

S350GD + ZM310

MAGNELIS® STEEL

STANDARD	EN 10346																																										
IDENTIFICATION NUMBER	1.0529																																										
CLASSIFICATION	Structural steel with Magnelis® metallic coating (Zn-Al-Mg)																																										
TYPE	High-strength low-alloy steel with ZM310 coating																																										
ROLLING STATE	Cold rolled and continuously hot-dip coated																																										
BRIEF DESCRIPTION	S350GD structural steel according to EN 10346 with Magnelis® ZM310 zinc-aluminium-magnesium coating, providing high corrosion resistance and suitable for structural applications in aggressive environments.																																										
APPLICATIONS	From civil to industrial construction - From agriculture to zootechnics - Construction of support structures for solar panels - Lightweight structures made of structural steel - Road infrastructure																																										
STANDARD COIL STOCK RANGE	<table border="1"> <thead> <tr> <th>S350GD +ZM310</th> <th>1000</th> <th>1250</th> <th>1500</th> </tr> </thead> <tbody> <tr><td>0,6</td><td></td><td></td><td></td></tr> <tr><td>0,8</td><td></td><td></td><td>•</td></tr> <tr><td>1</td><td></td><td></td><td></td></tr> <tr><td>1,2</td><td></td><td></td><td>•</td></tr> <tr><td>1,5</td><td></td><td></td><td>•</td></tr> <tr><td>2</td><td></td><td></td><td>•</td></tr> <tr><td>3</td><td></td><td></td><td>•</td></tr> <tr><td>4</td><td></td><td></td><td>•</td></tr> </tbody> </table>	S350GD +ZM310	1000	1250	1500	0,6				0,8			•	1				1,2			•	1,5			•	2			•	3			•	4			•						
S350GD +ZM310	1000	1250	1500																																								
0,6																																											
0,8			•																																								
1																																											
1,2			•																																								
1,5			•																																								
2			•																																								
3			•																																								
4			•																																								
COATING	<table border="1"> <thead> <tr> <th>Coating</th> <th>Weight (g/m²)</th> <th>Thickness (µm per side)*</th> <th>Shaped</th> </tr> </thead> <tbody> <tr><td>ZM120</td><td>120</td><td>10</td><td></td></tr> <tr><td>ZM175</td><td>175</td><td>14</td><td></td></tr> <tr><td>ZM200</td><td>200</td><td>16</td><td></td></tr> <tr><td>ZM250</td><td>250</td><td>20</td><td></td></tr> <tr><td>ZM310</td><td>310</td><td>25</td><td>•</td></tr> <tr><td>ZM430</td><td>430</td><td>35</td><td></td></tr> </tbody> </table> <p><i>*The density of Magnelis® coating is 6,2 g/cm³</i></p>	Coating	Weight (g/m ²)	Thickness (µm per side)*	Shaped	ZM120	120	10		ZM175	175	14		ZM200	200	16		ZM250	250	20		ZM310	310	25	•	ZM430	430	35															
Coating	Weight (g/m ²)	Thickness (µm per side)*	Shaped																																								
ZM120	120	10																																									
ZM175	175	14																																									
ZM200	200	16																																									
ZM250	250	20																																									
ZM310	310	25	•																																								
ZM430	430	35																																									
CHEMICAL COMPOSITION	Regulatory standard <table border="1"> <thead> <tr> <th>C (%)</th> <th>Si (%)</th> <th>Mn (%)</th> <th>P (%)</th> <th>S (%)</th> <th>Al (%)</th> <th>Nb (%)</th> <th>Ti (%)</th> <th>V (%)</th> <th>Mo (%)</th> <th>Cu (%)</th> </tr> </thead> <tbody> <tr> <td>≤ 0,20</td> <td>≤ 0,60</td> <td>≤ 1,70</td> <td>≤ 0,100</td> <td>≤ 0,045</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th>Cr (%)</th> <th>Ni (%)</th> <th>N (%)</th> <th>B (%)</th> <th>Nb+Ti+V (%)</th> <th>Cr+Mo+Ni (%)</th> <th>Ni+Cr+Cu+Mo (%)</th> <th colspan="3">C.E.V. (%)</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td colspan="3"></td> </tr> </tbody> </table>	C (%)	Si (%)	Mn (%)	P (%)	S (%)	Al (%)	Nb (%)	Ti (%)	V (%)	Mo (%)	Cu (%)	≤ 0,20	≤ 0,60	≤ 1,70	≤ 0,100	≤ 0,045							Cr (%)	Ni (%)	N (%)	B (%)	Nb+Ti+V (%)	Cr+Mo+Ni (%)	Ni+Cr+Cu+Mo (%)	C.E.V. (%)												
C (%)	Si (%)	Mn (%)	P (%)	S (%)	Al (%)	Nb (%)	Ti (%)	V (%)	Mo (%)	Cu (%)																																	
≤ 0,20	≤ 0,60	≤ 1,70	≤ 0,100	≤ 0,045																																							
Cr (%)	Ni (%)	N (%)	B (%)	Nb+Ti+V (%)	Cr+Mo+Ni (%)	Ni+Cr+Cu+Mo (%)	C.E.V. (%)																																				
MECHANICAL PROPERTIES	<table border="1"> <thead> <tr> <th>Mechanical characteristics</th> <th>Direction</th> <th>Thicknesses</th> <th>Values</th> </tr> </thead> <tbody> <tr> <td rowspan="3">R_e (MPa)</td> <td rowspan="3">L</td> <td>≥ 0,45 - 0,50 ≤</td> <td rowspan="3">≥ 350</td> </tr> <tr> <td>≥ 0,50 - 0,70 ≤</td> </tr> <tr> <td>≥ 0,70 - 6,00 ≤</td> </tr> <tr> <td rowspan="3">R_m (MPa)</td> <td rowspan="3">L</td> <td>≥ 0,45 - 0,50 ≤</td> <td rowspan="3">≥ 420</td> </tr> <tr> <td>≥ 0,50 - 0,70 ≤</td> </tr> <tr> <td>≥ 0,70 - 6,00 ≤</td> </tr> <tr> <td rowspan="3">A₈₀ (%)</td> <td rowspan="3">L</td> <td>≥ 0,45 - 0,50 ≤</td> <td>≥ 12</td> </tr> <tr> <td>≥ 0,50 - 0,70 ≤</td> <td>≥ 14</td> </tr> <tr> <td>≥ 0,70 - 6,00 ≤</td> <td>≥ 16</td> </tr> <tr> <td rowspan="3">r₉₀</td> <td rowspan="3">L</td> <td>≥ 0,45 - 0,50 ≤</td> <td rowspan="3">-</td> </tr> <tr> <td>≥ 0,50 - 0,70 ≤</td> </tr> <tr> <td>≥ 0,70 - 6,00 ≤</td> </tr> <tr> <td rowspan="3">n₉₀</td> <td rowspan="3">L</td> <td>≥ 0,45 - 0,50 ≤</td> <td rowspan="3">-</td> </tr> <tr> <td>≥ 0,50 - 0,70 ≤</td> </tr> <tr> <td>≥ 0,70 - 6,00 ≤</td> </tr> </tbody> </table> <p><i>L = Tensile testing carried out on longitudinal test pieces</i></p>	Mechanical characteristics	Direction	Thicknesses	Values	R _e (MPa)	L	≥ 0,45 - 0,50 ≤	≥ 350	≥ 0,50 - 0,70 ≤	≥ 0,70 - 6,00 ≤	R _m (MPa)	L	≥ 0,45 - 0,50 ≤	≥ 420	≥ 0,50 - 0,70 ≤	≥ 0,70 - 6,00 ≤	A ₈₀ (%)	L	≥ 0,45 - 0,50 ≤	≥ 12	≥ 0,50 - 0,70 ≤	≥ 14	≥ 0,70 - 6,00 ≤	≥ 16	r ₉₀	L	≥ 0,45 - 0,50 ≤	-	≥ 0,50 - 0,70 ≤	≥ 0,70 - 6,00 ≤	n ₉₀	L	≥ 0,45 - 0,50 ≤	-	≥ 0,50 - 0,70 ≤	≥ 0,70 - 6,00 ≤						
Mechanical characteristics	Direction	Thicknesses	Values																																								
R _e (MPa)	L	≥ 0,45 - 0,50 ≤	≥ 350																																								
		≥ 0,50 - 0,70 ≤																																									
		≥ 0,70 - 6,00 ≤																																									
R _m (MPa)	L	≥ 0,45 - 0,50 ≤	≥ 420																																								
		≥ 0,50 - 0,70 ≤																																									
		≥ 0,70 - 6,00 ≤																																									
A ₈₀ (%)	L	≥ 0,45 - 0,50 ≤	≥ 12																																								
		≥ 0,50 - 0,70 ≤	≥ 14																																								
		≥ 0,70 - 6,00 ≤	≥ 16																																								
r ₉₀	L	≥ 0,45 - 0,50 ≤	-																																								
		≥ 0,50 - 0,70 ≤																																									
		≥ 0,70 - 6,00 ≤																																									
n ₉₀	L	≥ 0,45 - 0,50 ≤	-																																								
		≥ 0,50 - 0,70 ≤																																									
		≥ 0,70 - 6,00 ≤																																									
TOLERANCES	Tolerances on the dimensions and on the shape UNI EN 10143																																										
CERTIFICATIONS	EN 10204-3.1 CE / Declaration of Performance																																										