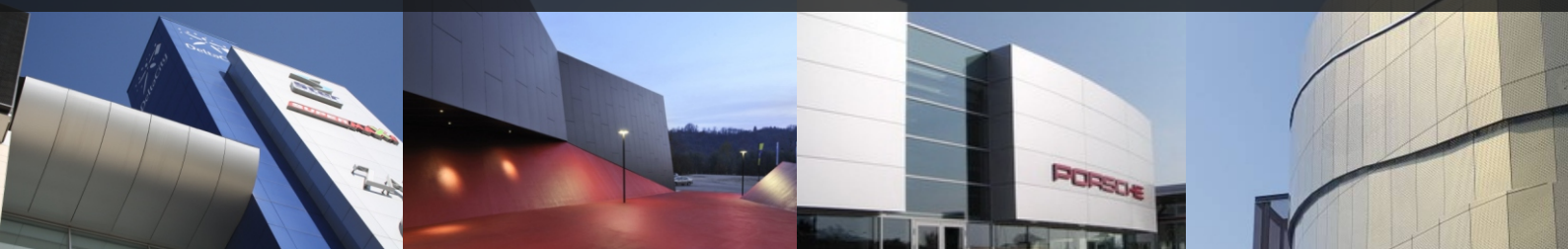




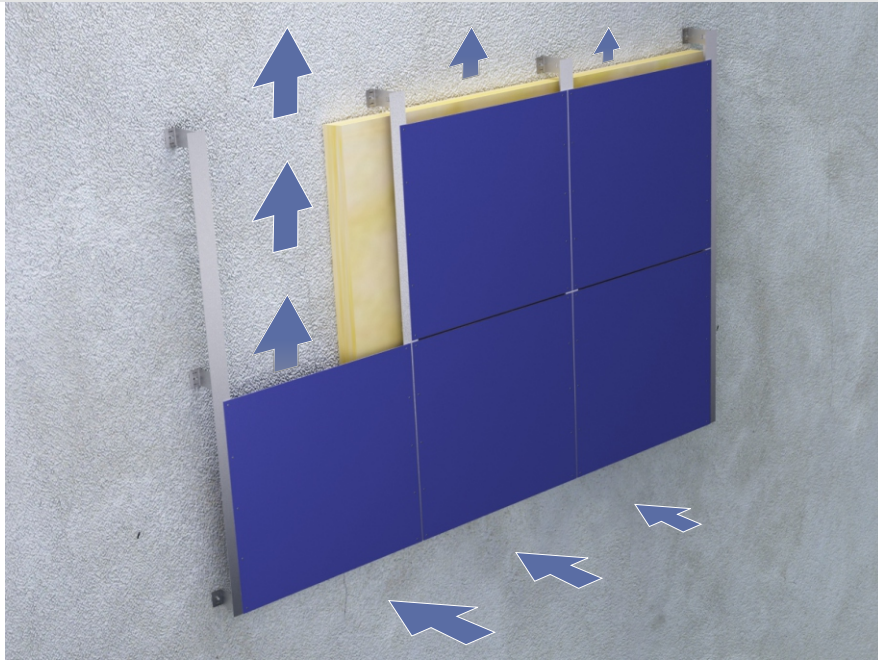
**VENT**

**SUBSTRUCTURE SYSTEMS FOR VENTILATED FACADES**



*DESIGNED AND MANUFACTURED BY TEHNOMARKET*





**VENTILATED FACADES**

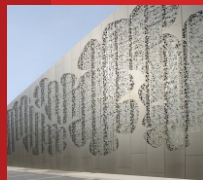
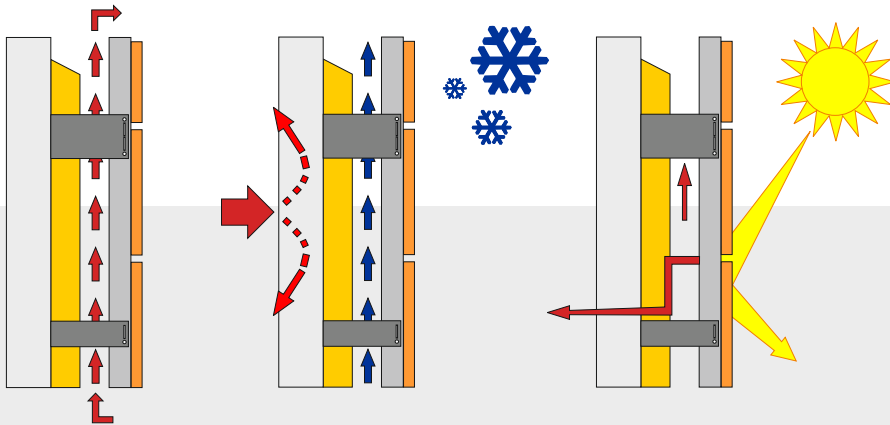
The ventilated facade concept was born out of need for high comfort, durability and reduced costs for modern buildings.

Due to its functionality and simple application, ventilated facade is the favourable solution for big commercial projects, where high level of prefabrication and long-term durability of facade cladding is required.

Ventilated facades are often applied as an ideal and quick option to revitalize and improve existing objects in line with latest construction standards - simple addition of new, ventilated facade with its own substructure attached to an existing wall.

The ventilated facade is exceptionally durable and long lasting while offering great flexibility in architectural shaping of visible facade surfaces. Wide range of cladding materials, structures, colors and finishes makes the ventilated facade an extremely attractive option for architects and developers.

**FUNCTIONAL PRINCIPLE OF VENTILATED FACADES**



By definition, the facade is a protective layer with primary purpose to provide the best possible thermal insulation and protect internal space from external environmental impact.

A good facade, for both residential and commercial buildings, offers an ideal protection and comfortable environment for its users. In modern society, high heating and cooling costs, global warming and environmental protection have forced stricter construction codes and regulations in area of facade insulation properties. Newly introduced norms have had an impact on modern facade construction, with accent on technical solutions that improve ventilation and cooling during warm months and optimal thermal insulation during cold periods.

Ventilated facades are not bonded directly to an existing wall, but instead form an additional layer of air that offers exceptional insulation, not only in winter, but also in summer and therefore enables high level of energy efficiency and preservation. Beside air circulation, ventilated facades offer an option to install different types of high performance insulation and water impenetrable, breathable films within its structure (that help protect main structure from condensation and incidental water penetration) and improve total building insulation.



## VENT - SUBSTRUCTURE SYSTEMS FOR VENTILATED FACADES

VENT aluminium substructure systems designed by Tehnomarket may be considered the next generation of ventilated facades. VENT substructure system consists of 10 different basic systems with options to integrate different facade cladding materials and wide range of designer solutions, attachment systems and facade rasters.

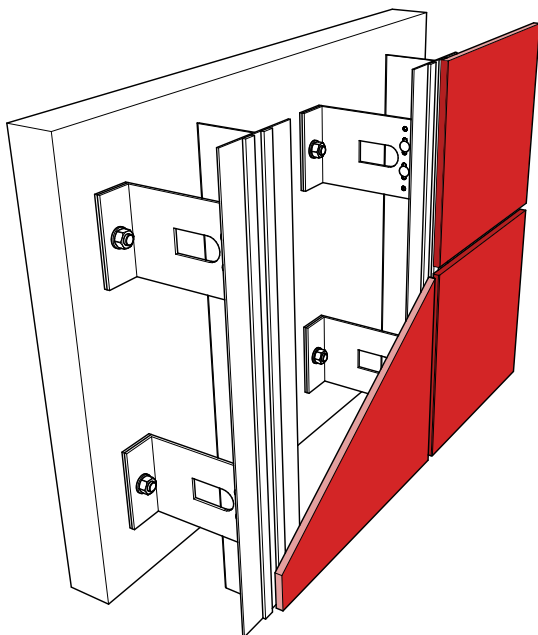
Available options were designed as a result of technical innovation and application of newest architectural trends. Excellent ventilation, quick and easy installation and application of numerous modern cladding materials all contribute to economical and ecological improvements in buildings.

All current cladding materials are supported - aluminium composite panels, flat and corrugated aluminium and steel sheets, HPL panels, ceramic tiles, glass, plexiglass, fibercement panels, wooden panels, stone and many other materials.

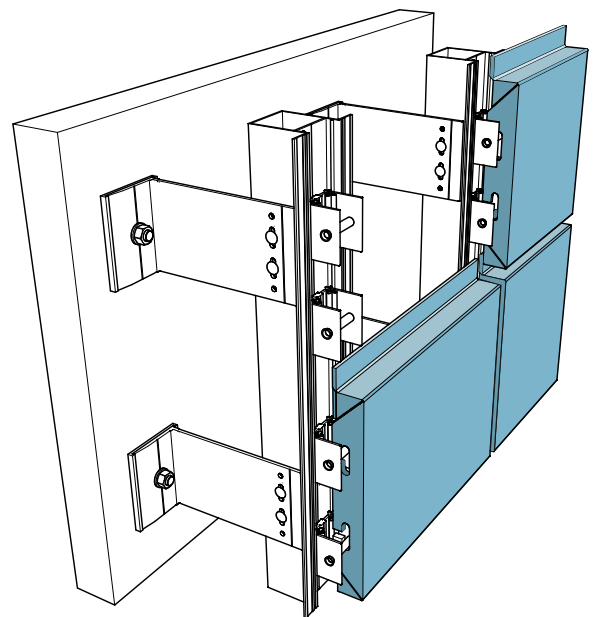
Two basic groups of VENT substructure systems were formed based on shape and machining methods of cladding panels - cassette and panel group, where each group consists of 5 constructively different profile systems and matching accessories.

THERE ARE TWO BASIC GROUPS OF SUBSTRUCTURES BASED ON SHAPE OF CLADDING PANELS

### PANEL systems



### CASSETTE systems



# PANEL systems



Panel systems group consists of aluminium substructure systems for flat cladding panels that feature both visible and hidden mechanical or chemical attachment options. This group covers wide range of facade cladding materials, and features **RIVET, TACK, HIDE, STONE and CONTINUAL** systems.

## system **HIDE**

- **fixed anchors** - for attachment of system anchors to a wall
- **system anchors** - adjustable load-bearing elements
- **load bearing aluminium profiles** - vertical
- **additional aluminium profiles** - horizontal/rail
- **profiled mounts**
- **facade cladding** \*

• for final installation, use fastening methods and accessories specified in technical documentation



Aluminium substructure system for flat panel cladding with invisible mounting. Special anchors, constructed and manufactured by Kiel and Fischer, are used in this system. It is one of preferred ventilated facade systems in modern architecture due to dry installation process, high percent of workshop prefabrication and clean look of a finished building. The only requirement this system imposes is minimal cladding plate thickness of 6mm.

### system ROCK

- **fiks ankeri** - za pričvršćivanje kotvi na konstrukciju objekta
- **plastične podloške** - u slučaju zahteva za termoprekidom
- **kotve** - podesivi noseći elementi
- **primarni noseći aluminijumski profili** - vertikalni (u retkim slučajevima horizontalni)
- **sekundarni noseći aluminijumski profili** - uvek horizontalni, ulaze u žleb na kamenim pločama
- **fasadna obloga** \*

• za montažu fasadnog sklopa se koriste spojna sredstva prema tehničkim uputstvima

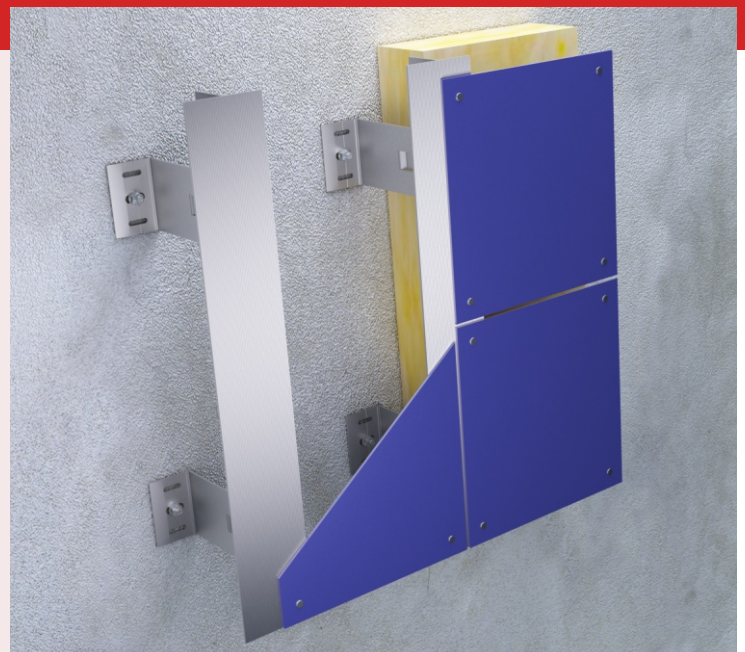


Sistem aluminijumske podkonstrukcije koji je namenjen prihvatanju ravnih ploča, najčešće od prirodnog kamena, sigurno fiksiranih horizontalnim profilima delimično vidljivim sa lica fasade u zoni horizontalnih fuga, koji se u zavisnosti od zahteva u projektu mogu plastificirati u traženoj boji po RAL ton karti. Postupak ugradnje je suv, uz jednostavnu montažu i kompletnu radioničku pripremu. Debljina fasadne obloge može biti od 10-40mm u zavisnosti od strukture materijala.

### system RIVET

- **fixed anchors** - for attachment of system anchors to a wall
- **insulators** - in case of specified thermal break
- **system anchors** - adjustable load-bearing elements
- **load bearing aluminium profiles** - vertical or horizontal
- **facade cladding** \*

• for final installation, use fastening methods and accessories specified in technical documentation



Aluminium substructure system for flat panel cladding featuring visible mounting, usually blind rivets or screws. They can be visually accented with special, decorative heads or powder coated in panel color if least possible visibility is required.

• available substructure and cladding combinations can be found in the table at the end of this brochure

### system **STONE**

- **fixed anchors** - for attachment of system anchors to a wall
- **insulators** - in case of specified thermal break
- **system anchors** - adjustable load-bearing elements
- **load bearing aluminium profiles** - vertical or horizontal
- **stainless steel load-bearing plates** - cleats
- facade cladding \*

• for final installation, use fastening methods and accessories specified in technical documentation



Aluminium substructure system for flat panel cladding (usually granite ceramic tiles) fixed by stainless steel cleats with visible or hidden fixing system. The visible part of the stainless steel cleat can be powder coated in any RAL color according to project requirements. This dry installation system features simple installation, high load-bearing capacity which makes it the preferable option for mid-heavy cladding materials.

### system **CONTINUAL**

- **fixed anchors** - for attachment of system anchors to a wall
- **system anchors** - adjustable load-bearing elements
- **load bearing aluminium profiles** - vertical or horizontal rectangle, "L" or "T" profiles
- **square tubes** - vertical or horizontal
- **contact EPDM gaskets** for pressure plate
- **pressure plates** - vertical and horizontal
- **cover cap** - vertical and horizontal in different design options
- facade cladding \*

• for final installation, use fastening methods and accessories specified in technical documentation



Aluminium substructure system for flat panel cladding featuring emphasized visible facade partitions. This partitioning is possible via vertical and horizontal cover caps, in all according to architect's proposal. This way, achieved is the same visual effect as with glass curtain walls (therefore the system's name Continual). This dry installation system has almost no limits regarding the cladding panel material (with exception of corrugated sheets and roughly cut and textured stone panels).

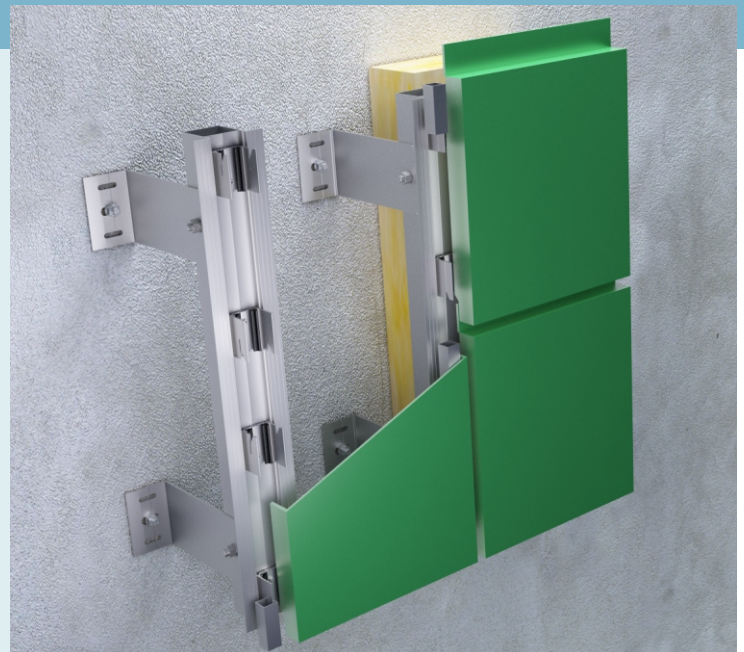


Cassette systems group consists of five aluminium substructure systems for specially formed cassettes that are machined and bent into shape, with certain depth and usually hidden mechanical attachment to an aluminium substructure. Cladding materials used in this group allow for easy machining and shaping. Systems in this group are: **BOX**, **SLIDER**, **BOLT**, **GASKET** and **FIT**.

### system **BOX**

- **fixed anchors** - for attachment of system anchors to a wall
- **insulators** - in case of specified thermal break
- **system anchors** - adjustable load-bearing elements
- **load bearing aluminium profiles** - vertical or horizontal
- **sliding panel brackets**
- **facade cladding** \*

• for final installation, use fastening methods and accessories specified in technical documentation



Aluminium substructure system for installation of specially machined and formed cassettes fixed with hidden cantilevers and brackets machined from small square tubes. This dry installation system features full workshop preparation of cassettes that are quickly installed on a construction site as finished facade elements.

• available substructure and cladding combinations can be found in the table at the end of this brochure

### system SLIDER

- **fixed anchors** - for attachment of system anchors to a wall
- **insulators**- in case of specified thermal break
- **system anchors** - adjustable load-bearing elements
- **load bearing aluminium profiles** - vertical  $\Omega$  profile
- **sliding panel brackets with bolt**
- **corner cassette reinforcements** - L profiles 22mm in length
- facade cladding \*

• for final installation, use fastening methods and accessories specified in technical documentation

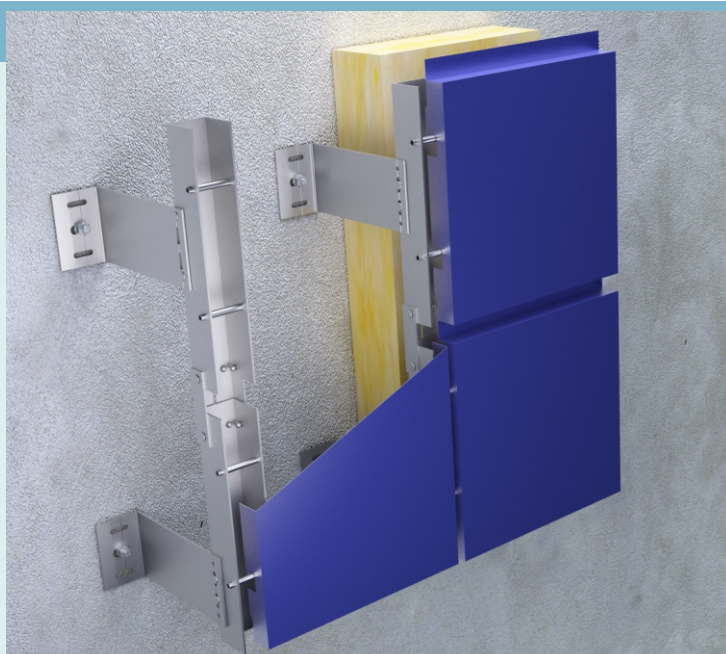


Aluminium substructure system for specially machined and shaped cassettes fixed by sliding panel brackets with visible bolts in gaps between cassettes. This dry installation system features a quick and efficient installation due to complete workshop preparation of all cassettes. It is named after special sliding brackets that are fixed to each cassette and later slide onto a load-barring substructure.

### system BOLT

- **fixed anchors** - for attachment of system anchors to a wall
- **insulators** - in case of specified thermal break
- **system anchors** - adjustable load-bearing elements
- **load bearing aluminium profiles** - vertical
- **bolts** - 60mm long
- **corner cassette reinforcements** - L profiles 22mm in length
- facade cladding \*

• for final installation, use fastening methods and accessories specified in technical documentation



Aluminium substructure system for specially machined and shaped cassettes fixed by panel brackets with visible bolts in gaps between cassettes (this is where the system's name comes from). This dry installation system features specially machined side cutouts used to fix cassettes for aluminium substructure.



## system GASKET

- **fixed anchors** - for attachment of system anchors to a wall
- **insulator** - in case of specified thermal break
- **system anchors** - adjustable load-bearing elements
- **load bearing aluminium profiles** - vertical or horizontal
- **cassette-fixing profiles** - short profiles
- **joint fillings** - epdm gaskets and optional structural silicone
- **facade cladding** \*

• for final installation, use fastening methods and accessories specified in technical documentation



Aluminium substructure system for specially machined and shaped cassettes, very suitable for encasement of not only walls, but also columns, ceilings, niches and other complicated areas. It is best known for its emphasized gaps between individual cassettes. This look is achieved through insertion and fixing of a special EPDM gasket into gaps which give the impression that entire facade is sealed. This dry installation system features extremely practical installation and doesn't require high precision.

## system FIT

- **fixed anchors** - for attachment of system anchors to a wall
- **insulators** - in case of specified thermal break
- **system anchors** - adjustable load-bearing elements
- **load bearing aluminium profiles** - vertical or horizontal
- **cassette-fixing profiles**
- **connective rubber** - rubber buffer between profiles
- **facade cladding** \*

• for final installation, use fastening methods and accessories specified in technical documentation



Aluminium substructure system for specially machined and shaped cassettes. Their installation is extremely simple due to easy matching of two specially constructed aluminium profiles that fit perfectly together. Its trademark are fine visible joints, only 9mm wide, and if underlying profile is powder coated the gap can even be colored. This dry installation system features partial workshop preparation and quick installation.

• available substructure and cladding combinations can be found in the table at the end of this brochure



	RIVET	TACK	HIDE	STONE	CONTINUAL	ROCK
aluminum composite panels	●	●	●		●	
HPL laminated panels (Trespa, Fundermax...)	●	●	●	●	●	
glass	●	●	●	●	●	
stone						●
granite tiles		●	●	●	●	
fibercement panels	●	●	●	●	●	
sheet metal	●	●			●	
corrugated sheet metal	●					
Aquapanel	●				●	
polycarbonate panels	●	●	●		●	
facade unit size	●	●	●	●○○	●●○	●●○
gap width min - max	5-40mm	8-20mm	5-40mm	6-9mm	25-55mm	7,5mm
cladding thickness min - max	4-25mm	6-14mm	6-20mm	3-30mm	2-60mm	10-40mm
wall distance * min - max	64-315mm	64-315mm	64-230mm	64-315mm	64-315mm	64-315mm
maximal heat insulation thickness	200mm	200mm	200mm	200mm	200mm	200mm
CNC machining (cutting, grooveing, carving...)	●	●	●	●	●	●
workshop preparation		●	●			●
installation speed	●	●	●	●●○	●●○	●●●
dry installation process	●		●	●	●	●
wet installation process		●				
substructure system price	▬	▬	▬	▬	▬	▬

\* Tehnomarket also offers special anchors that allow the facade cladding to be distanced up to 650mm from the wall (Tehnomarket TMTP system)



BOX SLIDER BOLT GASKET FIT

●	●	●	●	●
●	●	●	●	●
●●○	●●○	●●○	●●○	●●○
14mm	14mm	5-30mm	8-12mm	5-9mm
2-8mm	2-10mm	2-15mm	2-8mm	2-6mm
90-290mm	90-290mm	85-270mm	85-270mm	90-290mm
200mm	200mm	180mm	200mm	200mm
●	●	●	●	●
●	●	●	●	●
●●○	●●●	●●○	●●○	●●●
●	●	●	●	●
▬	▬	▬	▬	▬



GENERAL FEATURES

All systems from Tehnomarket VENT line have the following features:

- all profiles and anchors are extruded from aluminium alloy AlMgSi0,5 (AA6060 & AA6063)
- standard length for aluminium profiles is 6m
- all profiles, anchors and selected accessories can be delivered with anodized or powder coated surface
- compatibility with all traditional and modern facade cladding materials
- systems are completed with full line of accessories



NOVO IME ZA SAVREME NE FASADE

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