E35 - Steels with Magnelis® zinc-aluminium-magnesium coating

This product is ideal for use in construction and civil engineering applications, where good corrosion resistance in very aggressive environments (e.g. chloride or highly alkaline) is required.

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Properties

Magnelis® is a flat carbon steel product coated on both sides with a zinc-aluminium-magnesium alloy. This alloy, composed of 93.5% zinc, 3.5% aluminium and 3% magnesium, is applied by means of a continuous hot dip galvanising process. This optimum chemical composition has been selected to provide the best results in terms of corrosion resistance.

Magnelis® is available in a very wide range of steel grades: steels for cold forming and deep drawing applications, structural steels and High Strength Low Alloy steels.

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Advantages

Thanks to its 3% magnesium content, Magnelis® offers self-healing on cut edges and superior corrosion resistance in chloride and ammonia atmospheres. This high corrosion resistance means that less metallic coating is required (weight reduction), which facilitates processing steps such as welding.

The zinc-rich metallic coating composition permits all the conventional processing operations possible with standard hot dip galvanised steel: bending, drawing, clinching, profiling, stamping, welding etc. The friction coefficient of Magnelis® coated steel is lower than that of standard hot dip galvanised steel, leading to reduced powdering during forming operations.

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Applications

Magnelis® can be used in numerous industrial applications, such as:

- Solar energy generation: structures for photovoltaic and thermal solar plants
- Construction: structural or non-structural profiles, roofing & cladding, decking, cable trays, expanded metal, gratings, composite flooring, concrete moulds
- Road and railway infrastructure: safety barriers, protection equipment, sound insulation wall panels, walls providing protection against hail
- Agriculture and farming: barns, greenhouse structures, agricultural equipment
- Tubular applications: structural tubes for scaffolding, road signals, poles

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Technical approvals for civil construction

Magnelis® is approved for use in Civil Construction by different national bodies:

- Germany: DIBt Z-30.11-51 for Magnelis®
- France: ETPM for Magnelis® by CSTB
- Sweden: Technical Approval no. SC0559-13 for Magnelis®

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Recommendations for use

Storage

Magnelis® is supplied passivated and/or oiled to temporarily limit any risk of white rust formation. During transport and storage, all necessary precautions must be taken to keep the material dry and to prevent the formation of condensation.

Forming

The forming techniques currently used for galvanised steel are also suitable for Magnelis®. Magnelis® behaves very well during profiling operations. The coating thickness must be compatible with both the desired degree of corrosion protection and the requirements of the forming processes envisaged. A minimum bending radius of 2x sheet thickness is recommended.

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Weldability

In resistance spot welding, the welding current must be suitably regulated and regularly adjusted. Electrode life can be extended by regularly stepping up the welding current and periodically dressing (machining) the electrodes. The coating thickness must be compatible with both the desired degree of corrosion protection and the requirements of the welding processes envisaged. Magnelis® can be arc welded, laser welded, brazed or high frequency induction welded, taking the same precautions as with galvanised steel. For use in outdoor applications a reprotection of the weld seams from arc welding and high frequency induction welding is recommended.

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Coating weight and typical thickness

Magnelis®	Coating weight – double sided (g/m²)	Coating thickness (µm per side)*
ZM70	70	5
ZM90	90	7
ZM120	120	10
ZM175	175	14
ZM200	200	16
ZM250	250	20
ZM310	310	25
ZM430	430	35

The density of the Magnelis® coating is 6.2 g/cm^3, due to its chemical composition.

* The coating weights in this table have been calculated with the density of Magnelis®.

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Brand correspondence

Steels for cold forming and deep drawing applications

	EN 10346:2015	Old brand names
DX51D +ZM EN 10346	DX51D +ZM	DX51D +ZM
DX52D +ZM EN 10346	DX52D +ZM	DX52D +ZM
DX53D +ZM EN 10346	DX53D +ZM	DX53D +ZM
DX54D +ZM EN 10346	DX54D +ZM	DX54D +ZM
DX56D +ZM EN 10346	DX56D +ZM	DX56D +ZM
DX57D +ZM EN 10346	DX57D +ZM	DX57D +ZM

Structural steels

	EN 10346:2015	Old brand names
S220GD +ZM EN 10346	S220GD +ZM	S220GD +ZM
S250GD +ZM EN 10346	S250GD +ZM	S250GD +ZM
S280GD +ZM EN 10346	S280GD +ZM	S280GD +ZM
S320GD +ZM EN 10346	S320GD +ZM	S320GD +ZM
S350GD +ZM EN 10346	S350GD +ZM	S350GD +ZM
S390GD +ZM EN 10346	S390GD +ZM	S390GD AM FCE +ZM
S420GD +ZM EN 10346	S420GD +ZM	
S420GD-HyPer® +ZM**		
S450GD +ZM EN 10346	S450GD +ZM	
S450GD-HyPer® +ZM**		
S550GD +ZM EN 10346	S550GD +ZM	
S550GD-HyPer® +ZM**		

** Steel grade with R_m/R_e > 1.1 in accordance with the requirements of Eurocode 3 (EN 1993-1-1)

High strength interstitial free steels

	EN 10346:2015	Old brand names
HX180YD +ZM EN 10346	HX180YD +ZM	HX180YD +ZM
HX220YD +ZM EN 10346	HX220YD +ZM	HX220YD +ZM
HX260YD +ZM EN 10346	HX260YD +ZM	HX260YD +ZM
HX300YD +ZM EN 10346	HX300YD +ZM	HX300YD +ZM

High Strength Low Alloy steels

	EN 10346:2015	Old brand names
HX260LAD +ZM EN 10346	HX260LAD +ZM	HX260LAD +ZM
HX300LAD +ZM EN 10346	HX300LAD +ZM	HX300LAD +ZM
HX340LAD +ZM EN 10346	HX340LAD +ZM	HX340LAD +ZM
HX380LAD +ZM EN 10346	HX380LAD +ZM	HX380LAD +ZM
HX420LAD +ZM EN 10346	HX420LAD +ZM	HX420LAD +ZM
HX460LAD +ZM EN 10346	HX460LAD +ZM	HX460LAD +ZM
HX500LAD +ZM EN 10346	HX500LAD +ZM	HX500LAD +ZM
HX700LAD +ZM***		

*** Steel grade HX700LAD +ZM is not recommended for automotive applications.

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Dimensions

Steels for cold forming and deep drawing applications

Thickness (mm)	Min width	DX51D +ZM EN 10346, DX52D +ZM EN 10346	DX53D +ZM EN 10346, DX54D +ZM EN 10346	DX56D +ZM EN 10346	DX57D +ZM EN 10346
		Max width	Max width	Max width	Max width
0.45 ≤ th < 0.50	850	-	-	-	-
0.50 ≤ th < 0.75	600	1550	1500	1500	1500
0.75 ≤ th < 1.40		1695	1695	1695	1695
1.40 ≤ th < 1.60			1650	1640	1650
1.60 ≤ th < 1.80		1650		1470	-
1.80 ≤ th < 2.00				-	
2.00 ≤ th < 2.50			1580		
2.50 ≤ th < 3.00			1315		
3.00 ≤ th < 4.50			-		
4.50 ≤ th < 4.80		1575			
4.80 ≤ th < 5.00		1520			
5.00 ≤ th < 5.20		1465			
5.20 ≤ th < 5.40		1410			
5.40 ≤ th < 5.60		1350			
5.60 ≤ th < 5.80		1300			
5.80 ≤ th < 6.00		1240			

Structural steels

Thickness (mm)	Min width	S220GD +ZM EN 10346, S250GD +ZM EN 10346, S280GD +ZM EN 10346	S320GD +ZM EN 10346, S350GD +ZM EN 10346	S390GD +ZM EN 10346	S420GD +ZM EN 10346, S450GD +ZM EN 10346	S420GD-HyPer® +ZM**	S450GD-HyPer® +ZM**	S550GD +ZM EN 10346	S550GD-HyPer® +ZM**
		Max width	Max width	Max width	Max width	Max width	Max width	Max width	Max width
0.50 ≤ th < 0.75	600	1500	1500	1400	1000	-	1125	1250	1250
0.75 ≤ th < 1.00		1695	1695	1570	1350		1400	1500	1500
1.00 ≤ th < 1.40				1695	1480		1560	1695	1695
1.40 ≤ th < 1.60		1650	1650	1650	1630		1630	1630	1630
1.60 ≤ th < 1.80					1450		1450	1450	1450
1.80 ≤ th < 2.00					1290		1290	1290	1290
2.00 ≤ th < 2.50			1580	1580		1270	1270	1200	1195
2.50 ≤ th < 3.00			1570	1470	1470	1470	1470	1260	1260
3.00 ≤ th < 3.50			1610	1580	1580	1580	1580	1500	1470
3.50 ≤ th < 4.00			1650	1650	1650	1650	1650	1380	1270
4.00 ≤ th < 4.50				1570	1570	1570	1570	1245	1130
4.50 ≤ th < 4.60		1630	1630	1550	1550	1550	1550	1215	1100
4.60 ≤ th < 4.80		1570	1570	1490	1490	1490	1490	1160	1060
4.80 ≤ th < 5.00		1520	1520	1430	1430	1430	1430	1100	1005
5.00 ≤ th < 5.20		1460	1460	1380	1380	1380	1380	1040	980
5.20 ≤ th < 5.40		1410	1410	1320	1320	1320	1320	990	940
5.40 ≤ th < 6.00		1250	1250	1165	1165	1165	1165	-	-

** Steel grade with R_m/R_e > 1.1 in accordance with the requirements of Eurocode 3 (EN 1993-1-1)

High strength interstitial free steels

Thickness (mm)	Min width	HX180YD +ZM EN 10346, HX260YD +ZM EN 10346, HX300YD +ZM EN 10346	HX220YD +ZM EN 10346
		Max width	Max width
0.50 ≤ th < 0.55	600	*	1500
0.55 ≤ th < 0.60			1535
0.60 ≤ th < 0.65			1580
0.65 ≤ th < 0.70			1625
0.70 ≤ th < 0.80			1670
0.80 ≤ th < 1.50			1695
1.50 ≤ th < 2.00			1650
2.00 ≤ th < 2.25			
2.25 ≤ th < 2.50			1580

** For the dimensional feasibility of the steel grades HX180YD +ZM, HX260YD +ZM and HX300YD +ZM, please contact us.*

High Strength Low Alloy steels

Thickness (mm)	Min width	HX260LAD +ZM EN 10346, HX300LAD +ZM EN 10346	HX340LAD +ZM EN 10346	HX380LAD +ZM EN 10346, HX420LAD +ZM EN 10346	HX460LAD +ZM EN 10346, HX500LAD +ZM EN 10346	HX700LAD +ZM***
		Max width	Max width	Max width	Max width	Max width
0.45 ≤ th < 0.50	850	-	-	-	-	
0.50 ≤ th < 0.70		1500	1500	1430	1125	
0.70 ≤ th < 1.00		1660	1660	1540	1320	
1.00 ≤ th < 1.40		1695	1695	1695	1500	-
1.40 ≤ th < 1.60					1650	
1.60 ≤ th < 1.80			1650	1650	1430	
1.80 ≤ th < 2.00					1280	
2.00 ≤ th < 2.50		1650	1570	1470		1250
2.50 ≤ th < 3.00					1470	1400
3.00 ≤ th < 3.50			1610	1580	1580	
3.50 ≤ th < 4.00	600		1650	1650	1650	
4.00 ≤ th < 4.40				1600	1600	
4.40 ≤ th < 4.60		1630	1630	1550	1550	
4.60 ≤ th < 4.80		1580	1580	1490	1490	
4.80 ≤ th < 5.00		1520	1520	1430	1430	-
5.00 ≤ th < 5.20		1460	1460	1380	1380	
5.20 ≤ th < 5.40		1410	1410	1330	1330	
5.40 ≤ th < 5.60		1360	1360	1270	1270	
5.60 ≤ th < 5.80		1300	1300	1220	1220	
5.80 ≤ th < 6.00		1250	1250	1160	1160	

*** Steel grade HX700LAD +ZM is not recommended for automotive applications.

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Mechanical properties

Steels for cold forming and deep drawing applications

	Notes	Direction	Thickness (mm)	R_e (MPa)	R_m (MPa)	A_{80} (%)	r_{90}	n_{90}
DX51D +ZM EN 10346		T	0.45 - 0.5	-	270 - 500	≥ 18	-	-
			0.5 - 0.7			≥ 20		
			0.7 - 6			≥ 22		
DX52D +ZM EN 10346	1	T	0.45 - 0.5	140 - 300	270 - 420	≥ 22	-	-
			0.5 - 0.7			≥ 24		
			0.7 - 6			≥ 26		
DX53D +ZM EN 10346		T	0.45 - 0.5	140 - 260	270 - 380	≥ 26	-	-
			0.5 - 0.7			≥ 28		
			0.7 - 3			≥ 30		
DX54D +ZM EN 10346		T	0.45 - 0.5	120 - 220	260 - 350	≥ 30	≥ 1.4	≥ 0.180
			0.5 - 0.7			≥ 32		
			0.7 - 1.5			≥ 34		
			1.5 - 2				≥ 1.2	
			2 - 3				≥ 1	
DX56D +ZM EN 10346		T	0.45 - 0.5	120 - 180	260 - 350	≥ 33	≥ 1.3	≥ 0.200
			0.5 - 0.7			≥ 35	≥ 1.5	
			0.7 - 1.5			≥ 37	≥ 1.7	
			1.5 - 2				≥ 1.5	
DX57D +ZM EN 10346		T	0.45 - 0.5	120 - 170	260 - 350	≥ 35	≥ 1.5	≥ 0.210
			0.5 - 0.7			≥ 37	≥ 1.7	
			0.7 - 1.5			≥ 39	≥ 1.9	
			1.5 - 2				≥ 1.7	

1. For DX52D +ZM the R_e-value only applies to skin-passed products (surface quality B).

Structural steels

	Notes	Direction	Thickness (mm)	R_e (MPa)	R_m (MPa)	A_{80} (%)
S220GD +ZM EN 10346		L	0.45 - 0.5	≥ 220	≥ 300	≥ 16
			0.5 - 0.7			≥ 18
			0.7 - 6			≥ 20
S250GD +ZM EN 10346		L	0.45 - 0.5	≥ 250	≥ 330	≥ 15
			0.5 - 0.7			≥ 17
			0.7 - 6			≥ 19
S280GD +ZM EN 10346		L	0.45 - 0.5	≥ 280	≥ 360	≥ 14
			0.5 - 0.7			≥ 16
			0.7 - 6			≥ 18
S320GD +ZM EN 10346		L	0.45 - 0.5	≥ 320	≥ 390	≥ 13
			0.5 - 0.7			≥ 15
			0.7 - 6			≥ 17
S350GD +ZM EN 10346		L	0.45 - 0.5	≥ 350	≥ 420	≥ 12
			0.5 - 0.7			≥ 14
			0.7 - 6			≥ 16
S390GD +ZM EN 10346		L	0.45 - 0.5	≥ 390	≥ 460	≥ 12
			0.5 - 0.7			≥ 14
			0.7 - 6			≥ 16
S420GD +ZM EN 10346		L	0.5 - 0.7	≥ 420	≥ 480	≥ 13
			0.7 - 6			≥ 15
S420GD-HyPer® +ZM**	1	L	0.7 - 6	≥ 420	480 - 620	≥ 15
S450GD +ZM EN 10346		L	0.5 - 0.7	≥ 450	≥ 510	≥ 12
			0.7 - 6			≥ 14
S450GD-HyPer® +ZM**	1	L	0.7 - 6	≥ 450	510 - 650	≥ 15
S550GD +ZM EN 10346		L	0.5 - 3	≥ 550	≥ 560	-
S550GD-HyPer® +ZM**	1	L	0.7 - 5	≥ 550	600 - 760	≥ 13
			5 - 6			≥ 14

** Steel grade with R_m/R_e > 1.1 in accordance with the requirements of Eurocode 3 (EN 1993-1-1)

1. Upper limit of R_m for easier piercing and screwing.

High strength interstitial free steels

	Direction	Thickness (mm)	R_e (MPa)	R_m (MPa)	A_{80} (%)	r_{90}	n_{90}
HX180YD +ZM EN 10346	T	0.45 - 0.5	180 - 240	330 - 390	≥ 28	≥ 1.1	≥ 0.150
		0.5 - 0.7			≥ 30	≥ 1.3	≥ 0.170
		0.7 - 1.5			≥ 32	≥ 1.5	≥ 0.180
		1.5 - 2				≥ 1.3	
		2 - 3				≥ 1.1	
HX220YD +ZM EN 10346	T	0.45 - 0.5	220 - 280	340 - 420	≥ 26	≥ 0.9	≥ 0.140
		0.5 - 0.7			≥ 28	≥ 1.1	≥ 0.160
		0.7 - 1.5			≥ 30	≥ 1.3	≥ 0.170
		1.5 - 2				≥ 1.1	
		2 - 3				≥ 0.9	
HX260YD +ZM EN 10346	T	0.45 - 0.5	260 - 320	380 - 440	≥ 24	≥ 0.8	≥ 0.130
		0.5 - 0.7			≥ 26	≥ 1	≥ 0.150
		0.7 - 1.5			≥ 28	≥ 1.2	≥ 0.160
		1.5 - 2				≥ 1	
		2 - 3				≥ 0.8	
HX300YD +ZM EN 10346	T	0.45 - 0.5	300 - 360	390 - 470	≥ 21	≥ 0.7	≥ 0.120
		0.5 - 0.7			≥ 23	≥ 0.9	≥ 0.140
		0.7 - 1.5			≥ 25	≥ 1.1	≥ 0.150
		1.5 - 2				≥ 0.9	
		2 - 3				≥ 0.7	

High Strength Low Alloy steels

	Direction	Thickness (mm)	R_e (MPa)	R_m (MPa)	A_{80} (%)
HX260LAD +ZM EN 10346	T	0.45 - 0.5	260 - 330	350 - 430	≥ 20
		0.5 - 0.7			≥ 22
		0.7 - 6			≥ 24
HX300LAD +ZM EN 10346	T	0.45 - 0.5	300 - 380	380 - 480	≥ 17
		0.5 - 0.7			≥ 19
		0.7 - 6			≥ 21
HX340LAD +ZM EN 10346	T	0.45 - 0.5	340 - 420	410 - 510	≥ 15
		0.5 - 0.7			≥ 17
		0.7 - 6			≥ 19
HX380LAD +ZM EN 10346	T	0.5 - 0.7	380 - 480	440 - 560	≥ 15
		0.7 - 6			≥ 17
HX420LAD +ZM EN 10346	T	0.5 - 0.7	420 - 520	470 - 590	≥ 13
		0.7 - 6			≥ 15
HX460LAD +ZM EN 10346	T	0.5 - 0.7	460 - 560	500 - 640	≥ 11
		0.7 - 6			≥ 13
HX500LAD +ZM EN 10346	T	0.5 - 4	500 - 620	530 - 690	≥ 11
HX700LAD +ZM***	T	2 - 3	700 - 840	750 - 950	≥ 10

*** Steel grade HX700LAD +ZM is not recommended for automotive applications.

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Chemical composition

Steels for cold forming and deep drawing applications

	C (%)	Mn (%)	P (%)	S (%)	Si (%)	Ti (%)
DX51D +ZM EN 10346	≤ 0.180	≤ 1.20	≤ 0.120	≤ 0.045	≤ 0.50	≤ 0.300
DX52D +ZM EN 10346	≤ 0.120	≤ 0.60	≤ 0.100	≤ 0.045	≤ 0.50	≤ 0.300
DX53D +ZM EN 10346	≤ 0.120	≤ 0.60	≤ 0.100	≤ 0.045	≤ 0.50	≤ 0.300
DX54D +ZM EN 10346	≤ 0.120	≤ 0.60	≤ 0.100	≤ 0.045	≤ 0.50	≤ 0.300
DX56D +ZM EN 10346	≤ 0.120	≤ 0.60	≤ 0.100	≤ 0.045	≤ 0.50	≤ 0.300
DX57D +ZM EN 10346	≤ 0.120	≤ 0.60	≤ 0.100	≤ 0.045	≤ 0.50	≤ 0.300

Structural steels

	Notes	C (%)	Mn (%)	P (%)	S (%)	Si (%)
S220GD +ZM EN 10346	1	≤ 0.200	≤ 1.70	≤ 0.100	≤ 0.045	≤ 0.60
S250GD +ZM EN 10346	1	≤ 0.200	≤ 1.70	≤ 0.100	≤ 0.045	≤ 0.60
S280GD +ZM EN 10346	1	≤ 0.200	≤ 1.70	≤ 0.100	≤ 0.045	≤ 0.60
S320GD +ZM EN 10346	1	≤ 0.200	≤ 1.70	≤ 0.100	≤ 0.045	≤ 0.60
S350GD +ZM EN 10346	1	≤ 0.200	≤ 1.70	≤ 0.100	≤ 0.045	≤ 0.60
S390GD +ZM EN 10346	1	≤ 0.200	≤ 1.70	≤ 0.100	≤ 0.045	≤ 0.60
S420GD +ZM EN 10346	1	≤ 0.200	≤ 1.70	≤ 0.100	≤ 0.045	≤ 0.60
S420GD-HyPer® +ZM**	1	≤ 0.200	≤ 1.70	≤ 0.100	≤ 0.045	≤ 0.60
S450GD +ZM EN 10346	1	≤ 0.200	≤ 1.70	≤ 0.100	≤ 0.045	≤ 0.60
S450GD-HyPer® +ZM**	1	≤ 0.200	≤ 1.70	≤ 0.100	≤ 0.045	≤ 0.60
S550GD +ZM EN 10346	1	≤ 0.200	≤ 1.70	≤ 0.100	≤ 0.045	≤ 0.60
S550GD-HyPer® +ZM**	1+2	≤ 0.200	≤ 1.70	≤ 0.100	≤ 0.045	≤ 0.60

** Steel grade with R_m/R_e > 1.1 in accordance with the requirements of Eurocode 3 (EN 1993-1-1)

1. If, by agreement at the time of enquiry and order, other chemical elements are added, they shall be mentioned on the inspection document which may need a change of classification.

2. Nb ≤ 0.100% and Ti ≤ 0.08%

High strength interstitial free steels

	C (%)	Mn (%)	P (%)	S (%)	Si (%)	Al (%)	Nb (%)	Ti (%)
HX180YD +ZM EN 10346	≤ 0.010	≤ 0.60	≤ 0.060	≤ 0.025	≤ 0.30	≥ 0.010	≤ 0.090	≤ 0.120
HX220YD +ZM EN 10346	≤ 0.010	≤ 0.90	≤ 0.080	≤ 0.025	≤ 0.30	≥ 0.010	≤ 0.090	≤ 0.120
HX260YD +ZM EN 10346	≤ 0.010	≤ 1.60	≤ 0.100	≤ 0.025	≤ 0.30	≥ 0.010	≤ 0.090	≤ 0.120
HX300YD +ZM EN 10346	≤ 0.015	≤ 1.60	≤ 0.100	≤ 0.025	≤ 0.30	≥ 0.010	≤ 0.090	≤ 0.120

High Strength Low Alloy steels

	C (%)	Mn (%)	P (%)	S (%)	Si (%)	Al (%)	Nb (%)	Ti (%)
HX260LAD +ZM EN 10346	≤ 0.110	≤ 1.00	≤ 0.030	≤ 0.025	≤ 0.50	≥ 0.015	≤ 0.090	≤ 0.150
HX300LAD +ZM EN 10346	≤ 0.120	≤ 1.40	≤ 0.030	≤ 0.025	≤ 0.50	≥ 0.015	≤ 0.090	≤ 0.150
HX340LAD +ZM EN 10346	≤ 0.120	≤ 1.40	≤ 0.030	≤ 0.025	≤ 0.50	≥ 0.015	≤ 0.100	≤ 0.150
HX380LAD +ZM EN 10346	≤ 0.120	≤ 1.50	≤ 0.030	≤ 0.025	≤ 0.50	≥ 0.015	≤ 0.100	≤ 0.150
HX420LAD +ZM EN 10346	≤ 0.120	≤ 1.60	≤ 0.030	≤ 0.025	≤ 0.50	≥ 0.015	≤ 0.100	≤ 0.150

	C (%)	Mn (%)	P (%)	S (%)	Si (%)	Al (%)	Nb (%)	Ti (%)
HX460LAD +ZM EN 10346	≤ 0.150	≤ 1.70	≤ 0.030	≤ 0.025	≤ 0.50	≥ 0.015	≤ 0.100	≤ 0.150
HX500LAD +ZM EN 10346	≤ 0.150	≤ 1.70	≤ 0.030	≤ 0.025	≤ 0.50	≥ 0.015	≤ 0.100	≤ 0.150
HX700LAD +ZM***	≤ 0.100	≤ 2.10	≤ 0.025	≤ 0.010	≤ 0.35	≥ 0.020	≤ 0.090	≤ 0.150

*** Steel grade HX700LAD +ZM is not recommended for automotive applications.

Any questions?
Ask them via our contact form on https://industry.arcelormittal.com/getintouch