosion, 75% Gray

Test Site 6

Location: Point Reyes, California
Conditions: Salt Spray and
Condensation



Galvanized Steel—5% Pinpoint
Rust, 95% White Corrosion



Aluminized Steel—
50% Metallic, 50% Gray

ASTM (American Society for Testing and Materials) is conducting an on-going study of the effects of various atmospheric conditions an aluminum-coated and galvanized steel wire products. The results? After 30 years, in every location under every condition, aluminized steel fence fabric withstood the test of time.

Aluminized remains smooth, safe and, for the most part, rust-free ... while galvanized fence fabric has rusted, pitted through, corroded and, in one case, completely disappeared. In reviewing samples from Test Site 2, Professional Service Industries, Inc., an independent laboratory** concludes:

- "The hot dipped zinc coated layer, after 30 years at the exposure site, suffered a total deterioration." (This confirms the ASTM report of complete rust at 28.3 years.)
- "The aluminum coated layer after 30 years at the exposure site, was intact and remained at close to its original thickness."
- "There was an appreciable amount of lead found in the soil beneath the chain link wire fences. A possible source of residual lead in the soil could be due to the exhaust emission of lead contained in fuel from vehicular traffic and/or corrosion products of galvanized steel chain link. In fact, the amount detected was two to three times greater for the galvanized steel chain link fence soil than for the aluminized coated steel chain link fence soil." (bold face added)

GLOSSARY OF TERMS

Color, Finish, etc.

Black – black surface discoloration
Gray – predominantly gray, but showing indications of yellow
Metallic – (self-explanatory)
Rust – rough rust or base metal
Yellow – yellowed or rust-stained,
but not showing actual rough rust of bare metal
White Corrosion – (self explanatory)
Degree of Occurrence
Pinpoint Rust – about 1/8" in diameter

*Black surface is a normal film which forms on aluminum in heavy industrial atmosphere—aluminum coating and integrity of the steel wire are unaffected.
**Professional Service Industries, Inc., Pittsburgh Testing Laboratory Division:
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