

**Product variety control numbers (PCN) within the framework of the anti-dumping investigation regarding the import into Ukraine of radiators for heating originating from the Republic of Türkiye and the People's Republic of China**

Product characteristics	Classification	Code
Material	Steel	A01
	Aluminum	A02
	Bimetallic	A03
Height, mm	<200	B01
	200-299	B02
	300-399	B03
	400-499	B04
	500-599	B05
	600-699	B06
	700-799	B07
	800-899	B08
	900-999	B09
	>999	B10
Length, mm (for steel radiators)	<400	C01
	400-499	C02
	500-599	C03
	600-699	C04
	700-799	C05
	800-899	C06
	900-999	C07
	1000-1099	C08
	1100-1199	C09

	1200-1299	C10
	1300-1399	C11
	1400-1499	C12
	1500-1599	C13
	1600-1699	C14
	1700-1799	C15
	1800-1899	C16
	1900-1999	C17
	2000-2099	C18
	2100-2199	C19
	2200-2299	C20
	2300-2399	C21
	2400-2499	C22
	2500-2599	C23
	2600-2699	C24
	2700-2799	C25
	2800-2899	C26
	2900-2999	C27
	3000-3099	C28
	>3099	C29
Number of heating convectors, number of panels (for steel radiators)	Without convectors	D01
	1	D02
	2	D03
	3	D04
	>3	D05
Section depth (for aluminum and bimetallic radiators), mm	<70	E01

	70-75	E02
	76-84	E03
	85-95	E04
	96-100	E05
	>100	E06
Connection type (for steel radiators)	Lateral	F01
	Lower	F02
	Other	F03

The proposed methodology provides for different PCN codes for the following product characteristics:

- 1) Material from which the radiator is made;
- 2) Height;
- 3) Length;
- 4) Number of heating convectors, number of panels (for steel radiators);
- 5) Section width (for aluminum and bimetallic radiators);
- 6) Type of connection (for steel radiators).

**Steel radiators (A01)** are spot-welded thin plates of sheet steel. The coolant moves through a zigzag channel, which is due to the fact that the plates are stamped in the form of a recess under the channel.

**The appearance and variety of sizes of steel radiators.** The national producer produces radiators from 200 mm to 600 mm in height (B01-B05), and in length from 400 mm to 3000 mm (C01 - C27), which allows the end user to make a choice based on his needs. For example, low and elongated for installation in front of panoramic windows, and high and narrow for installation near the door to the balcony, etc. It is also possible to trace the connection, how to identify the number of active heating panels and convectors to increase heat output by marking the radiator. For example, type 22 (internal classification) means that there are 2 active panels behind which the coolant circulates and two corrugated steel convectors corresponding to PCN code D03.

In addition, steel radiators differ in the type of connection to pipe wiring:

- **the lower connection** is intended for systems with hidden piping in the floor (does not work without a circulation pump); used if an autonomous heating system is installed and there is a risk of power outages in winter, but such a system is more economical and works better with thermostat heads;

- **lateral connection** has a lower cost. Including, you can use thermal heads with a lateral diagonal connection, which allows the heating system to work with natural circulation of the coolant.

**Aluminum radiators (A02)** are a construction of separate aluminum sections with better heat transfer, different design and light weight. Each section consists of elements - a head, a rib and a bottom part, which are connected to each other.

Sections are created by casting, the main raw material is aluminum (86%), supplemented with silicon and copper, which increases the strength of the radiator several times. It has a standard pressure of 16 atmospheres, but thanks to innovative technologies, the national manufacturer managed to improve production in such a way that each element is able to withstand pressure jumps in the system up to 24 atmospheres.

Aluminum radiators are produced from 300 mm to 600 mm (B02-B05). The length depends on the number of interconnected sections. Most often, aluminum radiators are produced in 6, 8, 10 and 12 sections, but everything depends on the end user, so the main unit of measurement is the section.

The national producer produces radiators with different section depths: from 70 to 96 mm (E01-E04), which affects heat transfer indicators, the weight of the radiator, overall dimensions for a convenient choice for the consumer.

**Bimetallic radiators (A03)** are made of two materials: steel and aluminum. The pipe through which the coolant flows, the inner layer is made of steel, and the outer layer of the radiator is made of aluminum. Working pressure 24 atmospheres.

The weight of bimetallic radiators is +/- 25% higher than that of aluminum radiators due to the fact that bimetal has an additional layer of steel collector through which the coolant passes. The additional weight is an advantage due to the increased reliability and guarantee against microcracks and leaks, as a result of which the service life is longer.

Bimetallic radiators, as well as aluminum radiators, are produced from 300 mm to 600 mm (B02-B05), the length of which depends on the number of interconnected sections.