



Encho Enchev - ETE Ltd.

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TECHNICAL SPECIFICATION



of
Concrete products from high-performance concrete - elements
for landscaping streets, parks and gardens

1.Product -Concrete bench Model 142





1. Description of the product

1.1 General description of the product:

The bench is made of high-performance reinforced fiber concrete and natural aggregate combined with the warmth of a certified wood. The aggregate structure is available in different color combinations and consists of natural marble or granite stones. The concrete surface has a characteristic relief. The addition of protective coating on the concrete and wooden components makes the product even more resistant to aggressive weather conditions. Simple and modern, this bench model is an elegant addition to park alleys, wide streets or in front of office buildings.



1.2 Description of the main components of the product:

The concrete bench consists of: **1.** Concrete legs; **2.** Planks; **3.** Marking logo; **4.** Stainless steel fasteners*; (**Figure 1**)

* the full description of the connecting elements is given in the product's assembly sheet

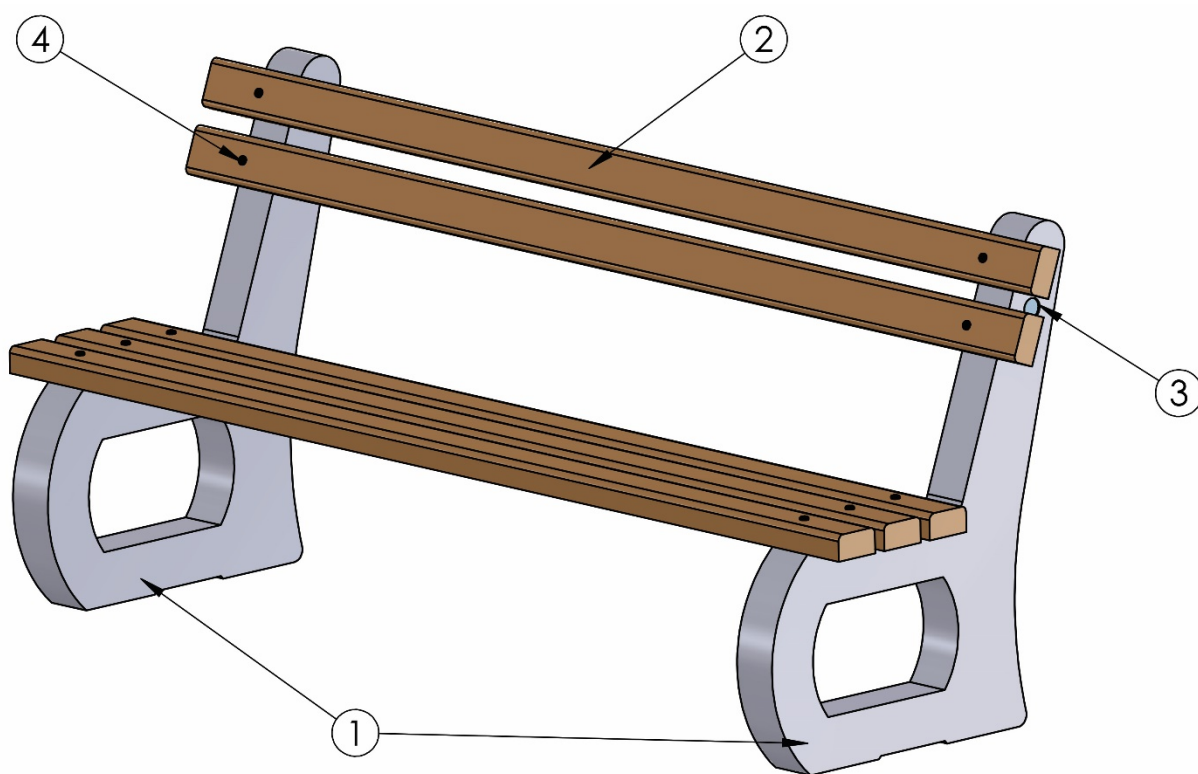


Figure 1



1.3 Description of the main materials of the product:

Concrete

High quality gray or white Portland cement is used in the production of the high-performance concrete (HPC) in combination with natural marble or granite aggregates and inert materials. The concrete structure is reinforced. Concrete is recyclable due to the absence of resins and adhesive polymeric agents.



Natural marble aggregates

The aggregates are a mixture of multi-colored, natural, marble or granite stone fractions with Portland cement and inert materials. The particles have selected structural characteristics and are available in various combinations with grey or white Portland cement, depending on their properties and requirements for the manufacture of the products. Embossed structure of the aggregate.





Wood/Timber

Wood is a natural material and every beam/plank is not identical to the others, and there may be slight differences in the appearance of the woodthread, the tone and the natural imperfections, despite the processing. As the weather changes (hot climate, dry climate, humid climate, cold climate), the wood structure changes and can increase or decrease its volume, causing cracks or fissures. Although it is a natural process, it should be noted.

Spruce is offered as solid wood with a selected part of the structure of the tree. The wood is treated with high-performance impregnators and water-based varnishes that extend the life of the wood and slow down the aging of the material. This procedure does not cancel the subsequent periodic maintenance of the timber in order to keep its quality for as long as possible.

Color range is selected and ordered upon request by the customer and is available in the following options: pine color, walnut color, mahogany color, rosewood color, oak color.



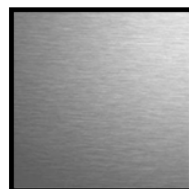
Stainless steel

Encho Enchev - ETE uses AISI 304 stainless steel.

Marking logos and all fasteners used to assemble the product are made of stainless steel.

STAINLESS STEEL

#81



AISI 304



1.4 Technical description of the product:

Table 1: Technical description

Component	Dimensions	Material	Covering
Concrete legs (2 pieces)	L: 650 mm B: 80 mm H: 810 mm	Concrete with marble or granite aggregates (terrazzo), Surface – embossed	Varnish - gloss (EN 1504-2)
Planks (5 pieces)	L: 1900 mm B: 80 mm H: 43 mm	FSC certified soft spruce wood	Pigmented waterborne top coats (impregnator and varnish) (ISO 9001)
Marking logos	Ø: 33 mm	Stainless steel AISI 304	-
Fasteners (all bolts)	-	Stainless steel AISI 304	-
General dimensions	L: 1900 mm B: 650 mm H: 810 mm Weight: 80 kg	-	-

**2.3.1 Regulatory references applicable to products:****Table 2**

EN 13198:2003; EN 13369:2019; EN 206:2013+A1:2016; EN 206:2013+A1:2016/ NA2017
EN 13043; EN 13139; EN 13242 EN ISO 9001:2015; EN ISO 14001:2015

2.3.2 Declared indicators of the characteristics of the concrete product:**Table 3**

Characteristic	Indicator	Test/calculation/determination method
Tolerances in nominal dimensions	± 2%, Level I	
Corrosion resistance of reinforcement	B235-S235J	EN 13198:2003, EN ISO 15630-1-2004, BDS 4758:2008 / EN10025:2004
Minimum thickness of the concrete cover	80 mm	EN 13198:2003
Concrete strength class	C60/75	EN 12390-3:2019
Environmental impact classes	XC4, XS3, XD3, XF3, XA1	EN206:2013+A1:2016/NA:2017 item NA.5.3
Watertightness	C _w 1.0	EN206:2013+A1:2016/NA:2017 item NA.5.5.3.2
Frost resistance	C _{fr} 150	EN206:2013+A1:2016/NA:2017 item NA.5.5.5



3. Construction and production drawings for Concrete bench Model 142

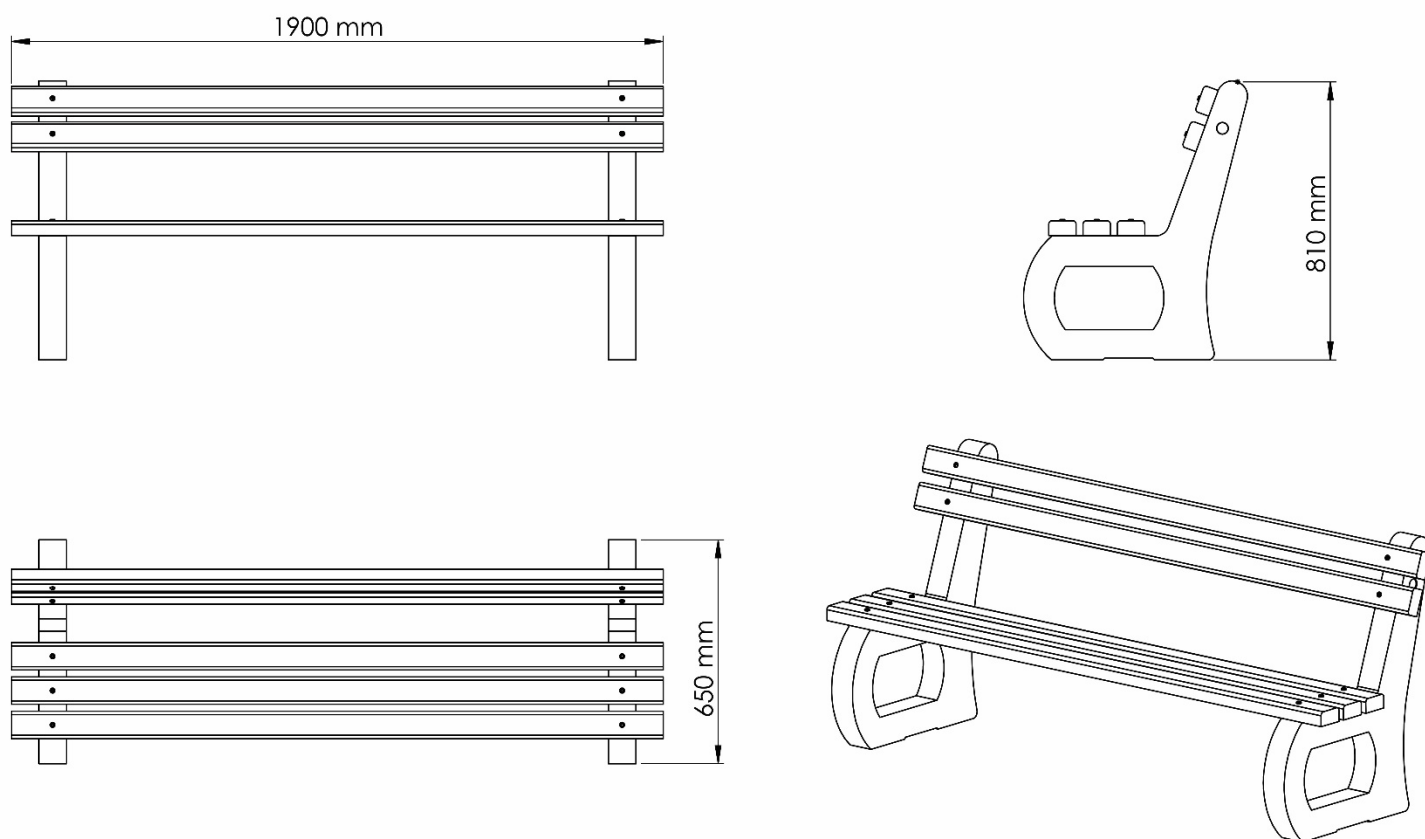


Figure 2



4. Intended use of the product

Application:

Ready-made concrete product for exterior and / or interior application in public and private areas for decorative design with practical and functional application on streets, parks, gardens, recreation areas and others. The concrete bench is designed and manufactured as an item for rest and relaxation, intended for use by a person in a sitting position. The product meets the requirements specified in standard EN 13198: 2013, EN 13369: 2019, EN 206: 2013 + A1: 2016 and is manufactured according to an assessed and certified production control system, in accordance with the requirements of EN ISO 9001: 2015 and for protection of the environment according to EN ISO 14001: 2015.

Note:

Any applications other than those specified, may result in damage to the integrity of the product as well as personal injury as a result of improper use.

The product should be serviced, cleaned and maintained by authorized persons.

Company Encho Enchev - ETE is not responsible for improper use and maintenance of the product.

Replaceable parts:

All components of the product listed in **Table 1** can be ordered from the company and replaced with new ones in case of failure.

Maintenance and support:

To keep the appearance of the product unchanged for a long period of time, we recommend that the products be cleaned. Recommendations for cleaning and maintenance can be found on the company's website.

Product recycling:

All materials used in the manufacture of this product are recyclable.



5. Additional information

This TECHNICAL DOCUMENTATION (SPECIFICATION) is issued entirely at the responsibility of the manufacturer and applies to concrete products manufactured according to an assessed and certified production control system, in accordance with the requirements of EN ISO 9001: 2015 and environmental protection requirements according to EN ISO 14001: 2015. These indicators are based on laboratory tests conducted by independent, certified laboratories.

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