

FLAWLESS FINISH WITH LASTING DURABILITY

AM/NS Zero Spangle
Skin Passed Galvanised Steel



ABOUT AM/NS INDIA

AM/NS India is the joint venture between ArcelorMittal and Nippon Steel – two of the world's leading steel companies. As an integrated steel manufacturer with iron-making, steel-making and downstream facilities spread across India, we produce over 600 varieties of steel for a range of applications across industries. Our goal is to create smarter, more sustainable steels for India that empower its growth trajectory and enable brighter futures for all.



OUR HAZIRA STEEL PLANT

With a capacity of 10 Million Tonnes Per Annum (MTPA), the AM/NS India Hazira Steel Plant in Gujarat is an integrated, sophisticated and environment-friendly facility that is one of the largest single-location flat steel plants in the world.

The plant incorporates comprehensive support infrastructure that includes power, lime and oxygen plants, a township and a captive port that can accommodate capesize vessels. This modern operations and handling system enables self-sufficiency and global logistics.



AM/NS INDIA ZERO SPANGLE SKIN PASSED GALVANISED STEEL

FLAWLESS FINISHING BENCHMARKS
ARE NOW REDEFINED.

OEMs who prefer finer finishes for their most aesthetic and durable steel products will appreciate the exceptional surface quality of AM/NS India Zero Spangle Skin Passed Galvanised Steel. Beyond just surface appeal, AM/NS Zero Spangle Steel offers exceptional mechanical properties for an excellent workability profile and a zinc-coat adhesiveness that is resilient to a vast range of end-product processing conditions and requirements.



ACHIEVING ZERO FOR PURE PERFORMANCE



ADVANCED ZERO SPANGLE FINISHING TECHNOLOGY

The AMNS Zero Spangle manufacturing uses advanced finishing technology, including a tandem cold rolling mill equipped with universal crown, auto shape control, four high skin pass mills and six high tension levellers in combination, to ensure best-in-class flatness tolerances and zero spangle finishing for better end-product manufacturing quality.

HIGHER CORROSION RESISTANCE EXTENDS END-PRODUCT LIFE

The zero-spangle attribute coupled with skin-passing and uniform zinc coating ensures superior corrosion resistance and enhances end-product life expectancy. The optimum chrome passivation is designed to deliver a superior resistance to white rust than standard galvanised steel products.

AESTHETICALLY BEAUTIFUL WHEN PURE STEEL NEEDS TO BE SEEN

AMNS Zero Spangle steel delivers smoother, shiny finishes that are widely preferred in industries where the aesthetic beauty of visible steel is always on display, without the need for coatings or painting.

SUPERIOR DEGREE OF PLASTIC DEFORMATION FOR WORKABILITY

To ensure that AMNS Zero Spangle offers superior mechanical and structural quality, for end-product forming and working utilisation, stringent process control is maintained throughout the manufacturing cycle. This stringent quality control also ensures resilient zinc-coating adhesion during metalworking.

SUPERIOR PAINT ADHESION ACROSS AGGRESSIVE CONDITIONS

A true zero-spangled surface provides better adhesion substrate for end-products with painting requirements, compared to standard or crushed spangled GP.

LEAD-FREE FOR A SAFER, MORE ECO-FRIENDLY CHOICE

AM/NS Zero Spangle is manufactured lead-free as it does not need additional lead in its bath chemistry, making it RoHS compliant and a safer, more eco-friendly steel choice.

EXCELLENCE IN FINISHING.

For the finest end-product applications.



**Electronics and
appliance
manufacturing**

**False ceiling
elements and
building components**



**Sandwich
panels**



**Steel furniture
and fittings**



HVAC projects



**Vehicle parts, chassis
and components**

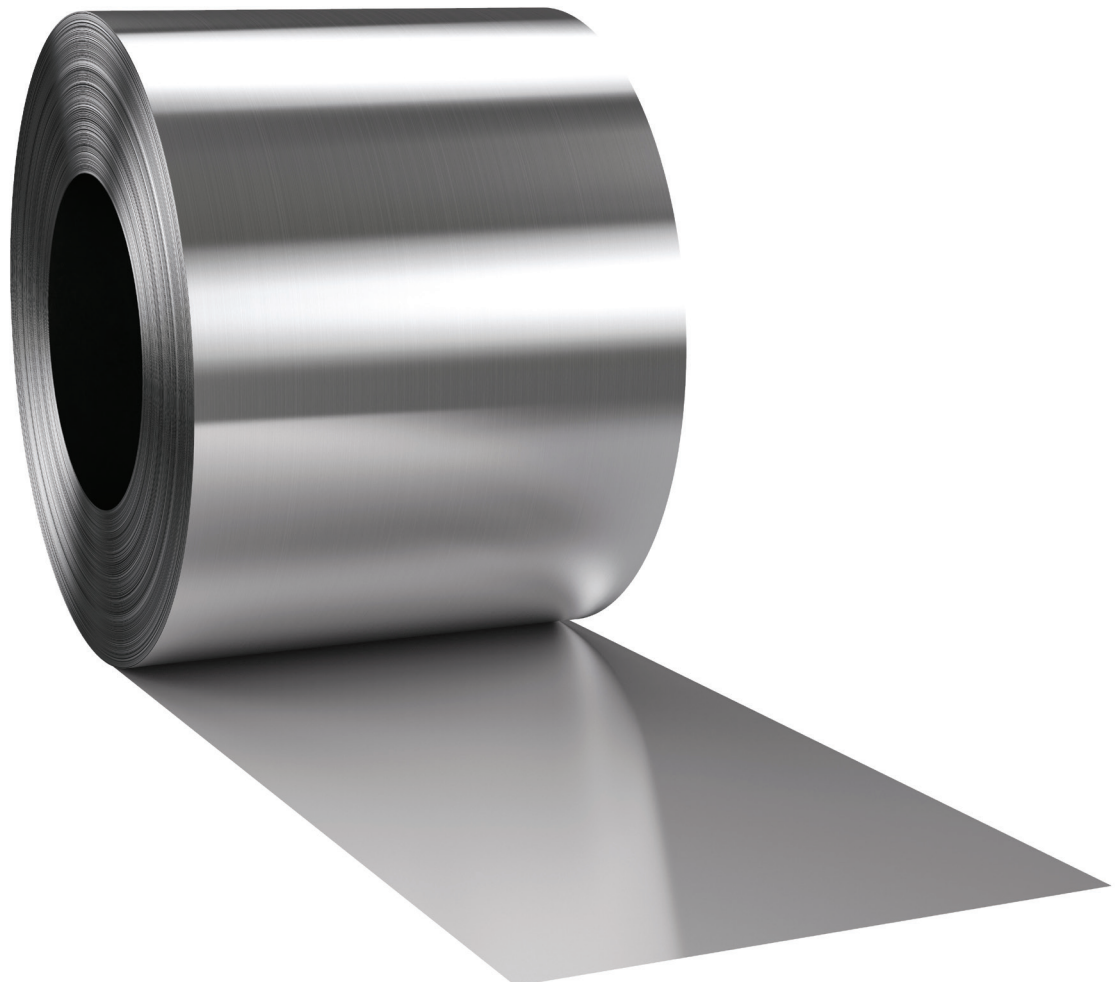
**Medical and clean
room facilities**



SPECIFICATIONS

Thickness	0.4 - 3.2 mm
Width	750 - 1650 mm
Coating	up to 310 GSM*
Steel Grade	IS277/ ASTM653/ JISG3302/ ASTM653/ EN10346 Forming Grades – DQ, DDQ, EDD/IF Structural Grades – GP240 - GP550
Surface Type	Skin passed/ Non skin passed as per requirement
Surface Treatment	Chrome 3/ Chrome 6/ Chrome-free passivation/ oiled/ unoled

**Above 310 GSM, capability confirmation will be given on case to case basis*



GRADES AND PROPERTIES

Chemical Analysis

Designation	Grade	C Max	Mn Max	S Max	P Max	Ti Max
GP	Ordinary	0.25	1.70	0.045	0.050	---
GPL	Drawing (Lock Forming)	0.12	0.50	0.035	0.040	---
GPD	Deep Drawing	0.10	0.45	0.030	0.025	---
GPED	Extra Deep Drawing	0.08	0.40	0.030	0.020	---
GPIF	Interstitial Free (stabilised)	0.06	0.25	0.020	0.020	0.15
GP230	Structural Steel Grade 230	0.20	1.35	0.040	0.040	---
GP250	Structural Steel Grade 250	0.20	1.35	0.040	0.050	---
GP275	Structural Steel Grade 275	0.25	1.35	0.040	0.050	---
GP300	Structural Steel Grade 300	0.25	1.35	0.040	0.050	---
GP350	Structural Steel Grade 350	0.25	1.35	0.040	0.050	---
CLASS-1	Class-1					
GP350	Structural Steel Grade 350	0.25	1.35	0.040	0.050	---
CLASS2	Class-2					
GP450	Structural Steel Grade 450	0.25	1.60	0.040	0.050	---
GP550	Structural Steel Grade 550	0.25	1.70	0.040	0.050	---

Mechanical Properties

Quality		Yield Stress MPa	Tensile Strength MPa	Elongation, Percent A Min	
Designation	Name			L ₀ =80mm	L ₀ =50mm
GP	Ordinary	---	---	---	---
GPL	Drawing (Lock Forming)	350 max	450 max	24	25
GPD	Deep Drawing	280 max	430 max	26	27
GPED	Extra Deep Drawing	260 max	430 max	28	31
GPIF	Interstitial Free (Stabilised)	240 max	370 max	34	36
GP230	Structural Steel Grade 230	230 min	310 min	18	20
GP250	Structural Steel Grade 250	250 min	360 min	18	20
GP275	Structural Steel Grade 275	275 min	380 min	18	20
GP300	Structural Steel Grade 300	300 min	400 min	18	20
GP350	Structural Steel Grade 350	350 min	420 min	12	13
CLASS-1	Class-1				
GP350	Structural Steel Grade 350	350 min	---	12	13
CLASS2	Class-2				
GP450	Structural Steel Grade 450	450 min	480 min	8	9
GP550	Structural Steel Grade 550	550 min	570 min	---	---

GRADES AND PROPERTIES

Bend Test

Coating Mass (gsm)	Angle of Bend	Steel Grades		
		DQ	DDQ	EDD/IF
80	180°	1†	0†	0†
100	180°	1†	0†	0†
120	180°	1†	0†	0†
140	180°	1†	0†	0†
200	180°	1†	1†	0†
225	180°	1†	1†	0†
275	180°	1†	1†	0†
350	180°	2†	NR	NR

† = Product Thickness

NR = Not Recommended

There shall be no cracking (visible to naked eye) or fracture of the base metal on the outside of the bent portion leaving 7 mm from both the edges of the sample. Coarse grain developing at the line of bend shall be disregarded.

Coating Mass (gsm)	Minimum average coating mass in Triple Spot* Test
100	100
120	120
140	140
200	200
225	225
275	275
350	350

Three samples for coating weight shall be taken from a sample, two from each edge and one from the center of the sheet leaving at least 50 mm gap from each edge.

THICKNESS TOLERANCES

AMNS Zero Spangle steel is available in uniform and close thickness tolerances, which ensures a higher yield in end applications, delivering more parts per ton compared to standard galvanised products.

Range	Nominal Tolerance (micron)
>0.40 to 1.00	0.4 – 0.6 mm : +/-30
	0.6 – 0.8 mm : +/-35
	0.8 – 1.0 mm : +/-35
>1.00 to 1.50	1.0 – 1.2 mm : +/-40
	1.2 – 1.6 mm : +/-40
>1.50 to 2.00	1.6 – 2.0 mm : +/-50
>2.00 to 2.50	2.0 – 2.5 mm : +/-70
>2.50 to 3.00	2.5 – 3.0 mm : +/-80



AM/NS INDIA

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