

# Steel Grade Data Sheet

## 55% Aluminum Zinc Coated Steel

### General Description

55% Aluminum-Zinc Alloy Coated Steel is cold-rolled carbon steel featuring a metallic coating comprising Aluminum (55%), Zinc (43.4%), and Silicon (1.6%). The coating on this steel is the best in the industry, and shows a far superior performance compared to other steel variations. Initially, the zinc coating provides a protective shield for the underlying steel. As the zinc layer gradually diminishes, the aluminum component of the coating continues to offer corrosion resistance, ensuring long-lasting protection in various atmospheric conditions. Because of the high aluminum content of this steel, it can withstand surface temperatures of up to 400°C without discolouration, and up to 650°C without heavy oxidation and scaling. ASTM Designation A792 outlines the general requirements for hot-dipped 55% Aluminum-Zinc Alloy Coated Steel. This specification includes steel chemistry requirements, typical mechanical properties of various metallurgical grades, and the coating weight requirements for the different coating designations.

### Features & Benefits

- Easy clean surface that is virtually maintenance free.
- Extremely durable coating forms a permanently bonded, tough, sacrificial layer that protects the steel from corrosion in most end-use applications.
- This steel is fully recyclable and can be melted down for reuse, reducing landfill waste. Its long service life means it lasts longer without needing replacement, contributing to sustainability.
- This steel can be formed into a wide variety of end-use applications without compromising the integrity of its metallic coating.
- The design flexibility allows architects to achieve the desired aesthetic for any project.
- 55% Aluminum-Zinc Alloy Coated Steel is ideal for a wide variety of applications requiring long-term, maintenance-free corrosion protection.
- Suitable end-use applications include roofing and wall panels, metal buildings, fascia, and other architectural applications.

# Steel Grade 50

## Mechanical Properties

Steel Base	Guaranteed	Typical Range
Longitudinal Tensile		
Yield Strength (Min. KSI)	50	50-65
Tensile Strength (Min. KSI)	65	65-70
Elongation in 2" (Min %)	12	12-34
Hardness (HRB)	-	60-74

Supply Condition	Standard	Optional
Coating Class	AZ50, AZ55	AZ35
Tension Levelling	Levelled	
Surface Conditioning	Not Skin-passed	Skin-passed
Chemical Treatment	Passivated	

## Chemical Composition

Guaranteed Maximum	Percent
Carbon (C)	0.25
Phosphorus (P)	0.20
Manganese (Mn)	1.35
Sulfur (S)	0.04

### Fabricating Performance Rating

(1-Limited to 5-Excellent, NR-Not Recommended)

Bending	4
Drawing	NR
Pressing	NR
Pittsburgh Lock Seam	3
Roll-forming	5
Welding	5
Painting	5

\*Design must allow for some strength reduction near welds. \*\*Maximum thickness suitable for organic coil coating is 0.0466" \*

# Steel Grade 80

## Mechanical Properties

Steel Base	Guaranteed	Typical Range
Longitudinal Tensile		
Yield Strength (Min. KSI)	80	80-120
Tensile Strength (Min. KSI)	82	82-120
Elongation in 2" (Min %)	-	0-10
Hardness (HRB)	-	84-99

Supply Condition	Standard	Optional
Coating Class	AZ50, AZ55	AZ35
Tension Levelling	Levelled	
Surface Conditioning	Not Skin-passed	Skin-passed
Chemical Treatment	Passivated	

## Chemical Composition

Guaranteed Maximum	Percent
Carbon (C)	0.20
Phosphorus (P)	0.04
Manganese (Mn)	1.35
Sulfur (S)	0.04

### Fabricating Performance Rating

(1-Limited to 5-Excellent, NR-Not Recommended)

Bending	2
Drawing	NR
Pressing	NR
Pittsburgh Lock Seam	NR
Roll-forming	4
Welding	5
Painting	5

\*Design must allow for some strength reduction near welds. \*\*Maximum thickness suitable for organic coil coating is 0.0466" \*