



CERTIFICATE

NR 5.1/45/2013

- 1. Name of product :** **Particleboards Type P3**
- 2. Customer :** **Kronospan Polska Sp. z o.o.
ul. Waryńskiego 1, 78-400 Szczecinek**
- 3. Producer:** **Kronospan Polska Sp. z o.o.
ul. Waryńskiego 1, 78-400 Szczecinek**
- 4. Particulars on the product:**
 - date of production: 22.01.2013
 - date of delivery research in OB-RPPD: 29.01.2013.
 - thickness: 16 mm
 - **acc. to the same technology are produced Kronospan Polska Sp. z o.o. particleboards Type P3 more than 13 up to 20 mm thickness**
- 5. Method and conditions of the tests:**
Includes Test Report No 4411/45/2013 and 4435/45/2013
- 6. Date of the measurement:** 30.01. ÷ 05.03.2013.
- 7. Test results:**

Property	Parameter	Number of sample			5. percentyl	The required standards PN-EN 312:2011 Table 4, 5 (type P3)
		1	2	3		
Swelling in thickness, 24 h [%]	\bar{x}_{sr}	7,8	7,2	6,5	8,7	≤ 14
	s	0,9	0,3	1,1		
	x_{max}	9,7	7,5	8,3		
	x_{min}	7,0	6,6	5,2		
	95. p	9,6	7,8	8,6		
Internal bond [N/mm ²]	\bar{x}_{sr}	0,71	0,75	0,79	0,64	≥ 0,45
	s	0,06	0,04	0,08		
	x_{max}	0,78	0,79	0,92		
	x_{min}	0,63	0,68	0,72		
	5. p	0,60	0,68	0,64		
Bending strength [N/mm ²]	\bar{x}_{sr}	18,8	18,8	18,4	14,4	≥ 14
	s	2,2	2,7	2,3		
	x_{max}	23,5	22,2	21,1		
	x_{min}	16,9	15,2	15,4		
	5. p	14,9	14,0	14,3		
Modulus of elasticity in bending [N/mm ²]	\bar{x}_{sr}	2979	3037	2979	2239	≥ 1950
	s	400	451	417		
	x_{max}	3497	3531	3459		
	x_{min}	2551	2586	2560		
	5. p	2261	2227	2230		
Internal bond after cyclic test [N/mm ²]	\bar{x}_{sr}	0,24	0,24	0,24	0,17	≥ 0,13
	s	0,03	0,03	0,05		
	x_{max}	0,27	0,27	0,33		
	x_{min}	0,18	0,19	0,18		
	5. p	0,18	0,19	0,15		
Swelling in thickness cyclic test [%]	\bar{x}_{sr}	8,0	8,0	7,7	8,4	≤ 13
	s	0,2	0,3	0,4		
	x_{max}	8,3	8,4	8,4		
	x_{min}	7,6	7,6	7,3		
	95. p	8,4	8,5	8,4		

Explanation: \bar{x}_{sr} – arithmetic mean, s – standard deviation, x_{max} – maximum value, x_{min} – minimum value, 95. p – 95 percentile

- 9. Statement:**
Tested particleboards Type P3 meets the requirement of the PN-EN 312:2011, Table 4 and 5.

Czarna Woda, 05.03.2013

OB - RPPD spółka z o.o.
Kierownik
Laboratorium Badawczego
[Signature]
mgr inż. Mirosław Mrozek