



ROMÂNIA

**MINISTRY OF REGIONAL DEVELOPMENT AND
PUBLIC ADMINISTRATION
STANDING TECHNICAL COUNCIL FOR CONSTRUCTIONS
TECHNICAL APPROVAL**

Based on the official record no. **2-121**, from **17.03.2016** of the Approval Commission no.2 of technical approvals in construction:

THE STANDING TECHNICAL COUNCIL FOR CONSTRUCTIONS APPROVES FAVORABLE:

The technical agreement no. **003-05/454-2016**, elaborated by **SC PROCEMA CERCETARE SRL BUCURESTI**, for **COMPOSITE MANHOLE COVERS AND GULLY GRATINGS**, produced by **SC SAV SISTEM SRL, Loc. Doicesti, judetul Dambovita**.

The current **TECHNICAL APPROVAL** is valid until **17.03.2018** and can be extended if the holder proves that maintain the ability of use of the technical approval object, according to the provisions referred to in chapter „conditions” from the technical approval.

The technical approval is valid until **17.03.2019**, for holder, producer and distributors mentioned in the annex to technical approval.

PRESIDENT OF STANDING TECHNICAL COUNCIL FOR CONSTRUCTIONS

CEZAR RADU SOARE

Head of Technical Secretariat of the Council

Gheorghe HAȘCĂU

**MINISTRY OF REGIONAL DEVELOPMENT AND PUBLIC ADMINISTRATION
STANDING TECHNICAL COUNCIL FOR CONSTRUCTIONS**



**Technical Approval
003-05/454-2016**

CAPACE ȘI GRĂTARE DIN MATERIAL COMPOZIT PENTRU CĂMINE
COMPOSITE MANHOLE COVERS AND GULLY GRATINGS
GRILLES ET BOUCHES D'EGOUT EN COMPOSITE
SCHACHT ABDECKUNGEN UND AUFSÄTZE AUS COMPOSITE
CODE: 2.37

PRODUCER:

SC SAV SISTEM SRL

Str. Constantin Brancoveanu, no.214, Loc. Doicești – Județul Dambovită
Phone: 40766 256 900

TECHNICAL APPROVAL HOLDER:

SC MEDA PARK SRL

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TECHNICAL APPROVAL MADE BY:

SC PROCEMA CERCETARE SRL

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SPECIALIZED GROUP NO. 05

PRODUCTS, PROCEDURES AND EQUIPMENT FOR INSTALLATIONS RELATED TO CONSTRUCTION

The current technical approval is valid until 17.03.2019 only followed by the TECHNICAL APPROVAL of Standing Technical Council For Constructions and does not hold place of quality certificate.

STANDING TECHNICAL COUNCIL FOR CONSTRUCTIONS

The specialized group no. 05 - products, procedures and equipment for installations related to construction within S.C. PROCEMA-CERCETARE S.R.L – Bucuresti, analyzing the requesting documents for technical approval elaboration, presented by S.C. MEDA PARK S.R.L – Targoviste and registered with no. 1511 from 07.09.2015, relating to COMPOSITE MANHOLE COVERS AND GULLY GRATINGS manufactured by SC SAV SISTEM SRL – Doicesti, issues the current Technical Approval no. 003-05/454-2016, in accordance with Romanian technical documents related to the reference field and technical approval guides no. GAT 133 and GAT 161, all valid on this date.

1. Brief definition

1.2. Brief description

The current technical approval refers to **composite manhole covers and gully gratings** manufactured by **SC SAV SISTEM SRL –Doicesti**.

The manhole covers assure the cover and securing of inspection chambers for cold water and hot water networks and sewerage. The products are manufactured from composite material of SMC or BMC type, that represent a mix of polymeric resins, catalysts, stabilizers, and fiberglass in proportion of 60% (for SMC) and 15% (for BMC), manufactured in different colors. For SMC type composite, the length of fiber glass is 20÷50 mm and for BMC composite type, the length of fiber glass is of 15 mm.

Inspection chambers covered by manhole covers and grated from composite materials are placed in locations corresponding to the mounting groups, according to SR EN 124 standard, from “Group 1” (min. class A15 - areas susceptible to be used exclusively by pedestrians and cyclists) to “Group 4” (min. class D400 - traffic routes, stabilized road verges and stationary spaces for road vehicles).

SC SAV SISTEM SRL- Doicesti company manufactures the following type of products:

a) manhole covers with frames – that covers the entrance in inspection chambers or evacuation.

b) street gully gratings – covering elements, through that the rainwater that crosses them flows down in inspection chamber or street gutter. These are made with or without fastening frame.

The following elements are included in the composition of products:

Frame is the element that serves as supporting surface for manhole covers and gratings and has circular or square/rectangular shape. The frame is provided with base and stiffening ribs that assure a supporting surface for sustaining and fixing the manhole cover, as well as a surface for effective anchoring in concrete and/or asphalt. To eliminate noise and to absorb the shocks in traffic the frame is provided with a polyethylene gasket.

Manhole cover is the mobile element of the ensemble with round or square shape, with a supporting surface on frame, provided with secure fastening system or self-locking at closing, to avoid accidental opening of manhole cover during traffic.

The cover is provided with striations on the external surface to avoid aquaplaning, places for handling lifting / lifting, with the possibility to make easily vent holes (for drain chambers), and the internal part is provided with radial ribs to increase resistance to breaking.

The grate is a plan mobile element with round or rectangular shape. The intervals between grate bars have different sizes depending on the hydraulic capacity of the grate and are evenly distributed, thus to achieve the drainage area necessary for the flow of water to be circulated. The longitudinal axis of slots is oriented at 45° to the frame. The slots width are between (16 ÷ 32) and their length are ≤ 200 mm.

SC SAV SISTEM SRL – Doicesti manufactures a range of manhole covers, grates and fastening frames for chambers and evacuation holes, from composite material, with/without vent holes, with circular, square or rectangular opening. The types of manhole covers are the following:

Manhole covers type D300 SMC/BMC, for sewer pipe from PVC/PP with diameter of Ø315, Ø325, resistance class D400 (with test force of 400kN), without ventilation, frame of square shape, length =380 mm and round manhole cover, with screw locking device, made with dimensions (quota of pass x height) of Ø 274 x 125 mm, weight 12 kg;

Manhole covers type D550 SMC/BMC, resistance class D400 (with test force of 400kN), with/without ventilation, frame and manhole covers of circular shape, external diameter of Ø720, with screw locking device, made with dimensions (quota of pass x height) of Ø 550 x 75 mm, weight 32 kg;

Manhole covers type D600 SMC/BMC, resistance class D400 (with test force of 400kN), with/without ventilation, frame and manhole covers of circular shape, external diameter of Ø790, with screw/latch locking device, provided with synthetic rubber gasket, made with dimensions (quota of pass x height) of Ø 600 x 100 mm, weight 38 kg;

Manhole covers type C550 SMC/BMC, resistance class C 250 (with test force of 250 kN), with/without ventilation, frame and manhole covers of circular shape, external diameter of

Ø720, with screw locking device, provided with synthetic rubber gasket, made with dimensions (quota of pass x height) of Ø 550 x 75 mm, weight 32 kg;

Manhole covers type C600 SMC/BMC, resistance class C 250 (with test force of 250 kN), with/without ventilation, frame and manhole covers of circular shape, external diameter of Ø790, with latch/ screw locking device, provided with synthetic rubber gasket, made with dimensions (quota of pass x height) of Ø 600 x 100 mm, weight 38 kg;

Manhole covers type B300 SMC/BMC, for sewer pipe from PVC/PP with diameter of Ø315, Ø325, resistance class B 125 (with test force of 125 kN), without ventilation, frame of square shape, length=380 mm and round manhole cover, with screw locking device, made with dimensions (quota of pass x height) of Ø277 x 96 mm, weight 7,2 kg;

Manhole covers type B450 SMC/BMC, resistance class B 125 (with inspection force of 125 kN), frame and manhole cover of square shape, length=592 mm, without ventilation, with screw locking device, made on following dimensions (quota of pass x height) of 450 x 450 x 35 mm, weight 17,5 kg;

Manhole covers type B450 SMC/BMC, resistance class B 125 (with test force of 125 kN), with/without ventilation, frame and manhole covers of circular shape, external diameter of Ø590, with screw locking device made on dimensions (quota of pass x height) of Ø 450 x 35 mm, weight 9,3 kg;

Manhole covers type B550 SMC/BMC, resistance class B 125 (with inspection force of 125 kN), frame and manhole cover of square shape, length=665 mm, without ventilation, with screw locking device, made on following dimensions (quota of pass x height) of 555 x 555 x 35 mm, weight 23,3 kg;

Manhole covers type B600 SMC/BMC, resistance class B 125 (with test force of 125 kN), with/without ventilation, frame and manhole covers of circular shape, external diameter of Ø780, with screw locking device, made with dimensions (quota of pass x height) of Ø 600 x 35 mm, weight 16,3 kg;

Manhole covers type A300 SMC/BMC, for sewer pipe from PVC/PP with diameter of Ø315, Ø325, resistance class A15 (with test force of 15 kN), without ventilation, frame of square shape, length=380 mm and round manhole cover, with screw locking device, made with dimensions (quota of pass x height) of Ø277 x 81 mm, weight 4,2 kg;

Manhole covers type A360 SMC/BMC, resistance class A15 (with inspection force of 15 kN), frame and manhole cover of square shape, length=500 mm, without ventilation, with screw locking device, made on the following dimensions (quota of pass x height) of 360 x 360 x 35 mm, weight 5,3 kg;

Manhole covers type A450 SMC/BMC, resistance class A15 (with inspection force of 15 kN), frame and manhole cover of square shape, length=592 mm, without ventilation, with screw locking device, made on the following dimensions (quota of pass x height) of 468 x 468 x 35 mm, weight 7,4 kg;

Manhole covers type A550 SMC/BMC, resistance class A15 (with inspection force of 15 kN), frame and manhole cover of square shape, L=665 mm, without ventilation, with screw locking device, made in the following dimensions (quota of pass x height) of 555 x 555 x 35 mm, weight 9,3 kg;

The types of street gully grates for evacuation chambers or drain holes manufactured by **SC SAV SISTEM SRL – Doicesti** are the following:

Plane Grate, type B300 SMC/BMC, for sewer pipe from PVC/PP with diameter of Ø315, Ø325,

resistance class B 125 (with test force of 125 kN), SMC/BMC frame of square shape, length=380 mm and round manhole cover, with screw locking device, made on dimensions (quota of pass x height) of Ø274 x 125 mm, weight 11 kg;

Plane Grate, type C300 SMC/BMC, for sewer pipe from PVC/PP with diameter of Ø315, Ø325, resistance class C 250 (with test force of 250 kN), SMC/BMC frame of square shape, length=380 mm and round manhole cover, with screw locking device, made on dimensions (quota of pass x height) of Ø274 x 125 mm, weight 11 kg;

Plane Grate, type D300 SMC/BMC, for sewer pipe from PVC/PP with diameter of Ø315, Ø325, resistance class D 400 (with test force of 400 kN), SMC/BMC frame of square shape, length=380 mm and round manhole cover, with screw locking device, made with dimensions (quota of pass x height) of Ø274 x 125 mm, weight 11 kg;

The low weight of composite materials compared to the manhole covers and grates from cast iron, made them to be transported and mounted easy.

The dynamic loads that manhole covers take from driving on public roads are transmitted to chamber or road, thus protecting the network.

1.2. Product identification

The identification of **composite manhole covers and gully gratings** manufactured by **SC SAV SISTEM SRL** company, is made on marking, applied from manufacturing on manhole cover and frame.

The marking include the following data:

- name and/or manufacturer logo;
- name and/or product code;
- product standard: EN 124-5;
- product class: D400, C250, B125 or A15;

The marks must be clear and durable. As far as possible, they should be visible after fitting the manhole cover. Also, on the manhole cover surface can be applied logos in different colors.

2. Technical Approval

2.1. Domains of use accepted in construction

Composite manhole covers and gully gratings, manufactured by **SC SAV SISTEM SRL-Doicesti**, are used to the cover and closing of inspection chambers from cold water, hot water and sewerage networks, placed in appropriate places, according to class declared by manufacturer and of SR standard.

2.2. Appreciations on product

2.2.1. The ability to exploit in construction

Composite manhole covers and gully gratings, manufactured by **SC SAV SISTEM SRL-Doicesti**, can be used in constructions because they meet the fundamental requirements of the Law 10/1995, on quality in constructions, with subsequent amendments.

Mechanical resistance and stability

The quality of mixtures that form the products (composite material made of reinforced polyester with glass fiber in proportion of 15÷60 %) and the solutions adopted in the products design confer mechanical resistance, wear resistance and stability. The composite is made of 3 base element: fiberglass, resins and additives (catalysts, stabilizers, thickeners, pigment paste, and additional materials). The fiberglass forms the structure of skeleton. Using the hot compression molding process in molds, are produced large series of manhole covers and grates with quality structures, economic, for different fields of use meeting the requirements of customers.

The materials used to products manufacture assure the manhole covers strength in the temperature range between -40°C and $+80^{\circ}\text{C}$.

Products are not susceptible to breakage and theft, are resistant to shocks, are resistant to traffic loads, to corrosion, to environmental factors action and saline solutions used to melt the snow.

The products withstand without damage during transportation, storage and exploitation.

Fire safety

The material used in products manufacture is a composite based on polyester and fiberglass.

This composite is a hard flammable material, characterized by the fact that smoldering or carbonization occur only if there is an external source of fire or high temperatures, stopping after their removal. No fire tests have been performed on these products.

Hygiene, health and environment

The products do not present any danger on human health and do not constitute a pollutant factor for environment according to legislation in the field if the instructions described in the operating and maintenance manual of products are strictly respected.

The conditions stipulated by the legislation in the field are respected at these products usage:

Law of Security and Health in Work no.319/2006, Environmental Protection Law no.265/2006, Order of Health Ministry MS 119/2004, for the approval of Hygiene and Public Health Standards regarding the living environment of population, Waste Management Law no. 211/2011, Government decision (HG) no. 856/2002 regarding Waste Management Evidence, with subsequent amendments.

This composite material is not recyclable after life expiration. The recycled product can be used

only as an additive in the melt of another composite, processed in special furnaces.

Safety and accessibility in exploitation

The products ensure the users safety against possible injuries, having smooth surfaces, without sharp edges, without sharp burrs or acicular prominences.

The external part of manhole covers is provided with striations to avoid aquaplaning and protect the participants to traffic against slipping.

The manhole covers are provided from manufacturing with a locking system for manhole cover closing / opening, which is also a protection against theft.

The closure is sealed due to the high-density polyethylene gasket from the frame. The gasket has the role of damping the noise and vibrations in the traffic.

Energy saving and thermal insulation

Products in the accepted fields of use do not require thermal insulation work.

Energy saving is ensured by product design, manufacturing technology and minimal necessary maintenance, that lead to achieve low energy consumption products.

Noise protection

The materials used in manhole covers manufacturing as well as the execution and mounting technology lead to products that do not induce vibrations and noises in the structures where they are mounted.

Products are less noisy than cast iron manhole covers at vehicles passing due to the attributes of the raw material.

This protection is also achieved by the polyethylene gasket fixed to the support surface of manhole cover to eliminate noise and shocks amortization.

Sustainable use of natural resources

It is not applicable

2.2.2 Durability and product maintenance

Solutions adopted in product design, the quality of used materials and the corrosion resistance lead to a lifetime of at least 30 years under normal exploitation conditions, depending on traffic type.

The products do not require maintenance operations, but the mounting must be carried out by specialized personnel, in accordance with the manufacturer's instructions and the technical prescriptions indicated by the norms and normatives from chapter 2.3.4 of this Approval.

2.2.3 Manufacturing and control

The manufacturing of **composite manhole covers and gully gratings**, by SC SAV SISTEM SRL – Doicesti Company, is done in quality assurance management system, according to the standard SR EN ISO 9001. The company is certified by CertRom-Romania, with certificate no. 135442, valid at the date of this Approval elaboration. Also, the company implemented the environmental management system according to standard SR EN ISO 14001, and holds the certificate no. 229722 issued by CertRom-Romania.

The quality of production is ensured by performing a permanent control, for materials and for respecting the technological parameters, as well as for the final product.

The quality system consists of verifying the manufacturing technology procedures, from raw material to final product.

Constant quality of products is ensured by performing a control based on visual and acoustic tests procedures in order to detect any cracks, material gaps that can affect the technical and functional properties of the parts. From each batch are taken test specimens and is carried out periodically or at request by beneficiary physico-chemical tests by an accredited laboratory.

To products manufacturing, is used the plate-forming process. This process ensures the production of large sizes parts in large production series.

2.2.4 Putting into operation

The composite manhole covers and gully gratings are put into operation by specialized personnel, based on the manufacturer's documentation and in compliance with the technical conditions imposed by the standards and norms provided at point 2.3.4 of this Approval.

The work is done by concreting the frame, over a concreted **chamber** with a minimum depth of 1 m, in green areas and sidewalks, or on intense traffic streets, with a maximum static load admissible for each product type. Concreting is done according with the requirements of standard SR EN 206.

2.3 Technical prescriptions

2.3.1 Design conditions

The composite manhole covers and gully gratings are designed to resist to mechanical, thermal, chemical actions, to shocks and traffic vibrations, to corrosion, and excessive atmospheric conditions in the temperature range between -40°C and +65°C.

The products through design, the materials used and the mounting mode, show strength, stability, safety in exploitation and opportunities for quick and easy mounting. Due to products design, these can not be stolen and are secure against unauthorized access.

The frame-gasket-manhole cover ensemble is designed so that the manhole covers are easily mounted-dismounted, with special tools made by manufacturer, without getting stucked and at the same time is ensured the tightness of inspection chambers.

2.3.2 Manufacturing conditions

The manufacturing process of manhole covers and frames is carried out according with the provisions of product standard and the quality plan provisions, in the quality assurance management system, according to standard ISO 9001. The company is certified by CertRom – Romania, with certificate no. 135442.

The materials that make up part the products must be accompanied by quality certificates issued by authorized laboratories.

Manhole covers/grates and frames are executed through a hot forging process in molds. Casting temperatures are within the range $110^{\circ} \div 150^{\circ} \text{C}$, depending on technological process specifications or of material.

The temperature has the role to accelerate and stimulate the chemical polymerization process of the resin mixture.

Following the polymerization process, the material hardens, resulting the product final shape and state.

Each product is tested in own laboratory. Tests include the following verifications:

- the quality of materials;
- execution and appereance;
- dimensions;
- the bearing surface between the manhole cover and frame;
- the minimum inspection force test.

The breaking test is performed according to SR EN 124 by applying the inspection force corresponding to the class of the tested product.

2.3.3 Delivery conditions

On delivery, the products are accompanied by a warranty certificate, mounting, exploitation and maintenance instructions, in Romanian language, as well as by the manufacturer's conformity declaration of the product with the Technical Approval issued for it, according to the standard SR EN ISO/CEI 17050-1: 2010 and SR EN ISO/CEI-2:2005 "Conformity Evaluation". Conformity declaration given by provider.

Delivery can be done separately for frame, manhole cover or grate and in sets as frame-manhole cover.

The products are delivered packed from factory to be protected against accidental handling during transport and storage.

Transport and handling are done in such a way to ensure the product's qualitative integrity. Storage is done in closed warehouses or in open air.

The products are mounted on pallets of 15 pieces, with identification label and will be covered with polyethylene film.

The manufacturer grants a warranty of 2 years from the operation with the conditions to respect instruction of handling, delivery, storage and putting into operation.

2.3.4 Conditions for putting into operation

The composite manhole covers and gully gratings are put into operation by specialized personnel on the basis of design and approved projects, respecting the manufacturer's mounting instructions and the fundamental requirements of Law 10/1995, with subsequent amendments.

Before putting into operation all surfaces that come into contact with concrete will be cleaned by impurities.

The concrete must be of C 35/45 type, according to standards EN 206 și EN 1045.

The frame is concreted with cement at level of asphalt road and pedestrian, ensuring continuous contact throughout its contour.

In situations where there is a quota difference compared to the asphalt level, this will be compensated by mounting a lifting ring.

Internal surfaces that do not come into contact with concrete will be protected with a layer of bitumen.

To preparing the underground water and sewerage networks projects and putting into operation the products, will be respected the

manufacturer's mounting instructions and the provisions of norms and standards in force:

- I 9 – 2015 - Normative for design, execution and exploitation of sanitary instalations related to buildings;
- I 22-2002 – Normative for design and execution of pipelines, water supply and sewerage networks of localities;
- P 66-2002 – Normative for design and execution of water supply works and sewerage of localities situated in rural areas;
- P 96-2015 - Guide for design and execution of sewage systems for meteoric waters from civil, socio-cultural and industrial buildings;
- C 56 – 2002-Normative for quality verifications of construction works and related installations;
- C 300 – 1994 – Norms of Prevention and Firefighting during the execution of construction works and related installations;
- Ministry of Internal Affairs Order no. 163/28.02.2007 on the approval of general fire protection Norms;
- Ministry of Health Order no. 119/2014 for the approval of hygiene and public health Norms on the living environment of population;
- The Law of Security and Health in Work no. 319/2006
- Environmental Protection Law no. 265/2006
- Law on Waste Management no. 211/2011, with subsequent amendments;
- Government decision no.856/2002 on waste management evidence, with subsequent amendments;
- The Law on Insurance of Occupational Accidents and Occupational Diseases no. 346/2002, with subsequent amendments;

Conclusions

Overall appreciation

The use of **composite manhole covers and gully gratings** manufactured by **SC SAV SISTEM SRL – Doicești** in the accepted areas of use is **favorably appreciated** under the specific

conditions in Romania, if the provisions of this approval are respected.

Conditions

- The quality of product and the manufacturing method have been examined and found to be adequate by CertRom - Romania and should be maintained at this standard throughout the validity of this approval.
- Wherever reference is made in this approval, to legislative or technical regulations, it must be taken into account that these documents were in force at the time when that approval was elaborated.
- By granting this approval, The Standing Technical Council For Constructions is not involved in the presence and / or absence of company's legal rights to market, mount or maintain the product.
- Any recommendation related to the safe use of these products, which is contained in or that relates to this technical approval, represents the minimum requirements needed for putting into operation and exploitation.
- PROCEMA-CERCETARE is responsible for the accuracy of the data entered in the Technical Approval and for verification or tests underlying those data. Technical Approvals do not absolve suppliers and / or users of their responsibilities under the applicable legal regulations in force.
- Verification of maintenance ability to use of louver frame will be carried out by the holder of technical approval according to the agreed program together with PROCEMA-CERCETARE, a program that consists of: verification at 12 months in **SITU** (the external aspect of products, the quality of external surfaces and visual inspection),

verification of certificate validity for the quality management system of the manufacturing unit and the products conformity declarations.

- The actions included in the program and their implementation will respect the normative documents and technical regulations in force.
- Any modification of manufacturing technology and / or the introduction of new raw materials and materials will be brought to the attention of technical approval technician to be considered and to proceed with the extension / modification of the technical approval.
- PROCEMA-CERCETARE will inform The Standing Technical Council For Constructions about the tests results, and if these do not prove maintenance of the capacity to use it will request The Standing Technical Council For Constructions to trigger the suspension of the technical approval.
- Suspension will be also triggered if it will be detected through controls, made by competent authorities, that the constant maintenance of manufacturing and use conditions of the product are not respected.
- If the Technical Approval holder does not comply with these provisions, the procedure for withdrawal of Technical Approval will be triggered.

Validity: 17.03.2019

Extension of validity or revision of this technical approval must be requested at least three months before the expiration date. In case of non-extension of validity, the technical approval will be canceled by itself.

For the specialized group no. 05

GENERAL DIRECTOR

President of specialized group no.05

Engineer Mihaela TOPOLOGEANU

Engineer Claudia IONESCU

3. Complementary remarks of the specialized group
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In order to elaborate the technical approval for the products: **composite manhole covers and gully gratings** manufactured by **SC SAV SISTEM SRL – Doicești**, was analyzed the documentation provided by SC MEDA PARK SRL as an applicant and holder. Following the documentation analysis, it was found that SC SAV SISTEM SRL – Doicești company operates in the quality assurance management system, for design, production and distribution according to the standard ISO 9001. For this purpose, the manufacturing company is certified by CertRom-Romania, with certificate no.135442. The company also implemented the environmental management system according to the standard SR EN ISO 14001, and holds certificate no. 229722 issued by CertRom-Romania.

The modern manufacturing technology applied by **SC SAV SISTEM SRL – Doicești**, provides the products with efficiency, reliability and durability of at least 30 years, in conditions of respecting the provisions of this technical approval.

Composite manhole covers and gully gratings were teste by The Central and Research Laboratory of SC COS Targoviste SA, accredited RENAR (Romanian Association of Accreditation) – no. LI 015 and holds tests bulletins, no.116E÷222E/2015, 162E/2015.

It is necessary for the manufacturer and / or the holder of technical approval that during the period of validity of technical approval to obtain data from authorized neutral bodies for the behavior of products in exploitation. The data and observations obtained will be made available to the specialized group for the extension of technical approval.

As a result of documentation analysis, it was found that composite products can be used both, in road traffic and non-road traffic, having the following characteristics:

- frame design with compatible sizes for all types of standardized or non-standardized **chambers**;
- the manhole cover is placed in special places, being handled easy;
- the frame is designed to assure robustness at loading and protection against odors;
- the manhole cover has a non-slip surface;

The Approval is valid for "**Composite manhole covers and gully gratings**", identifiable according to data from the technical dossier and where manufacturing, putting into operation and performances are at least at the presented level.

the specialized group no. 5 within PROCEMA-CERCETARE SRL get the results of tests carried out in the manufacturer's laboratory and the testing laboratory of SC COS Targoviste SA, accredited RENAR (Romanian Association of Accreditation) – no. LI 015 according to tests and control bulletins

no.116E÷222E/2015, 162E/2015, of the audit and the documents that are attached to the technical dossier.

SYNTHESIS OF THE TEST REPORT

No	Determining characteristic	U.M	Reference value	Standard	Determinant value	Observation
0	1	2	3	4	5	6
Manhole cover, Ø 720 mm, SMC, class D 400						
1.	Inspection force A force of 400KN was applied and held for 30 seconds	kN	≥400	SR EN 124 - 1	401 there were no cracks or remaining deformations	suitable
Manhole cover, Ø 780 mm, SMC, class B 125						
2.	Inspection force A force of 125KN was applied and held for 30 seconds	kN	≥125	SR EN 124 - 1	126,6 there were no cracks or remaining deformations	suitable
Grate D300, 380x380 mm, class D 400						
3.	Inspection force A force of 400KN was applied and held for 30 seconds	kN	≥400	SR EN 124 - 1	401,6 there were no cracks or remaining deformations	suitable

4. Annexes

SIGNIFICANT EXTRACTS FROM OFFICIAL RECORD NO.690 FROM 25.02.2016 OF THE DELIBERATION MEETING OF THE SPECIALIZED GROUP NO.05

At the deliberation meeting of the Specialized Group no.5 attended by engineer Claudia IONESCU, Dr. engineer Sorin BOTEZ, engineer Cristina GEORGESCU and engineer Mihaela Topologeanu and invited on behalf of S.C MEDA PARK S.R.L., the following points have been highlighted in particular:

The technical approval dossier is complete and in its development have been respected the **PAT 1/2004** instructions, made by The Standing Technical Council For Constructions;

Products: **The composite manhole covers and gully gratings** manufactured by **SC SAV SISTEM SRL- Doicești**, meets the quality requirements of Law 10/1995.

Having noted these, the Internal Advisory Committee **APPROVED** this Technical Approval, with a validity of **3** years.

The technical dossier of the technical approval no. 003-05/454-2016 having 61-pages is an integral part of this technical approval.

- **Technical approval holders**

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CAPAC A550 CLASA A15

**Rapporteur of the specialized group no.05
Ing. Cristina GEORGESCU**



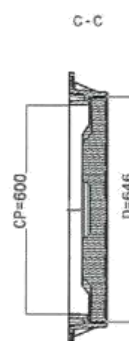
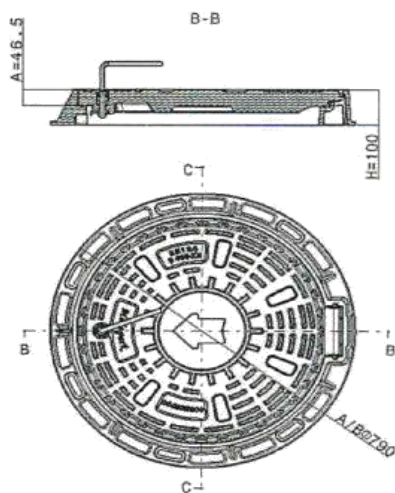
GRATAR B300 CLASA B125



CAPAC B450 CLASA B125



CAPAC D550 CLASA D400



CAPAC C600 CLASA C250

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