

## MATERIALS IN THE PRODUCT

PLACE: Kurikka factory

PRODUCT: Kaapelikanava K-6 50 kN, concrete element

MATERIALS: Concrete C35/45 + Reinforcement mesh B500A-SF55

Reinforcing are supplied by Pintos Oy and their type approval certificate is attached.  
Concrete components are CE-certified excluding water, which is controlled by the waterworks.

## COMPONENTS OF CONCRETE

COMPONENT	CAS- NUMBER	PRODUCT NAME	STANDARD	INFO
Cement	65997-15-1	Pikasementti	SFS-EN 197-1:2012	CE-Certificate, Product information attached
	1317-65-3			
	7778-18-9			
	68475-76-3			
Additive	-	MasterGlenium ACE 544 (BASF)	SFS-EN 934-2+A1:2013	CE-Certificate
Additive	-	MasterAir 100 (BASF)	SFS-EN 934-2+A1:2013	CE-Certificate
Aggregates	-	-	SFS-EN 12620+A1:2008	CE-Certificate
Water	-	-	SFS-EN 1008:2002	Controlled

## PRODUCTION

The product is manufactured according to plan and properties of the product have been shown in the type plan document.  
The factory's internal production quality control system is certified and meets the requirements of the FI certificate (Kiwa Inspecta).





The type approval body **Inspecta Sertifiointi Oy** has issued a type approval decision based on the Act on the Type Approval of Certain Construction Products (954/2012) to demonstrate that the product meets the requirements of the documents **Ympäristöministeriön asetus hitsattavien betoniterästen ja betoniteräsverkkojen olennaisista teknisistä vaatimuksista 125/2016** (Ministry of the Environment Decree on essential technical requirements of weldable reinforcing steel and mesh reinforcements) and **Ympäristöministeriön asetus hitsattavien betoniterästen ja betoniteräsverkkojen tyyppihyväksynnästä 126/2016** (Ministry of the Environment Decree on type approval of weldable reinforcing steel and mesh reinforcements). The decision concerns the following product:

**Reinforcing bars B500A, diameters 4 - 12 mm**  
**Reinforcing coils B500A, diameters 5 - 12 mm**  
**Reinforcement mesh B500A-SF55, diameters 4 - 12 mm**

The characteristics of the product are as follows:

- Characteristic value of yield strength  $\geq 500$  MPa
- Characteristic value of ratio  $R_m/R_{eH} \geq 1,03$  (diameters 4-6 mm) and  $\geq 1,05$  (diameters 7-12 mm)
- Characteristic value of total elongation at maximum force  $\geq 2,5$  %
- Mass per metre: meets the requirements
- Weldability and long-term durability: meets the requirements
- Bond properties and rib geometry: meets the requirements
- Bendability for bars and coils: meets the requirements
- Weld shear force class SF55

The product is designed to be used for the reinforcement of load-bearing concrete structures. The technical properties of the product have been type tested in the extent presented in standard **SFS 1300:2017**, and the factory's internal production quality control system meets the requirements of the standard.

The product also meets the following properties exceeding the minimum requirements:

- Tack weldability has been tested according to the standard SFS 1202

Manufacturer of the product:

**Pintos Oy**  
**Lapin tehdas**  
Yrittäjätie 9, 27230 Lappi

Manufacturing place of the product: Lappi, Finland

The type approval decision has been made on 2019-08-22  
(first issue 2017-05-02)

The decision is in effect until 2024-08-22

Mikko Törmänen, Managing Director



## Type Approval Decision Nr 9854-02



2 (2)

Identification of the product: The product or its identification tag must include the type approval mark, product marking **B500A or also for fabrics B500A – SF55**, name of the manufacturer, manufacturing place as well as identification number of the type approval decision. The product must have a rolled manufacturer's mark. The manufacturer's mark is 6/2/2.

The quality control certifier of the product is

**Eurofins Expert Services Oy**, Espoo.

Date of the quality control agreement: 2010-11-30

The inspection visit and testing reports that the decision is based on:

**VTT-Q-00110-06-17**

The type approval decision is based on the initial inspection and the type testing by the type approval body. The decision is in effect provided that the requirements included in the General Rules for Product Certification and the above-mentioned regulations and documents are continuously met. The quality control certifier mentioned in the annex continuously monitors the internal production quality control carried out by the factory and performs selection and testing of random samples. If the product is transferred to the scope of the CE marking, the type approval expires. The validity of the decision can be checked at [www.inspecta.fi](http://www.inspecta.fi)

# CERTIFICATE

Inspecta Sertifiointi Oy

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Typical properties  
of cement and clinker

	Typical Values	Requirement
1 day strenght	28...32 MPa	none
2d strenght	41...46 MPa	≥ 30.0 MPa
7d strenght	48...60 MPa	none
28d strenght	57...68 MPa	≥ 52.5 MPa
Initial Setting time	120...180 min	≥ 45 min
Soundness	0...2.0 mm	≤ 10 mm
Fineness (Blaine)	490...570 m <sup>2</sup> /kg	none
Loss of ignition	1.8...3.0%	≤ 5.0%
Insoluble residue	0.3...0.9%	≤ 5.0%
Sulfate content SO <sub>3</sub>	3.5...3.9%	≤ 4.0%
Chloride Cl	≤ 0.08%	≤ 0.10%
Cr6+	0...2 mg/kg	≤ 2 mg/kg

Other main constituents

	%	Requirement
Sum of the main constituents	0...5%	≤ 5.0%
Limestone	0...5%	
Blast furnace slag		

Chemical properties of clinker

	%
CaO	63...65%
SiO <sub>2</sub>	20...22%
Al <sub>2</sub> O <sub>3</sub>	4.0...5.4%
Fe <sub>2</sub> O <sub>3</sub>	2.8...3.3%
MgO	2.5...3.2%

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Inspecta Sertifiointi Oy