

SURFACE BOXES

COMMON
ISSUES
&
AVK
SOLUTIONS



	
Strong and durable	High quality
	
Time saving	Maintenance free
	
Cost saving	Safe solution
	
Aesthetically nice and clearly visible	Environmentally friendly
	
Silent	Lightweight

These icons indicate the most relevant benefits for each application and AVK solution. You can find them below every solution displayed in this handbook.

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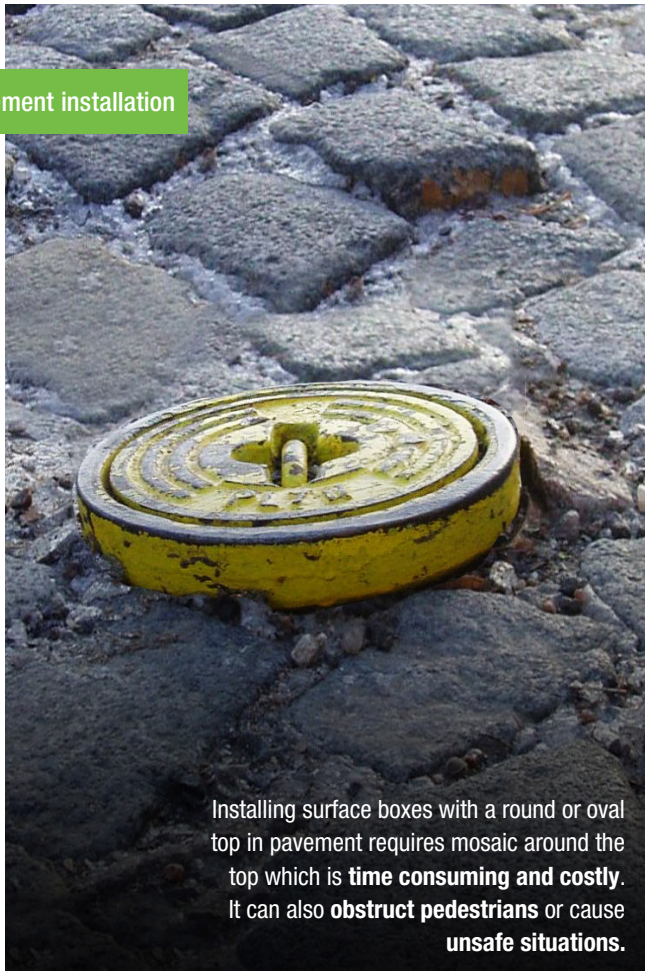
Sustainable solution



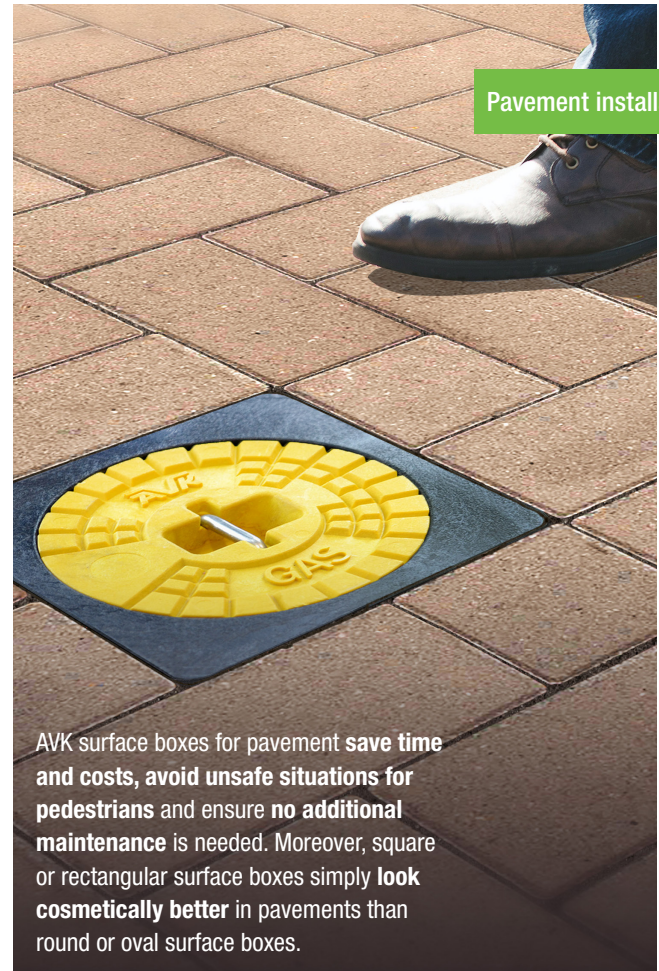
Sustainable solution



Pavement installation



Pavement installation

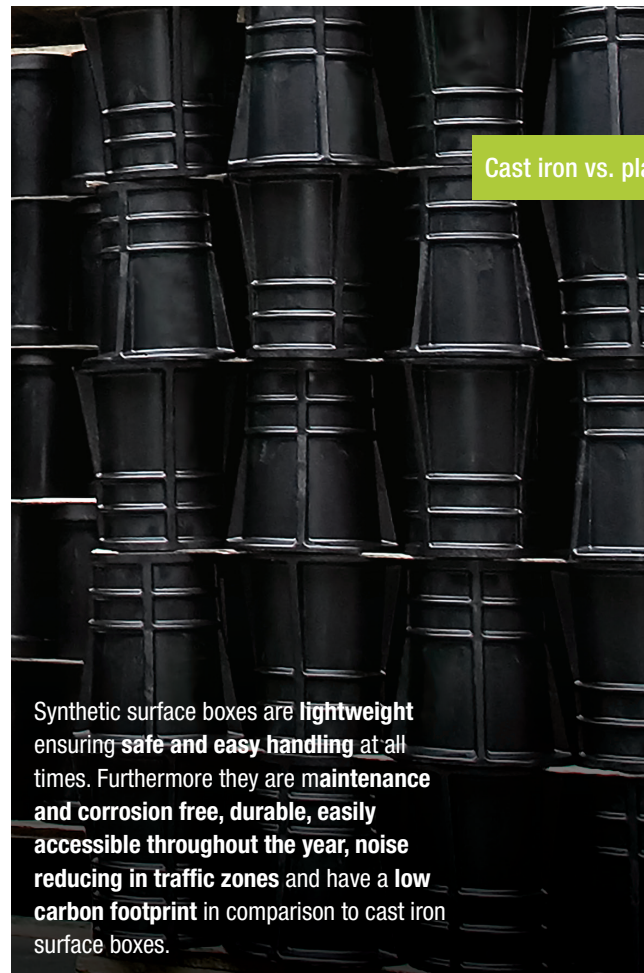


Cast iron vs. plastics



Cast iron surface boxes can be **difficult to access in winter** because the lid and box freeze together. They are also **heavyweight**, **easily corroded** and have a relatively **high carbon footprint** (CO₂ emission) meaning high impact on the environment.

Cast iron vs. plastics



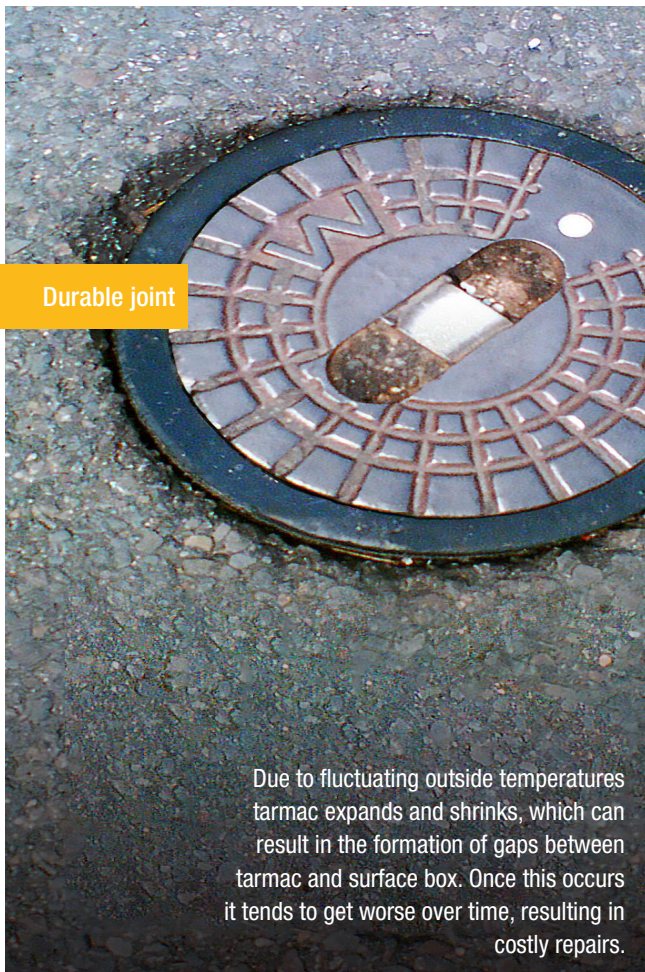
Synthetic surface boxes are **lightweight** ensuring **safe and easy handling** at all times. Furthermore they are **maintenance and corrosion free, durable, easily accessible throughout the year, noise reducing in traffic zones** and have a **low carbon footprint** in comparison to cast iron surface boxes.

Flexible height adjustment



Flexible height adjustment





Durable joint

Due to fluctuating outside temperatures tarmac expands and shrinks, which can result in the formation of gaps between tarmac and surface box. Once this occurs it tends to get worse over time, resulting in costly repairs.



Durable joint

AVK offers a height adjustable surface box with a "joint ring" (in German: "Fugenring"). At the final stage of installation the ring is removed and the gap is filled with a bituminous substance. This elastic filling makes a **durable joint between tarmac and surface box**. No gap formation means a **long lasting solution without costly repairs**.



Increased support

If a surface box isn't properly supported it can sink, especially in weak soils, leaving **dangerous holes** in the road. It can also cause **obstruction of valve operation** making costly and time consuming corrections necessary.

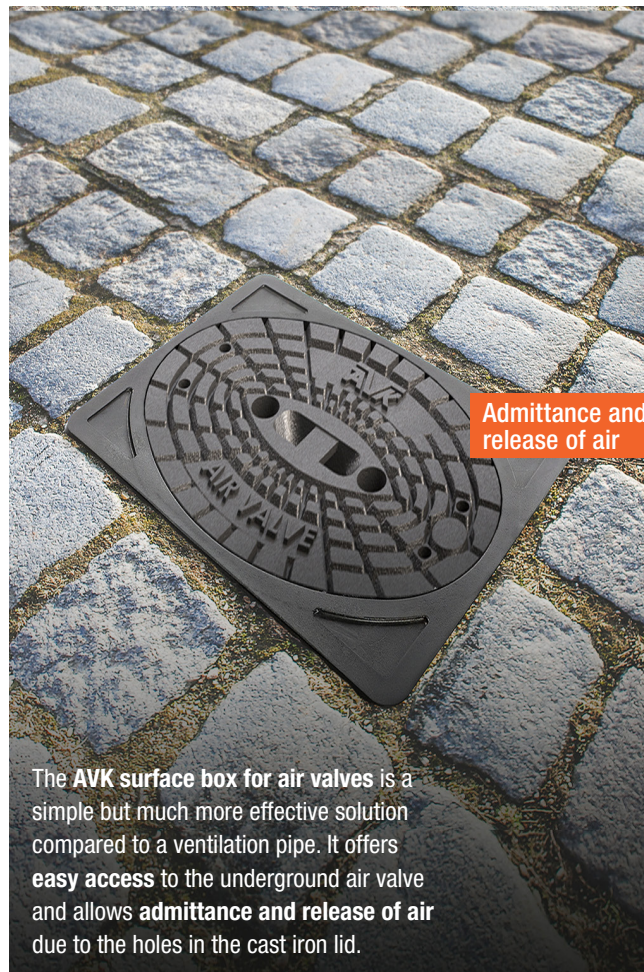
Increased support

To ensure maximum support of surface boxes in weak soils, AVK advises to use support tiles. Support tiles avoid potential sinking of the surface box and prevent the need of corrections or replacements over time.



Admittance and
release of air

To enable admittance and release of air, air valves are often equipped with a ventilation pipe. Although this may provide ventilation, there is a chance that **the pipe gets damaged** and it's **difficult to access the air valve** when maintenance is required.



Admittance and
release of air

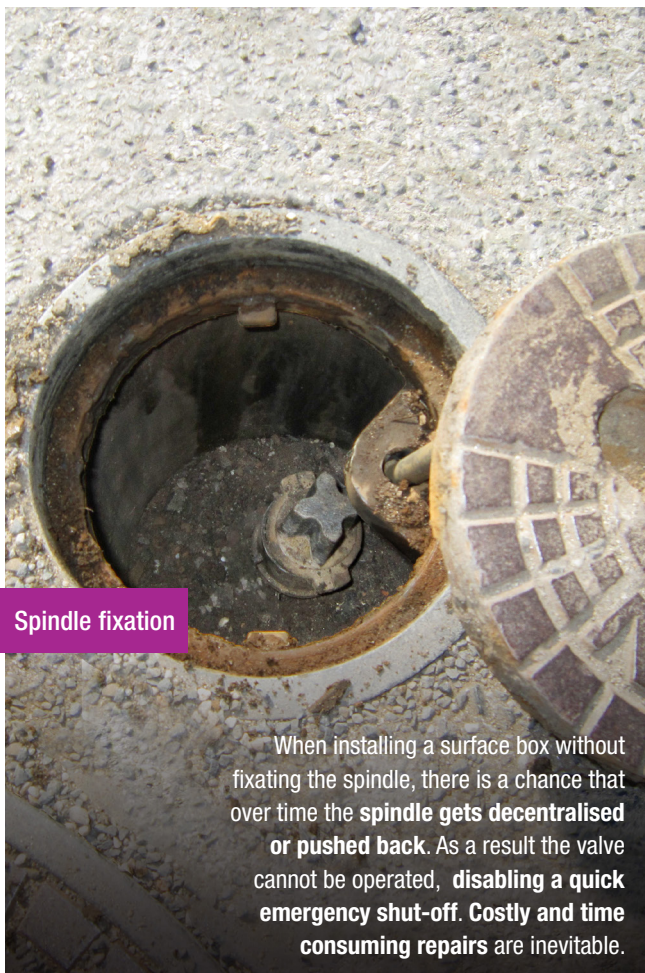
The **AVK surface box for air valves** is a simple but much more effective solution compared to a ventilation pipe. It offers **easy access** to the underground air valve and allows **admittance and release of air** due to the holes in the cast iron lid.





*Height range of surface box 4057V (displayed on this page)





Spindle fixation

When installing a surface box without fixating the spindle, there is a chance that over time the **spindle gets decentralised or pushed back**. As a result the valve cannot be operated, **disabling a quick emergency shut-off**. **Costly and time consuming repairs** are inevitable.



Spindle fixation

AVK support tiles with spindle fixation **centralize the spindle** making it unable to move or be pushed back. This **enables easy valve operation** at all times and **avoids the need of maintenance** over time.





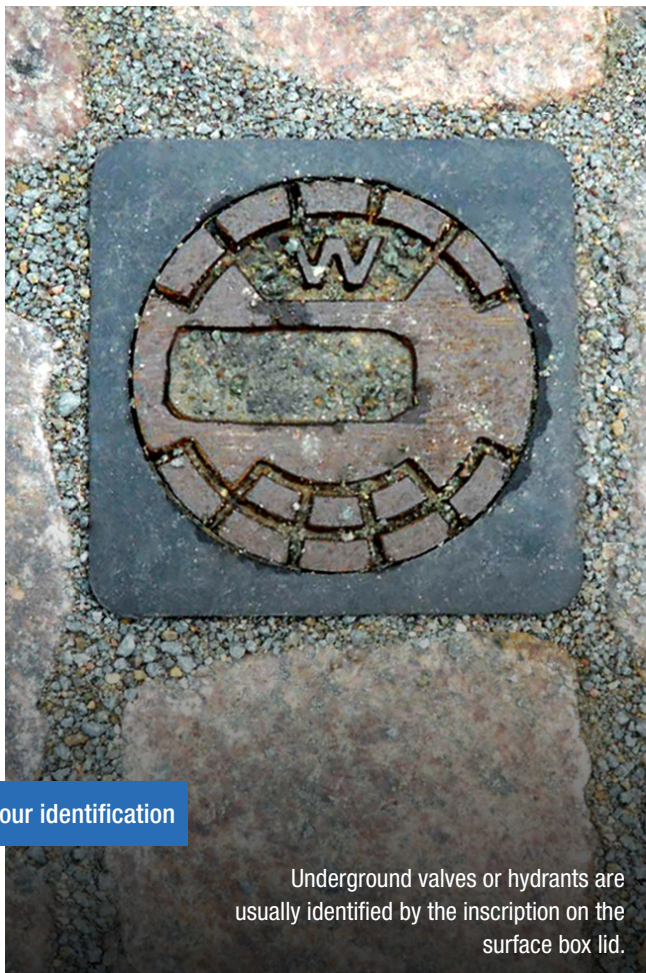
Theft reduction

Regular cast iron surface box lids are theft-sensitive. Stolen lids cause **dangerous situations** and require **costly replacements**.



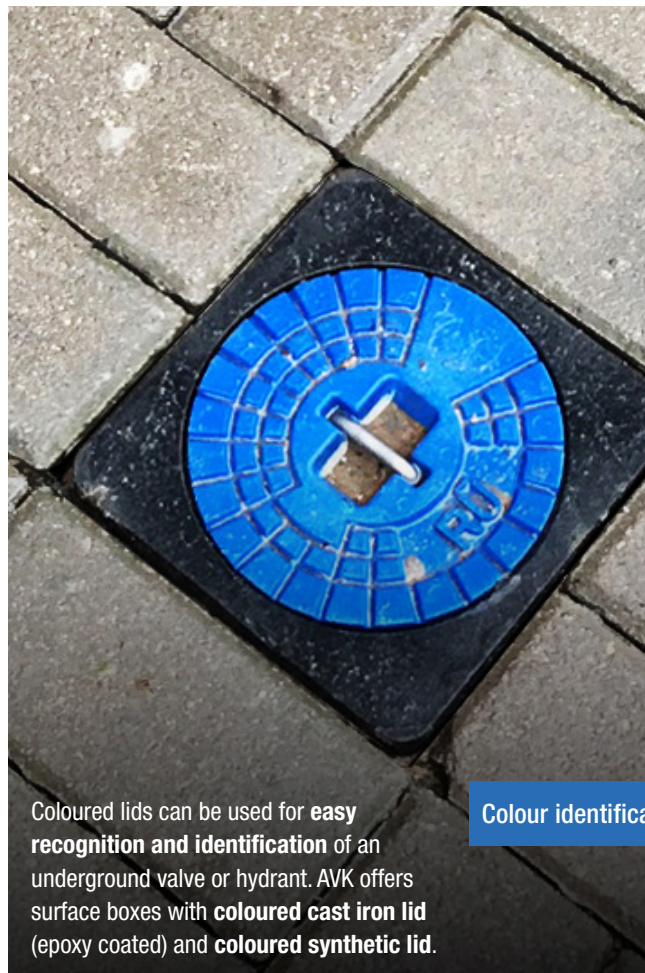
Theft reduction

Due to low material value synthetic lids are **unattractive to thieves**. In addition, synthetic lids are lightweight and have a low carbon footprint.



Colour identification

Underground valves or hydrants are usually identified by the inscription on the surface box lid.



Colour identification

Coloured lids can be used for **easy recognition and identification** of an underground valve or hydrant. AVK offers surface boxes with **coloured cast iron lid** (epoxy coated) and **coloured synthetic lid**.



Lid fixation

The so called suction effect that occurs when traffic passes over a surface box, can cause surface box lids to be lifted. By using AVK surface boxes with lid fixation, lids stay in place and unsafe situations are avoided.

A locking system prevents unauthorized operation of the valve or hydrant below.



AVK height adjustable surface boxes with reinforced rim ensure an **extremely good support of the top part**, making the surface box suitable for heavy duty application areas.

The image on the right side shows a top view of a top part with standard rim versus the enlarged reinforced rim.

Reinforced rim



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SURFACE BOXES

COMMON ISSUES & AVK SOLUTIONS

This handbook shows some of the many AVK solutions for common issues concerning accessing and operating underground appendages, like valves and fire hydrants.

Synthetic surface boxes

AVK offers a wide range of synthetic surface boxes in various dimensions, which can be used in many fields of application.

Synthetic surface boxes are lightweight, user-friendly, easily accessible, silent and maintenance free.

The carbon footprint (CO₂ emission) of synthetic surface boxes, measured from resource to end of life, is significantly lower compared to surface boxes made of traditional materials, making AVK surface boxes ecologically sound.

For more information go to avkplastics.com

