

## Technical Datasheet, PVDF sheets and coils

SPECIFICATION	DESCRIPTION																																																											
<b>1. Alloy</b>	EN AW 5754 ( AlMg 3) Chemical analysis according to EN 573-3 Si (%) : 0,40 max, Fe (%) : 0,40 max, Mn (%) : 0,50 max, Cu (%) : 0,10 max, Mg (%) : 2,60-3,60, Cr (%) : 0,30 max, Zn (%) : 0,20 max, Ti (%) : 0,15 max, Mn (%) + Cr (%) : 0,10-0,60, Other elements: each 0,05 % max, Total others : 0,15 % max, Al (%) : Remainder																																																											
<b>2. Mechanical properties, after coating</b>	<p>2.1 Temper H 42 (or according to customer's request)</p> <p>2.2 Tensile strength H42 : 220 – 270 N/mm<sup>2</sup>, Typical 235-250</p> <p>2.3 Yield strength H42 : 140 N/mm<sup>2</sup> min, Typical 150-200</p> <p>2.4 Elongation H42 : A<sub>50</sub> &gt; 8,0 % for thickness 0,7-1,5 mm, A<sub>50</sub> &gt; 9,0 % for thickness over 1,5 mm, Valid for thicknesses of bare Al 0,7-2,0 mm Test according to EN 10002-1</p>																																																											
<b>3. Dimensions and Tolerances</b>	<p>3.1 Thickness</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">Thickness before paint</td> <td style="width: 40%;">Tolerances</td> </tr> <tr> <td>≥ 0,70 - 1,00 mm</td> <td>± 0,08 mm</td> </tr> <tr> <td>&gt; 1,00 - 1,20 mm</td> <td>± 0,10 mm</td> </tr> <tr> <td>&gt; 1,20 - 1,50 mm</td> <td>± 0,12 mm</td> </tr> <tr> <td>&gt; 1,50 - 2,00 mm</td> <td>± 0,13 mm</td> </tr> </table> <p>3.2 Widths</p> <table style="width: 100%; border: none;"> <tr> <td colspan="3">Coils</td> </tr> <tr> <td style="width: 30%;">Thickness</td> <td style="width: 30%;">Nominal width</td> <td style="width: 40%;">Tolerance</td> </tr> <tr> <td>≥ 0,7-1,0 mm</td> <td>500-1250 mm</td> <td>+ 1,5/ -0 mm</td> </tr> <tr> <td>&gt; 1,0-2,0 mm</td> <td>500-1250 mm</td> <td>+ 2,0/ -0 mm</td> </tr> <tr> <td>≥ 0,7-2,0 mm</td> <td>1250-1600 mm</td> <td>+ 2,5/ -0 mm</td> </tr> <tr> <td colspan="3">Sheets</td> </tr> <tr> <td>Thickness</td> <td>Nominal width</td> <td>Tolerance</td> </tr> <tr> <td>≥ 0,7-2,0 mm</td> <td>500-1250 mm</td> <td>+ 3,0/ -0 mm</td> </tr> <tr> <td>≥ 0,7-2,0 mm</td> <td>1250-1600 mm</td> <td>+ 4,0/ -0 mm</td> </tr> </table> <p>3.3 Lengths</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Nominal Length</td> <td style="width: 50%;">Tolerance</td> </tr> <tr> <td>&gt; 1,0 up to 2,0 m</td> <td>+ 4,0 / -0,0 mm</td> </tr> <tr> <td>&gt; 2,0 up to 3,0 m</td> <td>+ 6,0 / -0,0 mm</td> </tr> <tr> <td>&gt; 3,0 up to 5,0 m</td> <td>+ 8,0 / -0,0 mm</td> </tr> </table> <p>3.4 Lateral curvature Max 4,0 / 2000 mm</p> <p>3.5 Squareness</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th rowspan="2" style="width: 30%;">Length</th> <th colspan="2" style="text-align: center;">Width</th> </tr> <tr> <th style="width: 35%;">up to 1 m</th> <th style="width: 35%;">over 1 up to 1,6 m</th> </tr> </thead> <tbody> <tr> <td>1-2 m</td> <td style="text-align: center;">4 max</td> <td style="text-align: center;">5 max</td> </tr> <tr> <td>2-3 m</td> <td style="text-align: center;">5 max</td> <td style="text-align: center;">5 max</td> </tr> <tr> <td>3-5 m</td> <td style="text-align: center;">6 max</td> <td style="text-align: center;">8 max</td> </tr> </tbody> </table>	Thickness before paint	Tolerances	≥ 0,70 - 1,00 mm	± 0,08 mm	> 1,00 - 1,20 mm	± 0,10 mm	> 1,20 - 1,50 mm	± 0,12 mm	> 1,50 - 2,00 mm	± 0,13 mm	Coils			Thickness	Nominal width	Tolerance	≥ 0,7-1,0 mm	500-1250 mm	+ 1,5/ -0 mm	> 1,0-2,0 mm	500-1250 mm	+ 2,0/ -0 mm	≥ 0,7-2,0 mm	1250-1600 mm	+ 2,5/ -0 mm	Sheets			Thickness	Nominal width	Tolerance	≥ 0,7-2,0 mm	500-1250 mm	+ 3,0/ -0 mm	≥ 0,7-2,0 mm	1250-1600 mm	+ 4,0/ -0 mm	Nominal Length	Tolerance	> 1,0 up to 2,0 m	+ 4,0 / -0,0 mm	> 2,0 up to 3,0 m	+ 6,0 / -0,0 mm	> 3,0 up to 5,0 m	+ 8,0 / -0,0 mm	Length	Width		up to 1 m	over 1 up to 1,6 m	1-2 m	4 max	5 max	2-3 m	5 max	5 max	3-5 m	6 max	8 max
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SPECIFICATION		DESCRIPTION
<b>4. Coating</b>	4.1 Chemical pre-treatment  4.2 Coatings  4.2.a. Front side  4.2.b. Surface structure  4.2.c. Reverse side  6.3 Plastic protection	Cleaning, Chemical passivation with Cr <sup>6+</sup> , suitable for coil coating   2-coat system PVDF, (primer + base coat) 25 ± 3 mic 3-coat system PVDF, (primer + base coat + clear coat) 32 ± 3 mic  According to the agreed reference samples  Protection lacquer, about 5 (±2) mic, transparent or according to customer's request  If agreed, White/Black ~ 70 mic
<b>5. Colours</b>	5.1 Gloss  5.2 Colour deviation  5.2.a for "light" colours  5.2.b for "dark" colours  5.2.c Metallic colours, pearlescent colours, special effect colours, High chroma colours (e.g. red, yellow, blue, green, orange, black etc.)  5.3. Colour measurement with	according to customer's request, for example 30 (60 °) ± 7  according to ECCA T 3 (CIE - L* a* b* - system <b>or</b> CIE - L a b - system), in comparison with an agreed master sample  dE* ≤ 0,8 and -0,70 < DL*, Da*, Db* < + 0,70 dE* ≤ 1,0 from delivery to delivery Metamerism index measured under following pairs of light sources D65, D65-A, D65-F2/CWF, D65-F11/TL 84 <b>MI</b> ≤ 0,50  dE* ≤ 1,0 and -0,90 < DL*, Da*, Db* < + 0,90 dE* ≤ 1,0 from delivery to delivery Metamerism index measured under following pairs of light sources, D65, D65-A, D65-F2/CWF, D65-F11/TL 84 <b>MI</b> ≤ 0,70  Visual comparison (as described in the norm ECCA T3, number 6 limitation of the norm)  Customer - measuring device: ..... ELVAL - measuring device: BYK Colour Guide 45/0 Or BYK Color view

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<b>6. Tests</b>	6.1 Coating thickness	according to ECCA T1 or according to EN 13523-1
	6.2 Gloss	according to ECCA T2 or according to EN 13523-2
	6.3 Colour Difference	according to ECCA T3 or according to EN 13523-3, 13523-15, 13523-22
	6.4 Pencil hardness	according to ECCA T4 or ASTM D3363 or EN 13523-4: min H (Random measurements)
	6.5 Impact resistance test (Resistance to rapid deformation)	according to ECCA T5 or according to EN 13523-5 (the type of the tape is: scotch – crystal clear 600). 1 kg of weight falls from specified height, Random measurements
	6.6 Workability (Resistance to cracking after bending)	according to ECCA T7 or according to EN 13523-7 T 1,5 without cracks for H42
	6.7 Salt-spray test (Resistance to salt spray fog)	according to ECCA T8 (acetic salt spray: 5% of NaCl, ~ 0,2% acetic acid) or according to EN 13523-8: 500 hours for acetic salt spray test, less than 2 mm of under creep corrosion Random measurements
	6.8 UVA-resistance	according to ECCA T10 or according to EN 13523-10: 1000 hours (DE ≤ 3) Random measurements
	6.9 MEK-test	According to EN 13523-11: over 80 double rubs for top surface (Test with hammer, weight 1 kg), Over 10 double rubs for the backside
	6.10 Surface evaluation	The surface should be free from visible defects, which influences essentially the decorative appearance of the surface. Normally, the defect has to be visible from distance over or equal to 2 m, or else it is not rejectable.

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<b>7. Packaging</b>	7.1 Coil-Inside-Diameter	400 or 500 mm, with or without carton core, depending on thickness of the strip and customer's requirement
	7.2 Coil-Outside-Diameter (OD)	min 800 mm, max 1750 mm, according to the agreement with the customer
	7.2.Coil Weight	max 8 tn (or according to the agreement with the customer)
	7.3 Coil axis	Eye to sky (vertical axis) or eye to the wall (Horizontal axis) (according to the agreement with the customer)
	7.4 Coil winding	clockwise or counter-clockwise, depending on the agreement with the customer
	7.5 Pallet weight	max 5,0 tn (according to the agreement with the customer) for coils max 2,0 tn for sheets
	7.6 Others	Pallets with wooden beams with height 80 mm min, suitable for unloading and handling with a fork lift
<b>8. Test Certificate</b>	Upon customer's request	According to EN 10204 / 3.1B
<b>9. Notes</b>	Handling of claims	Claims on the material can not be accepted after 18 months from the date of the delivery
	Standards	Material is produced according to European Norms EN 1396, EN 485, EN 13523, EN 573

Deviations are acceptable only after written approval. If there is no particular specification given by the customer, then this Technical Data Sheet is valid as customer's specification.

Date

Date



Thursday, 11 November 2010  
ELVAL

Client