



WEBINAR ACO competence center Covers

Access covers, fire resistance, ACO Passavant Detego News

20.05.2021



ACO Covers Hub – Webinar - Speakers



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Head of business area
Manhole Covers, Shafts
and gully tops



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ACO Passavant Detego
sales manager internatl.
ACO CC Covers



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Management and Building
Materials at ACO CZI
ACO CC Covers



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Product Portfolio Manager
at ACO CZI

ACO Covers Hub – Webinar - schedule

Welcome, swm update & strategy covers

News ACO Industries: New Uniface deep, New Servokat II

JR

News ACO Passavant Detego: update product information, Freestyle

TC

Fire resistance

ACO Ind: introduction topic/problem, laws and applications

RH

design – tests – fulfill requirements series and niche prod.

Detego cases and solutions








WH

New products in Manhole covers & Gully tops

2020 2021

Manhole covers & Gully tops update,
estimated product launches 2020



Estimated product launch	October	November	December
 Claytop 400x400 Design 5d - Window To be installed in all building on Claytop P System	●		
 Multilayer Assembly MONOBLOCK V200P To be used as Monoblock's ramp with or without channels which are close to Monoblock installed			●
 Claytop 100 (high resistance) product line / 2400 edition To support our products and to offer robust systems for heavy traffic, we've included this Claytop cover in our range - thanks Clivia 100		●	
 SECANT solid top F100 600 x 600 600 x 750, 600 x 1000, 600 x 1400, 600 x 1600, 600 x 2000	●		
 SECANT solid top F100 750 x 750 750 x 1000, 750 x 1400, 750 x 1600, 750 x 2000, 750 x 2400	●		
 SECANT solid top F100 900 x 900 900 x 1000, 900 x 1400, 900 x 1600, 900 x 1700, 900 x 2000	●		
 ACO Access Cover CONCRETE DEEP 20x40, 30x45, 30x60 to 100x100 New steel reinforced cover to be fixed with a grouting material in thickness up to 45 mm above the structural concrete layer, certified according to EN 124-2013	●		

swm.aco

swm.aco

New:
Products in development
and estimated market start





International strategy / international markets

- European market > 1 billion €
- ACO activities: 50M€ (38M€ in GER)
- Potential ?
- USP: development competence, own foundry ACO GUSS

ACO COVERS – International strategy



ACO COVERS – International strategy

- Use the opportunity to present and sell ACO manhole covers and gully tops to existing customers and projects.
- Offer standard products in the price list.
And ... SECANT must be available worldwide.
- Inform your colleagues and customers about ACO fabricated and cast iron products. Share PPT, brochures and videos

ACO Industries

News in steel covers

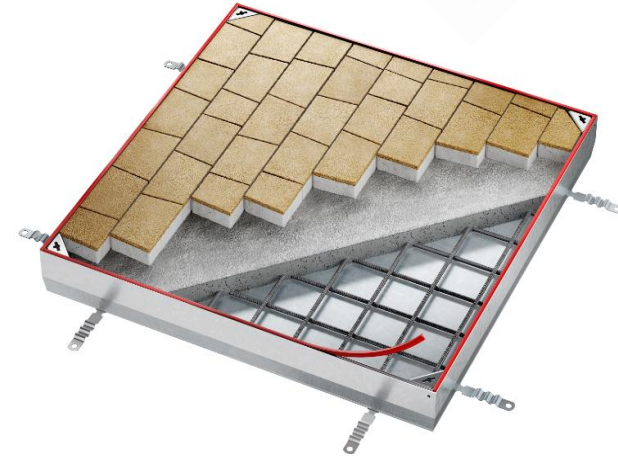
New Access Cover for paved surfaces - UNIFACE DEEP



- Economical solution for any paved area subjected to pedestrian or passenger car traffic
- Perfect option for applications with a pavement infill above 15 and under 65 mm
- Available since the beginning of the year

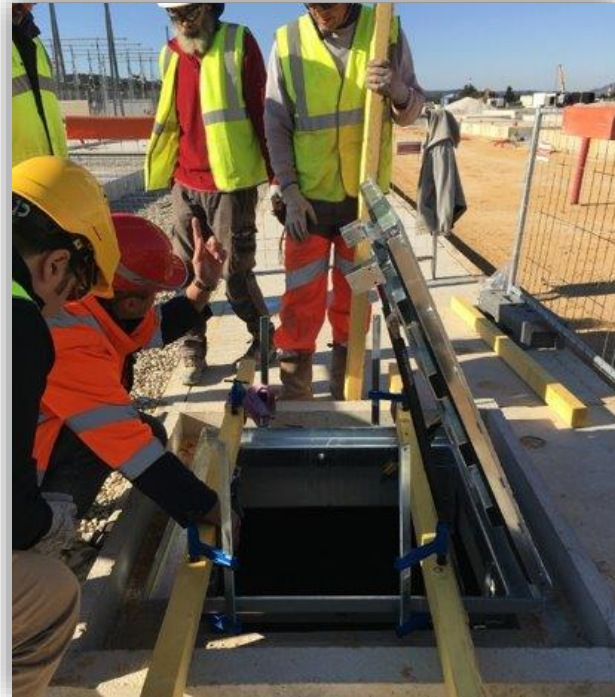
Access Cover UNIFACE DEEP

- Easy-to-install and operate
- Structural concrete filling carried out on the construction site
- Extended infill possibility up to 65mm (any kind of pavement)
- In average 15% cheaper compared to relevant PAVING covers
- New red plastic profile to protect cover during installation
- GS/SS material options available in all standard dimensions
- Fully certified according to **EN 124:2015** load class B125



New Access Covers for Infrastructural and Industrial applications

- Typical application – technical shafts (electricity, gas, infrastructural collectors)
- Level of standardization about 40%, rest are bespoke products
- Galvanized steel is specified in 80%
- Load class D400 is specified in 50%
- Predominant distribution channel – directly to building contractors (65%)



Access Cover Servokat SMART

- Opening assistance by mechanical torsion springs
- Easy locking system and simple hinges, both not interfering with the clear opening
- Cushioning inserts applied in order to reduce noise from traffic
- Designed to avoid water collection between the cover and the frame
- Shallow installation height - **80 mm only!**



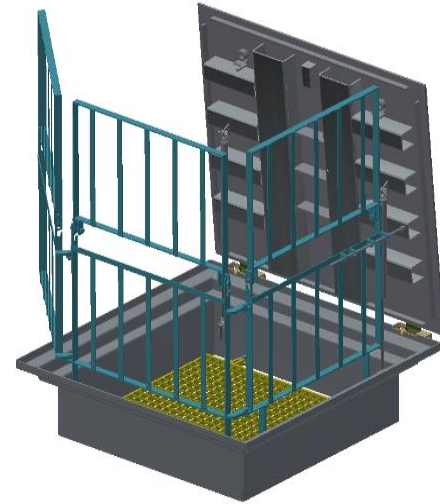
Access Cover Servokat SMART

- Fully certified according to **EN 124:2015** load class D400
 - Standard product range will be available from stock
 - Bespoke sizes to be configured by ACO product configurator
 - Ideal solution for application requiring a shallow installation while maintaining safety, functionality and high load resistance
- **Market launch in Q4/2021**



Access Cover Servokat MODULAR

- Access cover with optional additional modular features as
 - Foldable railing
 - Safety grating
 - Fire resistance set
 - Recessed cover for optionall infill



- **Market launch in H1/2022**
- The aim is to offer a modern competitive products available as standard from stock and easily configurable in case of special requirements
- Expected additional annual TP sales of new Servokat covers are over 1 MEUR

ACO Passavant Detego

New products, new services



10 product ranges of ACO Passavant Detego



News – marketing & products



New ACO PD product information

Version June 2021: 250 pages

- All standard Detego products added
- New service: Black concrete
- Enhanced by new and missing products

→ Please share this document with your sales teams.

Citytop HR D400
black and strong



1207522
OD 850, H125

High Resistance.

With a lid weight of 56 kg, the solid Multitop plastic lock, a high value cushioning insert and two stable sash locks, Citytop HR is **really powerful**.

Made for motorways within cities and motorway tunnels in the world.
Made in Germany

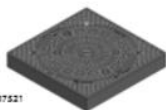
This product range is unique in the world. It secures us a better position in the tenders and is a clear benefit for all heavily loaded traffic routes. The standard flange frame is now 125mm high and 850mm outer diameter - for better load distribution. Tender texts and installation instructions are available.



1207523



1207520



1207521

Citytop HR

High Resistance

A product range for motorways and other high resistance D400 areas

- Citytop extra heavy covers
- Optional locking
- Black color
- Multitop Frames with machined seating below the cushioning insert

Sizes 315 and 500mm



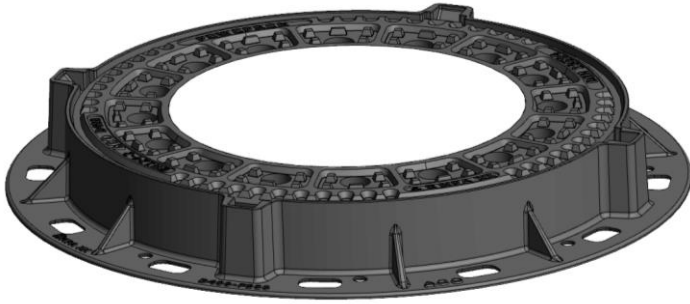
Citytop Inspection covers 315 and 500 Citytop grating 315

D400 EN124

- New frames fit over the plastic pipe
- Covers with plastic locking device
- All markets
- Non-EU origin, competitive price
- Available october 2021

ACO airport manhole covers **F900 EN124, 600mm clear opening,** **h100**

- BEGU: with / without ventilation
- Citytop P: without vent.,lockable
- Competitive prices (both made in Germany)

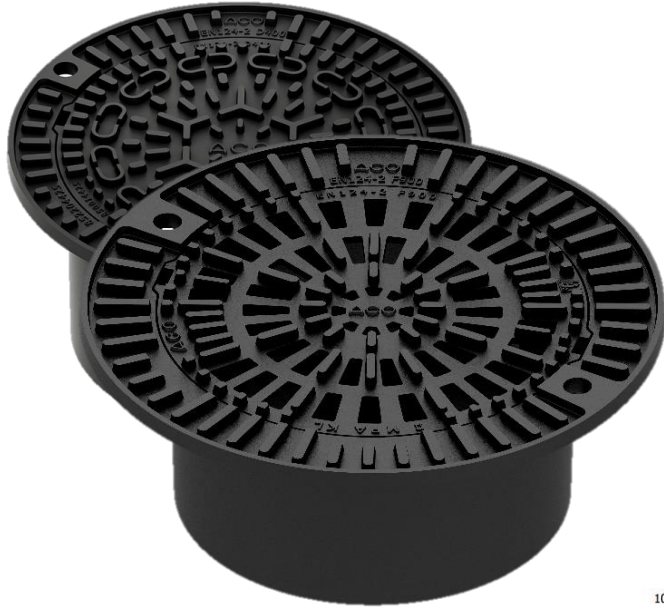


cover weight 90kg



cover weight 55kg

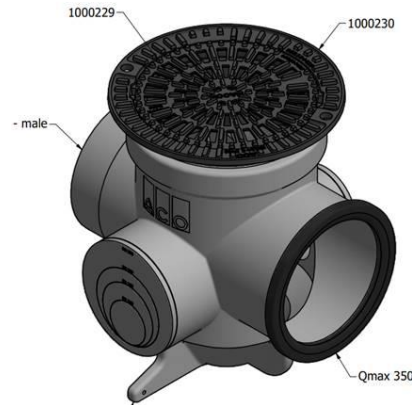
Art. 1204959



ACO F900 Serie 425

EN124, covers & gully tops clear 355mm

- frames fit **inside** the plastic pipe/shafts
- Made for QMAX shafts
- plastic locking device
- Available july 2021





ACO Highdrain Gully Top D400 EN124, 400x400mm

Art.code 1203126

- Standard in many countries



Multiline FreeStyle

ACO FreeStyle 2021 brochure

- 2 New in-stock gratings
- 6 New design gratings

Please share this document with all sales people, provide it on your WEBSITES.



Multiline FreeStyle HARMONY

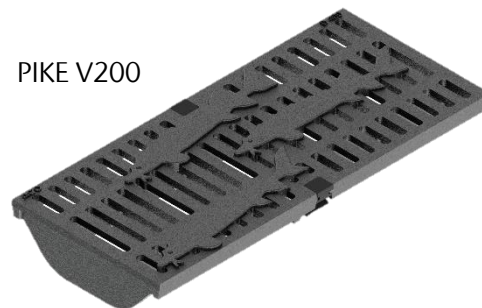
the new 'standard' is **attractive**



Harmony V100



Voronoi V100, V150



PIKE V200



Fire resistance

General overview

Access Cover fire resistance topic

- The issue of fire resistance is extremely important in the context of protecting lives of people, buildings and property
- Therefore, it is necessary to pay an attention to it when buildings are designed and building elements are specified
- There are two main aspects regarding fire topic:
 - Reaction of building elements to fire
 - Fire resistance classification



Access Cover - Reaction to fire



- According to product standard **EN 124:2015** all access covers made of cast iron, steel, aluminium, concrete and their combinations are classified as **Class A1** (non-combustible materials, no contribution to fire) without the need for testing, in accordance with the relevant Commission Decision



Access Cover - Fire resistance

- Fire resistance is the ability of building elements to withstand the effects of fully developed fire, considering their load-bearing capacity and stability, integrity and insulating capacity
- Fire resistance is classified according to harmonized European standard:
EN 13501-2: 2017, „Fire classification of construction products and building elements“

Access Cover fire resistance solution – classification



- Fire resistance is classified by the time duration till the limite states are reached:

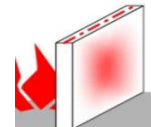
- „R“ – load bearing capacity and stability



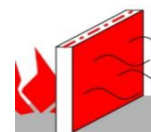
- „E“ – integrity



- „I“ – thermal insulation



- „W“ – thermal radiation



Access Cover fire resistance solution – classification



- Fire resistance of building structures – defined limit states duration values

15	30	45	60	90	120	180
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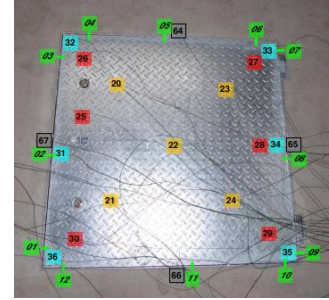
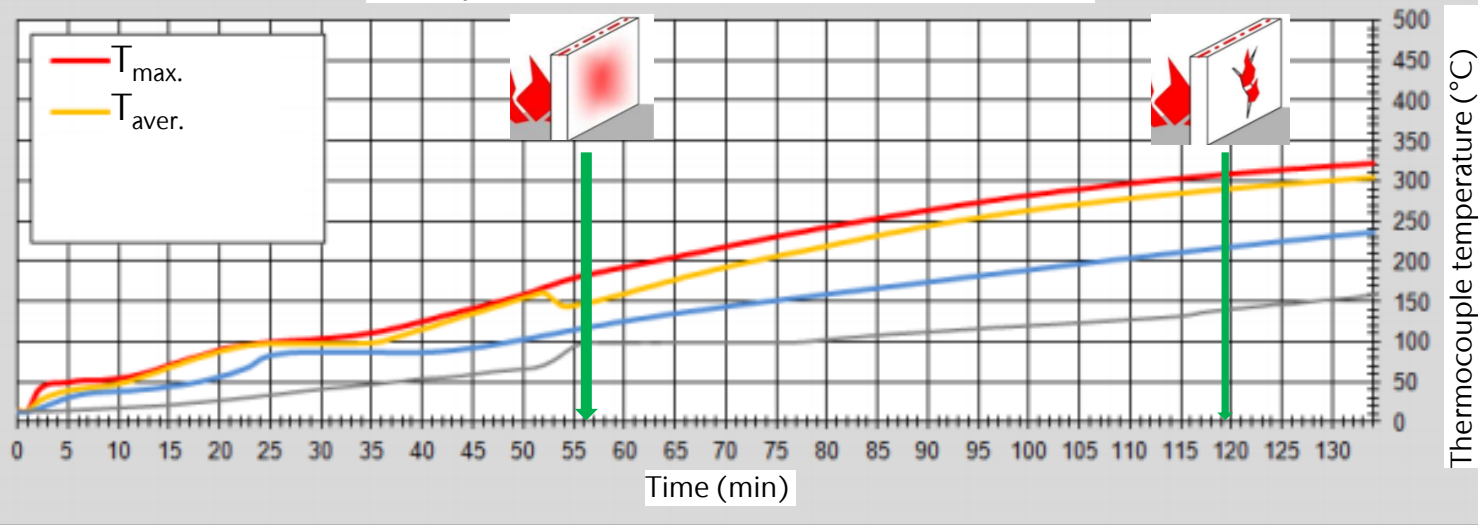
Fire classification examples acc. to EN 13501-2: 2017 → EI90, REI15, EW90, E120

Access Cover fire resistance solution – testing chamber



Access Cover fire resistance solution - classification

sample classification limit state („I“ / „E“)



„I“ - insulation conditions

$$T_{max} \leq 180^{\circ}\text{C}$$

$$T_{aver.} \leq 140^{\circ}\text{C}$$

„E“ - integrity conditions

no visible flames

sample classification: EI45, E120

Testing – ACO Industries

Access Cover fire resistance solution – why?



- Increasing market demands for fire resistant applications in various civil engineering projects
- ACO Industries focus on development to provide verified fire resistance covers
- Fire resistant ACO Access Cover (AAC/FR)
 - provide practical and safe access solution to underneath areas and protect the areas above against the unexpected fire

Access Cover fire resistance solution – testing

- Fire proof test performed (2020) by authorised laboratory PAVUS📍.s. (Czech Republic)
- Nowadays there is no valid European standard describing test methodology for building elements (as access covers) in horizontal position
- Evaluation of performed fire proof test was declared by taking into account European standard for building elements in vertical position
- **EN 1634-1+A1: 2018** „*Fire resistance and smoke control tests for door, shutter assemblies, openable windows and elements of building hardware*“

Access Cover fire resistance solution – valid documentation

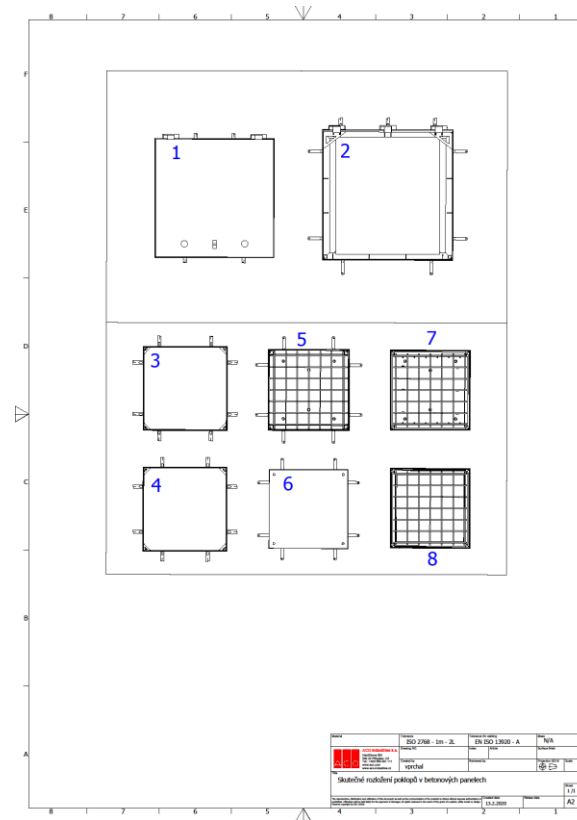
- Valid available documentation published by testing authorisation:
„Fire classification approval of fire resistance“
- Available at www.aco-accesscovers.com/downloads when product portfolio launched



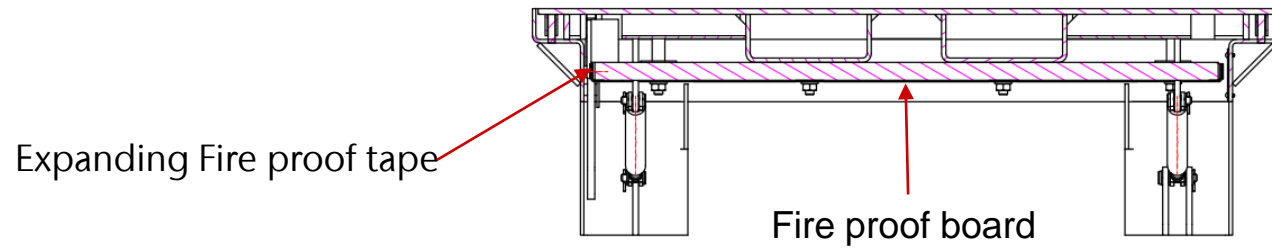
Access Cover fire resistance solution – tested samples

Products tested:

- Servokat GD
- Uniface GS
- Paving GS
- Solid GS
- Uniface AL



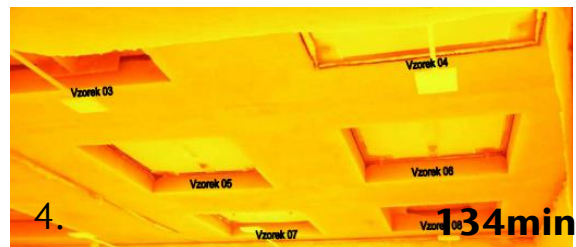
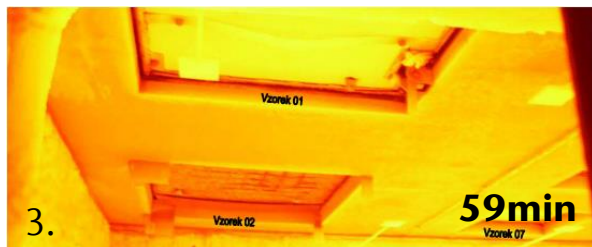
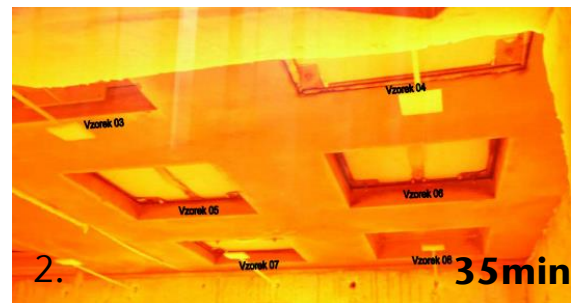
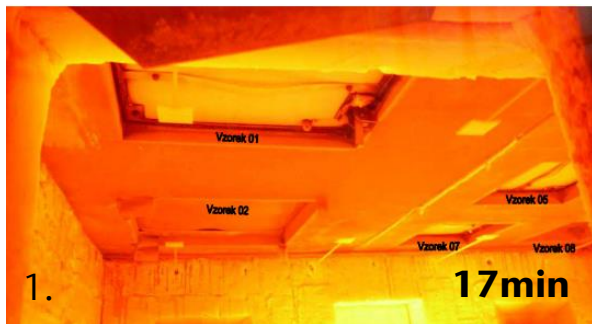
Access Cover fire resistance solution – AAC design



Access Cover fire resistance solution – photos from the test



Access Cover fire resistance solution – pictures / heated side



Access Cover fire resistance solution – pictures / after test



Products ACO Industries

Access Cover fire resistance solution – summary

- New standard ACO Access covers fire proof portfolio (AAC/FR)

- Uniface GS/FR
- Uniface SS/FR
- Uniface AL/FR
- Paving GS/FR
- Solid GS/FR
- Servokat GD/FR

E120 (all AAC/FR standard articles)
EI45-EI120 (depends on AAC/FR product type)

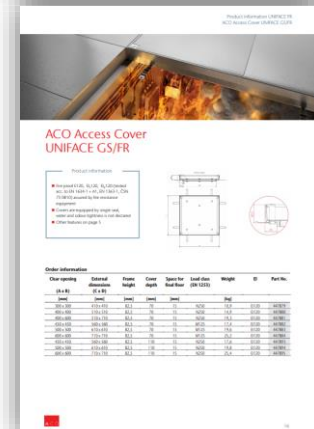
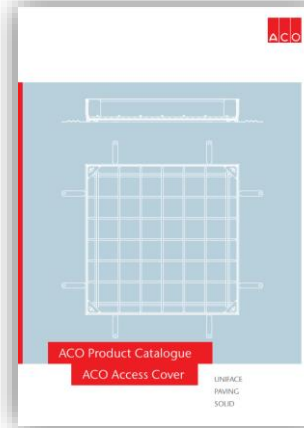
- Dimensions of standards

- Uniface SS/FR, Servokat GD/FR
 - 300 x 300 to 1000 x 1000
- Paving GS/FR, Solid GS/FR, Uniface AL/FR, Uniface GS/FR
 - 300 x 300 to 600 x 600

Access Cover fire resistance solution – summary

- Standard articles will have its unique number
- Available in product catalogue once launched
- Custom-made solutions available based on standard products

- **Planned market launch of standard fire resistance AAC – Q1/2022**



Products ACO Passavant Detego

Product validation at MPA Dresden



- Validation of different covers
- Requested class: EI 90
- Installed temperature sensors
- Proof of fire resistance from below
- Result: 97 minutes

Inspection of product validation result

1 | 2



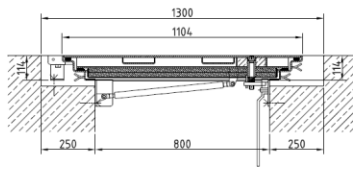
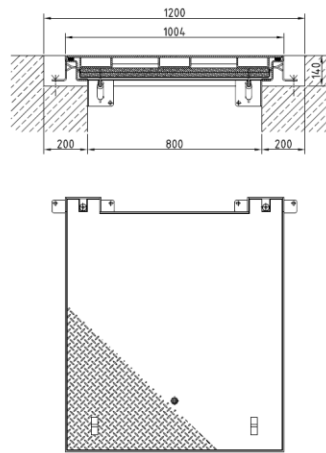
- differences in concrete quality visible
- Usage of specified cast concrete or grouting mortar mentioned in installation instruction is strictly recommended (min. C45/55)
- Remind loss of functional preservation after fire occurrence

Inspection of product validation result

2 | 2



- Sealing of gap between cover and frame
- Visible swollen vermiculargraphite sealing
- Remind loss of functional preservation after fire occurrence

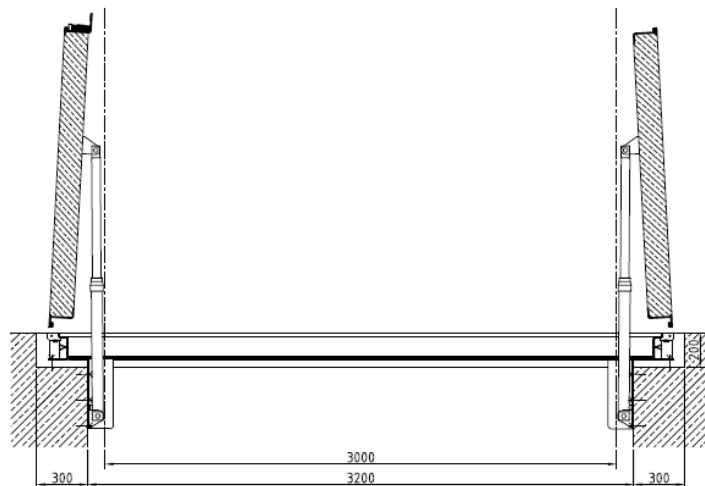
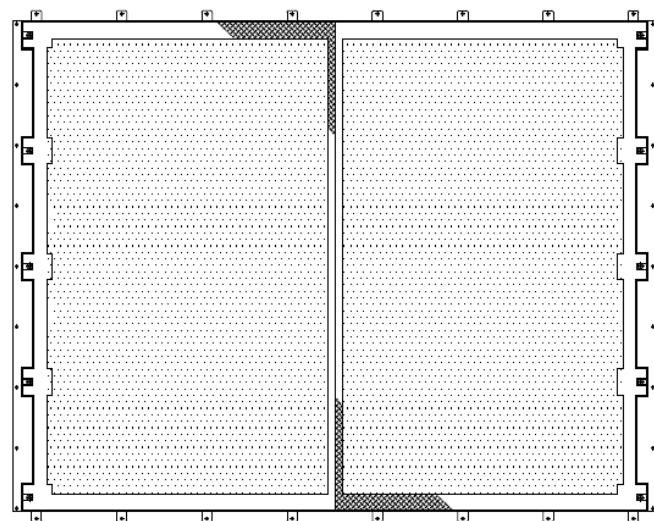
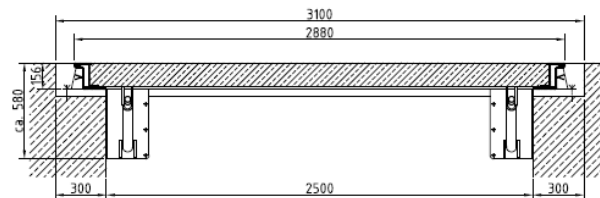
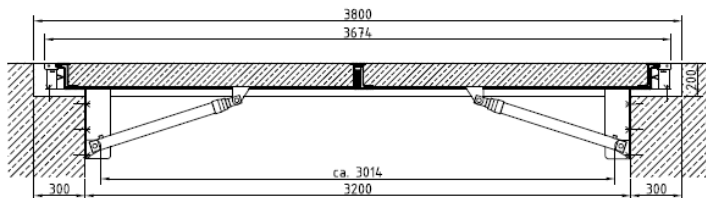


Toleranzklasse C EN ISO 1920		Maßstab Material	/ S235JR;
Datum	Name	Schachtabdeckung begebar nach DIN55-3 1-teilig; mit Öffnungshilfe; verniegelt VK17; mit Tränenblechoberfläche; mit Aushebemulden; Brandschutz F90;	
Gezeichnet	07.12.2019		
Gezeichnet	07.12.2019		
Gezeichnet	07.12.2019		
ACO Detego		S-GST-A-080-080-TW-F90-N	
Technische Änderungen vorbehalten			

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- clear width: 800 x 800 mm
- load class A 15 according to EN 124
- Fire resistance class EI 90 according to EN 13501
- Equipped with
 - emergency exit from below
 - opening aid made of gas spring rods

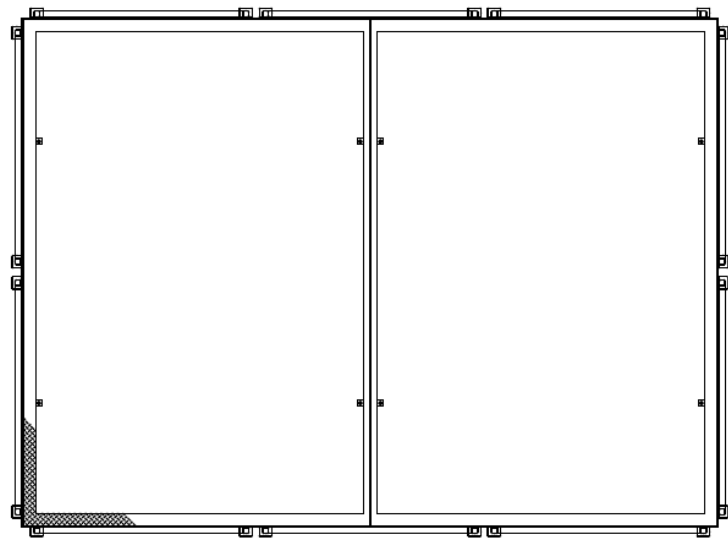
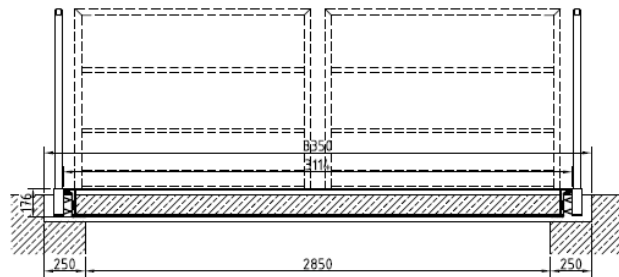
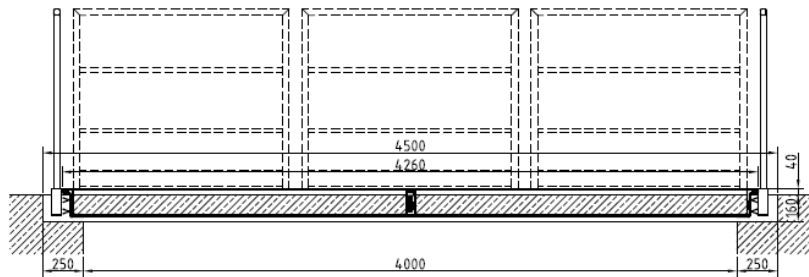


Toleranzklasse C EN ISO 13920		Maßstab / Werkstoff		S235JR, C35/45	
		Datum	Name	Schachtabdeckung befahrbar bis 10kN/m ² Last tagwasserdicht; 2-teilig; mit hydraulischer Öffnung; mit werkseitiger Betonfüllung; Brandschutz F90;	
		Gezeichnet	20.08.2019		
		Freigegeben	D. Lamin		
		Von			
		ACO Detego		S-HSB-C-250-300-TW-2tlg-F90	22
		Technische Änderungen vorbehalten			A3

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- clear width: 1500 x 2000 mm
- load class C 250 according to EN 124
- Fire resistance EI 30 according to EN 13501
- Equipped with
 - manual opening from below
 - opening aid made of gas spring rods



Toleranzklasse EN ISO 13920		Maßstab /	
		Material S235JR; C35/45	
	Datum	Name	
Gesichtet	08.02.2018	D. Lamin	
Kontrolliert			
Norm			
		Schachtabdeckung begehrbar nach DIN 1055-3 2-teilig; tagwasserdicht; zur bauseitigen Füllung bis 4cm; Brandschutz F90; Gewindeaushebungen;	
		S-KSBF4-A-285-400-TW-F90ou-Gel-2tlg	
		23	
		A3	



ACO Detego

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Technische Änderungen vorbehalten





- clear width: 3000 x 3000 mm
- load class C 250 according to EN 124
- Fire resistance EI 90 according to EN 13501
- two opening lids
- railings

A close-up photograph showing a metal cover being subjected to a fire test. Bright orange and yellow flames are visible beneath the cover, which is held in place by a metal frame. The cover itself appears to be made of a light-colored, possibly insulated material.

Covers with fire resistance

Summary

- EN 124 for covers in general
- EN 13501 for fire resistance
- E – Integrity
- I – Thermal insulation
- Time of fire resistance, e.g. 90 min.
- Classification approval instead of certificate
- Loss of functional preservation after fire occurrence





Covers with fire resistance

Summary

- Do not hesitate to either **ask ACO Industries** or **ACO Passavant Detego** for support
 - during planning
 - during installation
- Together ACO Industries and ACO Passavant Detego are able to provide fire resistant cover solutions for various civil engineering projects





Question and answers

Your turn



?

Thank you for your attention

