

W.E.I. - European Institute for Wood Preservation Congress

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**Impregnation of wood in Poland
- preliminary outline**

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Situation till 1980-1990, sleepers, poles, blue stain

After the political and economical changes:

The main segments of wood impregnation market in Poland:

-Impregnation with surface methods : brushing, short- and longterm, cold and hot immersion, spraying, floating etc.;

Industrial and individual (private, do it yourself methods)

Industrial and also mostly private: sawn wood (timber) incl. fresh sawn timber against blue stain (most of sawmills), building materials (a. o. roof trusses, rafters - roof elements, joinery, building woodworks (windows, doors), fences, pergolas, landings etc.

More important among them:

-Immersion treatment against blue stain of softwood (Scots pine) in most of sawmills (about 4 000) and protection of roof elements (3000-4000)

- Methods: mainly cold dipping

-Devices: from very easy tanks (even like trough to mechanized and automated impregnation tanks)



Vacuum- pressure impregnation for deep saturation including Vac-Vac methods; industrial impregnation only:

- Vac-Vac methods - only woodworks (windows, doors), 3 firms, about 5-9 devices + flow coating; impregnation covers about 90% of production (whole production ?)

- Vacuum pressure impregnation

- 4 impregnation plants working with creosote for sleepers and poles (3 of them, perhaps all?, impregnated wood also with water-borne preservative)

- 250 – 300 autoclaves working with water-borne preservative; devices very different from very simple, hand-operated and upgraded, to fully automated and controlled by computer, partially second-hand but also new one; the biggest with a diameter of 3m and 24m in length



Treated elements:

-Elements of garden architecture, Stockade (palisade), Building sawmills goods, Decks, Poles, and others

Examples (alphabetically) of producers:

-Andrewex, Ante, Artimber, B&D, Complex, Dankros, Delta, Drewgór, Expro, Hamar, KPPD, Martyna, Olczyk, Ostrovia, Poltarex, Sobex, Stelmet, Stora Enso, Sylva, Sylvan, TPPD, Zetbeer

Suppliers / producers of wood preservatives:

Altax, Anvil, Arch, BASF Wolman, Bochemit, Dekspol, Hemar, Koppers (Osmose), Luvena, Obermeier, Remmers, Rütgers, Sadolin, Śnieżka, V-33

Procedures/standards of impregnation acc. to certification

requirements of CTB B+ (France), DIBT (Germany), KOMO (Holland), NTR (Scandinavien),

Wood preservatives for deep , v-p impregnation:

Creosote **B (mostly) /C,**

Water-borne with Cr - type CCB – now only CC,

without Cr eg/alph: Impralit KDS, Korasit KS, Tanalith E, Wolmanit CX

Standards for testing

Tests prepared by CEN/TC 38 Durability of wood and wood-based materials, particularly connected with EN 599 (part 1 *Durability of wood and wood-based products - Efficacy of preventive wood as determined by biological tests - Part 1: Specification according to use class*

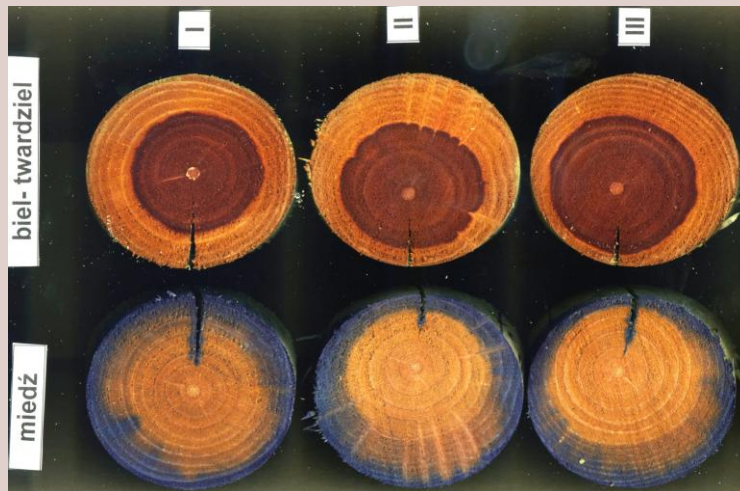
For *impreservatives* pregnancy control:

EN 351-1, *Durability of wood and wood-based products – Preservative-treated solid wood – Part 1: Classification of preservative penetration and retention*

EN 212 *Wood preservatives – Guide to sampling and preparation of wood preservatives and treated timber for analysis*

EN 13145 *Railway applications – Track – Wood sleepers and bearers*

EN 14229 *Structural timber. Wood poles for overhead lines;etc.*



Specimen	Diameter [mm]	Retention in wood kg/ m ³	Retention in sapwood kg/ m ³	Retention in treated part wood kg/ m ³
I	76,7	6,6	10,8	17,8
II	77,6	5,4	9,7	14,9
III	78,4	5,2	10,4	17,4

Estimating the amount of impregnated wood products in Poland*

Specification/description	Round wood	Sawngoods
	thousand. m ³	
Data from the Central Statistical Office (2013 year) according to the annual report P01		
Sleepers (railways) and / or tram, impregnated		46,3
Estimate of Wood Technology Institute (using a model approach and the indicator method) - 2014 years		
Poles:- power	20	
- telecommunications	4	
- hop	3	
Products for small wooden architecture: - poles, spiles, stakes (pickets), stockade - pergolas, fences, elements for playgrounds, garden elements and furniture, decks	250	335
Building construction elements (beams, squared timber, roof trusses, roof sheathings, laths etc.)		1350
Wooden houses (summer cottage, bower)	75	200
Elements of farms fittings (barns, stables, fences of fields)	20	260
Elements of markets fittings (stalls elements, tables, car hangars etc.)		13
Elements of equipment for conveyances (wooden balls on the floor of the wagons type of open wagons, biaxialplatforms, etc.)		8
Total	~2600 =	2212,3

*Prepared by MSc A. Szostak, Wood Industry Economics Dept. of WTI Poznań,

Total sleepers production 2014 (thousand. m³): 76 (unimpreg) + 46 (impregnated)= 122
(including export ~ 0,6 unimpregnated and 8 of impregnated)

Data collected by WTI, Poznań in 2000 from all Polish impregantion plants using creosote (written information sended by the plants) : total 40 thousand. m³/year

Estimation of v-p treated wood based on data in Table 1(thousand. m³)

Round wood

-Poles:- power, telecommunications, hop	(20+4+3 = 27
-Products for small wooden architecture (poles, spiles, stakes (pickets), stockade)	250
-50% of elements of farms fittings (fences of fields)	10
	287

Sawngoods

Products for small wooden architecture	335
-Sleepers (railways) and / or tram	46
-5% of building construction elements	70
-50% of elements of equipment for conveyances	4
	455
	Total 742

Wood species : 80% Scots pine, 10% Spruce, 10% others

Wood preservatives v-p treated: 10% Creosote, 90% water-borne (30% Cr included, 60% without Cr)

Main exports markets: Benelux, France, Germany, Great Britain, Spain, Scandinavien.

Some Polish research organisations involved in wood protection/impregnation matter:

- Polish Association of Building Mycologists, Wrocław
- Poznań University of Life Sciences, Wood Technology Faculty
- Railway Institute, Warsaw
- Warsaw University of Life Sciences - SGGW, Wood Technology Faculty
- Wood Technology Institute, Poznań

I would like to thank very much the experts, representatives of suppliers and producers of wood preservatives and preserved wood, who shared their data in the presentation

Thank you for attention

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