

SAFE & SPEED

...when it has to go fast!

...from one of the leading suppliers!

VARIOTEC

Vacuum insulation

Stock programme vacuum insulation

Only in 8 days on your site!

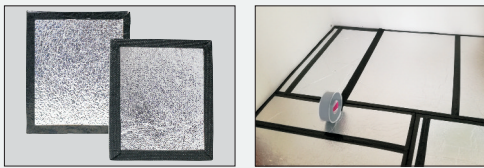
**Prefabricated VIP elements in
20 mm and 30 mm on stock**

3 designs as standard sizes available at short notice!

for external and internal insulation

Lambda value 0,007 W/(mK) as rated value (initial value: 0,0043 W/(mK))

Safe & Speed **VIP blank**
(unlaminated)



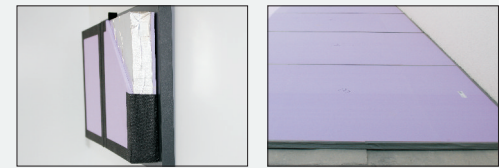
unlaminated vacuum insulation

Safe & Speed **R-Gummi**
(rubber)



laminated with rubber granulate on both sides

Safe & Speed **XPS**

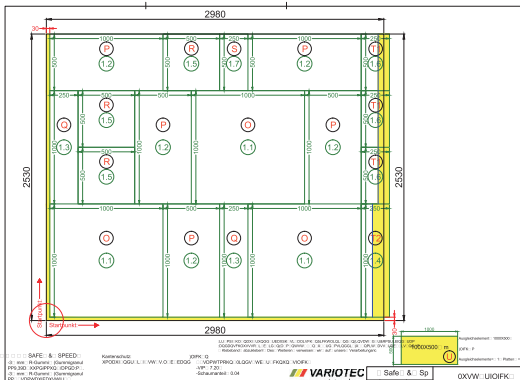


laminated with XPS on both sides

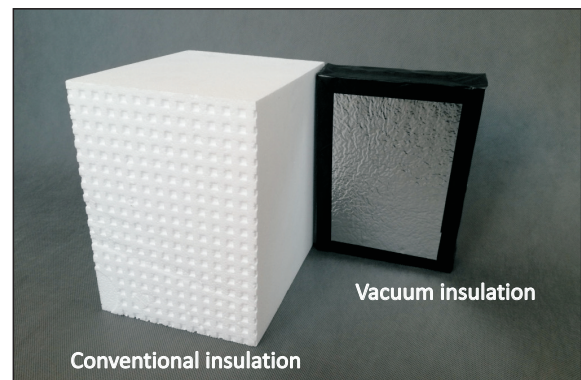
Operational areas amongst others as:

flat roof, balcony and terrace insulation, internal floor insulation, cooling industry and many more

Free of charge layout drawing



Thickness comparison



**Technical approval Z.23.11.1779 from DIBt, fire protection B2* certified
(*Panel core/ Support core is not inflammable and is assigned to fire protection class A1)**

VARIOTEC GmbH & Co. KG Werk 2
Moosweg 12
D-92318 Neumarkt i.d.OPf.
Tel.: +49 9181 6946-10 | Fax: 6946-71
qasa@variotech.de | www.variotech.de

www.variotech.de ⇒ start ⇒ products
⇒ VIP/QASA vacuum insulation

Dated: December 2018

SAFE & SPEED

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VARIOTEC
Vacuum insulation

Description of the programme SAFE & SPEED:

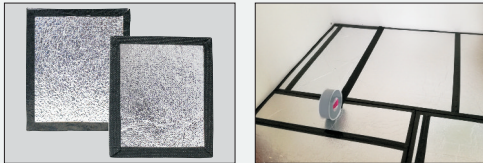
The SAFE & SPEED programme of the vacuum insulation from VARIOTEC is for **short-term deliveries**.

- You need **promptly** an insulation with a low thickness and a low coefficient of thermal conductivity, thus a low construction height and nevertheless top Up values?
- You need **a simple and fast laying** with standard sizes?
- You fill your **remaining surfaces with compensation panels by yourself**.
- You get furthermore **a layout drawing incl. the installation instructions or you arrange the elements by yourself, without layout drawing**.
- Free choice with **3 designs**.
- Many **application areas**.

SAFE & SPEED

...when it has to go fast!

Safe & Speed VIP blank (unlaminated)



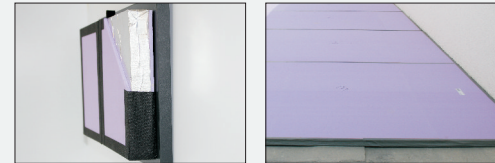
Unlaminated vacuum insulation

Safe & Speed R-Gummi (rubber)



Laminated with rubber granulate on both sides

Safe & Speed XPS



Laminated with XPS on both sides

Please use our form for inquiries and orders for SAFE & SPEED

1st variant: please specify the sizes and quantity you need

2nd variant: please send us your measurements and we provide a free layout drawing

→ www.variotec.de ⇒ start ⇒ downloads ⇒ vip-gasa-vakuumdaemmung ⇒ infobroschuereauschreibungstexte-uvm-2
ou can find details and texts for invitation to tender at

You need the vacuum insulation in **another thickness 10-50 mm** or **for another application area?**

→ see **our complete product overview**

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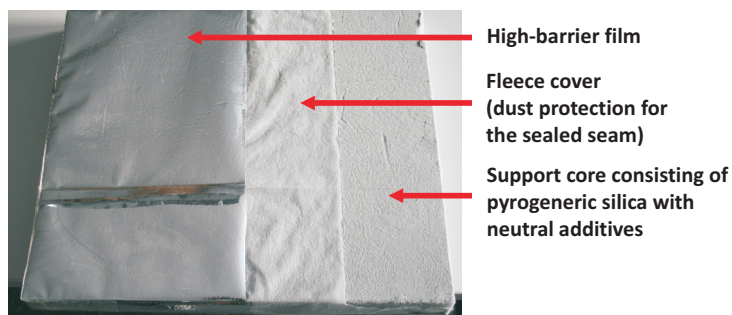
General information of VIP/QASA VACUUM INSULATION

The vacuum insulation elements from VARIOTEC constitute an elegant solution to any insulation problem. On areas where the „conventional“ insulation material is too thick convinces the vacuum insulation with **lower building height**.

The sandwich construction works with an insulation core of vacuum insulation panels (VIP) consisting of evacuated pyrogenic silica, an enclosed mat of fibres and a multilayer high barrier film. The cover layers are adapted to the external and internal application areas.

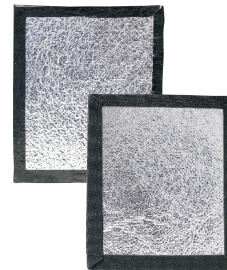
Because of this composition exists nearly no heat conduction. Thus the **extremely thin elements achieve very good insulation values**.

Construction of a vacuum insulation panel: What is inside?

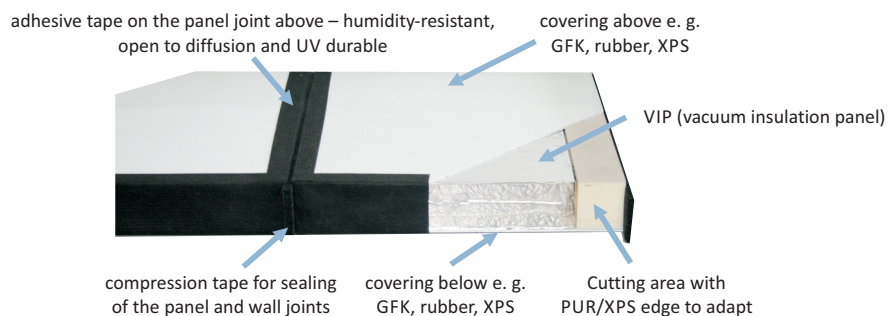


... available also unlaminated ...

Unlaminated panel VT-VIP blank (uncoated)
with technical approval Z. 23.11.1779



Construction of a VIP element laminated on both sides



Technical information VIP/QASA vacuum insulation

Lambda value	0,007 W/(mK) (as rated value) / 0,0063 W/(mK) acc. to European technical approval ETA-13/0493
VIP core thicknesses	10, 15, 20, 25, 30, 35, 40, 45, 50
Edges	All edges are protected with adhesive tape.
Adjustable edges	XPS/PUR insulation stripes to cut and fit the elements in the edge area, width of the insulation stripes subject to agreement
Supporting core density	190 - 220 kg/m ³
Supporting core material	Pyrogenic silica with supporting fibres and infrared opacifier
Specific heat capacity	C = approx. 1kJ / (kg K)
Fire behavior	Normally inflammable (building material class DIN 4102-B2, flammable material class B1 deliverable with technical approval)
Compressive stress	At 10% shortening: $\sigma_{0.10\%} = 190$ kPa
Internal pressure	At the delivery of the panel < 7 mbar
Calculated pressure increase	Approx. 1 mbar / a
Core tolerances	Thickness +1 / -2 mm, length sizes ± 2 mm
Single element test	Each vacuum insulation element will be checked twice with a quality test

VIP core thickness/vacuum insulation **Lambda value of 0,007 W/(mK)*:**

***as rated value - initial value 0,0043 W/(mK)**

20 mm VIP core: $U_p = 0,35 \text{ W}/(\text{m}^2\text{K})$

30 mm VIP core: $U_p = 0,23 \text{ W}/(\text{m}^2\text{K})$

All product types with technical approval!!

Type designation:	Covering:	Operational area:
SAFE & SPEED VIP blank (unlaminated) Total thickness: 20 or 30 mm - Dimensions, technical data see at page 5	Unlaminated vacuum insulation 20/30 mm vacuum insulation / VIP core	-versatile as external and internal insulation -cooling industry -building industry e. g. flat roof, floor insulation
SAFE & SPEED R-Gummi (rubber) Total thickness: 26 or 36 mm - Dimensions, technical data see at page 6 U_p-value panel*: 26 mm: 0,32 W/(m ² K) 36 mm: 0,22 W/(m ² K)	3 mm R-rubber* 20/30 mm vacuum insulation / VIP core 3 mm R-rubber * Rubber granulate/ building protection mat	- exterior surface insulation - flat roof insulation - balcony insulation - floors for conservatories
SAFE & SPEED XPS Total thickness: 30 or 40 mm - Dimensions, technical data see at page 7 U_p-value panel*: 30 mm: 0,30 W/(m ² K) 40 mm: 0,21 W/(m ² K)	5 mm XPS* 20/30 mm vacuum insulation / VIP core 5 mm XPS* * similar to Styrodur	- surface insulation (e.g. floor insulation) - due to 5 mm XPS small unevennesses can be leveled

*without consideration of the edge influences

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Vacuum insulation: core thickness 20 mm or 30 mm is available from stock only in standard formats!

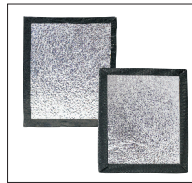


You can find **details and texts for invitation to tender** at:

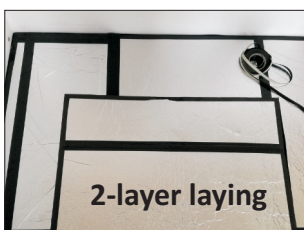
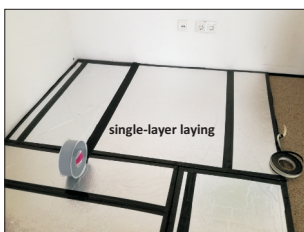
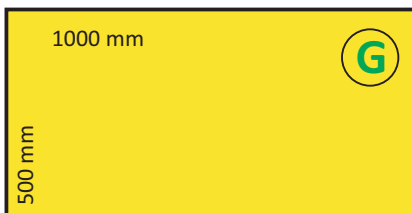
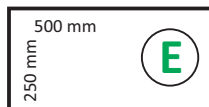
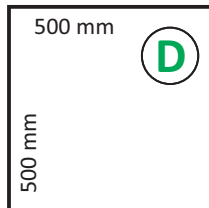
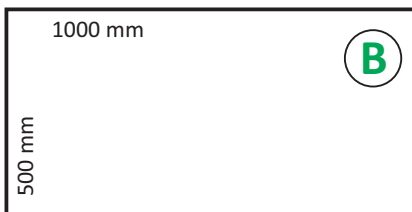
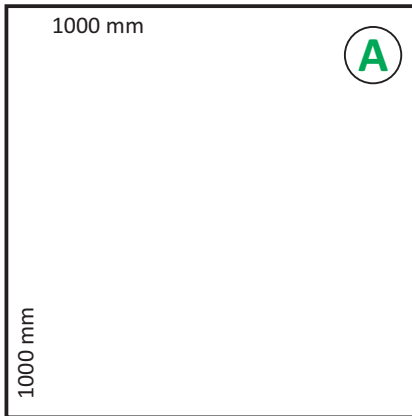
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SAFE & SPEED

VIP blank



VARIOTEC
Vacuum insulation



Type: SAFE & SPEED VIP blank

Construction: **20 or 30 mm VIP**, unlaminated panel
Total construction height: 20 resp. 30 mm

Sizes:

- A** 1000 x 1000 mm
- B** 500 x 1000 mm
- C** 250 x 1000 mm
- D** 500 x 500 mm
- E** 250 x 500 mm

**Other formats
on request!**

G PUR foam /Compensation element

For cutting on site

For all areas where wedged, minimal adaptations, intersections and diverse boreholes are needed.

Construction:

20 or 30 mm PUR foam

Sizes:

500 x 1000 mm

Tapes:

We will discover the need of the tapes in the course of the layout drawing and deliver them to the building lot. Only total roles with 25 running meters will be delivered.

Width: 60 mm

Comriband:

Comriband for panel joint (interior elements 2 x 15 mm x 12,5 running meters)

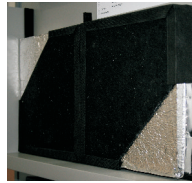
Comriband for wall connection (8 x 20 mm x 4,3 running meters)

Other VIP core thicknesses and sizes on request!

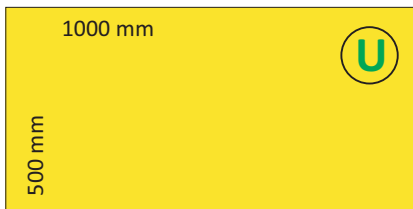
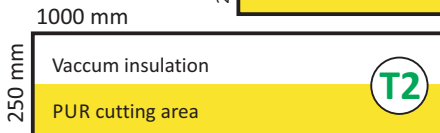
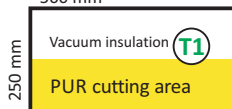
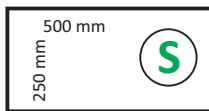
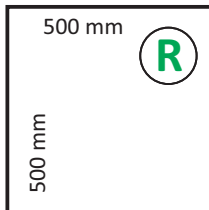
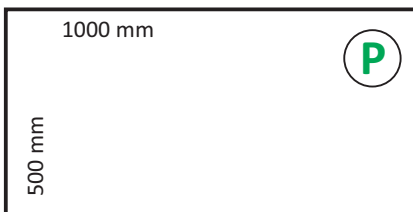
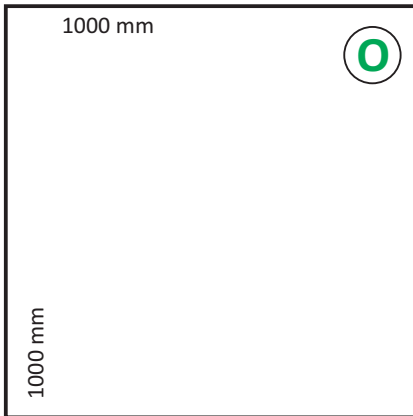
All prices plus the legally valid value added tax and freight and packaging

SAFE & SPEED

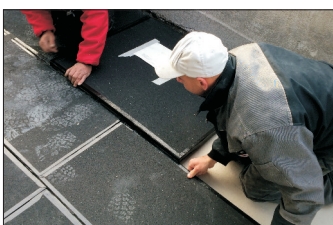
R-Gummi (rubber)



VARIOTEC
Vacuum insulation



* Recommendation only for exterior use!



Type: SAFE & SPEED R-Gummi (rubber)

Construction: **20 or 30 mm VIP**

3 mm R-Gummi (rubber) on both sides

Total construction height: 26 resp. 36 mm

Sizes:

O 1000 x 1000 mm

P 500 x 1000 mm

Q 250 x 1000 mm

R 500 x 500 mm

S 250 x 500 mm

**Other formats
on request!**

T1 + T2 Panels with integrated flexible edge:

Partially with vacuum insulation, partially PUR foam.

Variable through the possibility of cutting in the PUR area on site, **with full-faced R -Gummi (rubber) cover.**

T1 Construction: 150 mm VIP, 100 mm PUR-cutting area

T2 Construction: 100 mm VIP, 150 mm PUR-cutting area

Sizes:

T1 250 x 500 mm

T2 250 x 1000 mm

U PUR foam /Compensation element

For cutting on site

For all areas where wedged, minimal adaptations, intersections and diverse boreholes are needed.

Construction:

20 or 30 mm PUR foam

Sizes:

500 x 1000 mm

Tapes:

We will discover the need of the tapes in the course of the layout drawing and deliver them to the building lot.

Only total roles with 25 running meters will be delivered.

Width: 60 mm

Compriband:

Compriband for panel joint (interior elements 2 x 15 mm x 12,5 running meters)

Compriband for

wall connection (8 x 20 mm x 4,3 running meters)

Other VIP core thicknesses and sizes on request!

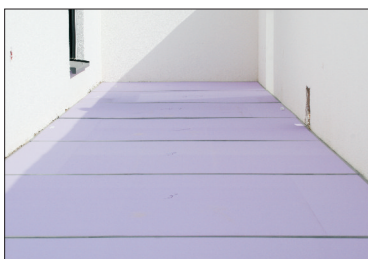
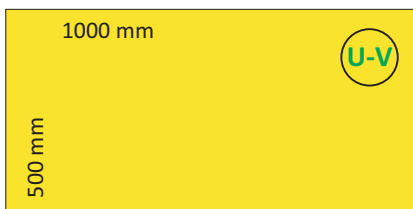
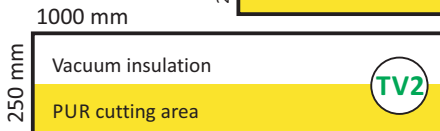
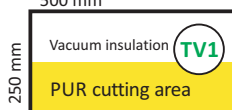
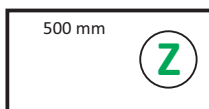
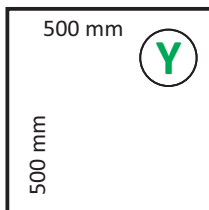
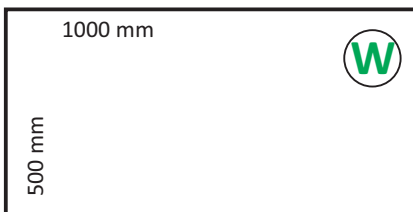
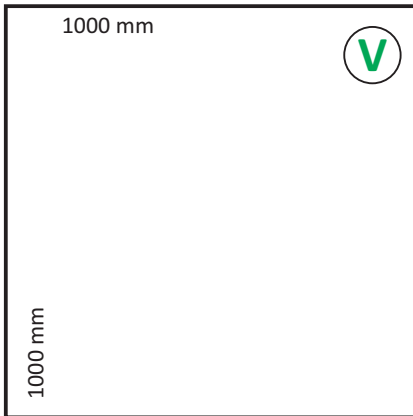
All prices plus the legally valid value added tax and freight and packaging page 6

SAFE & SPEED

XPS



VARIOTEC
Vacuum insulation



Type: SAFE & SPEED XPS

Construction: **20 or 30 mm VIP**

5 mm XPS on both sides (Styrodur)

Total construction height: 30 resp. 40 mm XPS

Sizes:

V 1000 x 1000 mm

W 500 x 1000 mm

X 250 x 1000 mm

Y 500 x 500 mm

Z 250 x 500 mm

**Other formats
on request!**

TV1 + TV2 Panels with integrated flexible edge

Partially vacuum insulation, partially PUR foam

Variable through the possibility of cutting in the PUR area on site, with full-faced XPS

TV1 Construction: 150 mm VIP, 100 mm PUR cutting area

TV2 Construction: 100 mm VIP, 150 mm PUR cutting area

Sizes:

250 x 500 mm

250 x 1000 mm

U-V PUR foam / Compensation element with XPS cover:

For cutting on site

For all areas where wedged, minimal adaptations, intersections and diverse boreholes are needed.

Construction:

20 oder 30 mm PUR, beidseitig XPS (Styrodur)

Sizes:

500 x 1000 mm

Tapes:

We will discover the need of the tapes in the course of the layout drawing and deliver them to the building lot. Only total roles with 25 running meters will be delivered.

Width: 60 mm

Compriband:

Compriband for panel joint (interior elements 2 x 15 mm x 12,5 running meters)

Compriband for wall connection (8 x 20 mm x 4,3 running meters)

Other VIP core thicknesses and sizes on request!

All prices plus the legally valid value added tax and freight and packaging page 7

REQUEST: ORDER: Without measurements: DATE: _____

Company: _____

Contact person: _____

Street: _____ Street number: _____

Postcode/Place: _____

Phone: _____ Fax: _____

E-mail: _____

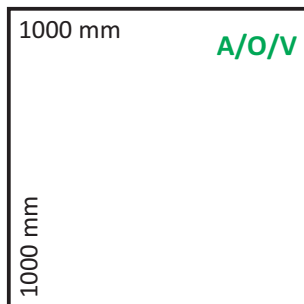
Requested delivery date: _____

Delivery address: _____

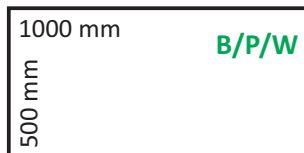
Commission: _____

Element type:
VIP core / Vacuum insulation thickness in mm: 20 30

Cover: Unlaminated VIP R-Gummi (rubber)
 XPS



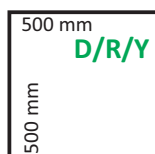
VIP 20:
 VIP 30:
 Pieces: _____



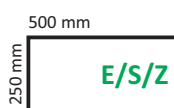
VIP 20:
 VIP 30:
 Pieces: _____



VIP 20:
 VIP 30:
 Pieces: _____



VIP 20:
 VIP 30:
 Pieces: _____

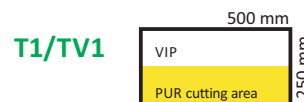


VIP 20:
 VIP 30:
 Pieces: _____

Description:
 All the edges are secured with framed moisture-resistant tape.
 Tolerances: +/- 2 mm, Lambda value 0,007 W/(mK)

Panels with integrated flexible edge:

F1 Construction: 150 mm VIP, 100 mm PUR cutting area



VIP 20:
 VIP 30:
 Pieces: _____

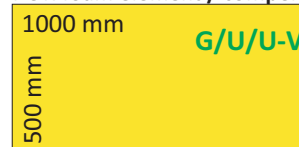


VIP 20:
 VIP 30:
 Pieces: _____

Description:

Variable through the possibility of cutting in the PUR area on site, with full-faced covers..

PUR foam element / compensation element



VIP 20:
 VIP 30:
 Pieces: _____

Description:

For all areas where wedged, minimal adaptations, intersections and diverse boreholes are needed.

Supplies:

Tape: yes no

Compriband: yes no

We will discover the need of the tapes in the course of the layout drawing and deliver it to the building lot.

Delivery time:

Standard elements from the programme SAFE & SPEED:

Delivery within **8* working days** ex works up to 50 m², from 51 m² on request.

*If you need the goods faster → **just call us!!**

REQUEST: ORDER: Acc. to measurements: DATE: _____

Company: _____

Contact person: _____

Street: _____ Street number: _____

Postcode/Place: _____

Phone: _____ Fax: _____

E-mail: _____

Requested delivery date: _____

Delivery address: _____

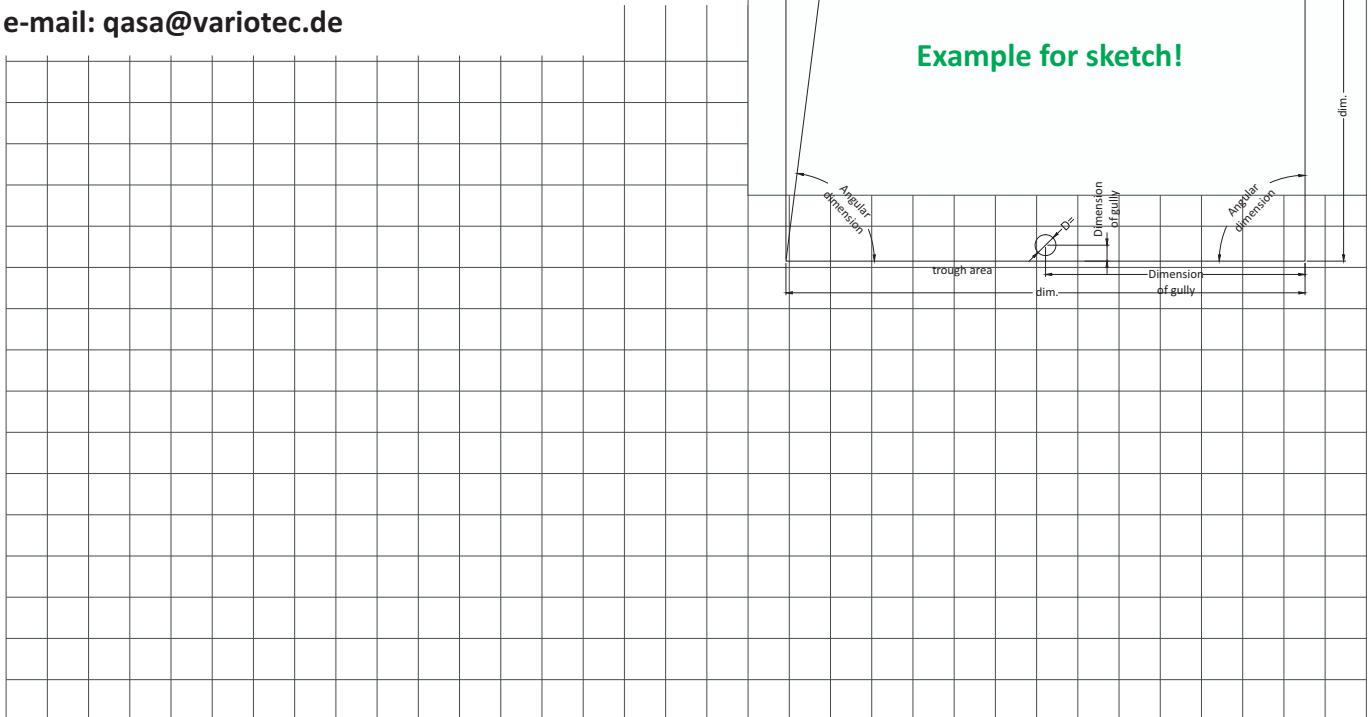
Commission: _____

Application area of the insulation: _____

Element type: VIP core / Vacuum insulation thickness in mm: 20 30

Cover: unlaminated VIP R-Gummi (rubber) XPS

Draw your exact **dimensions!**
Also possible as **DWG/DXF file to**
e-mail: qasa@variotec.de



QASA/VIP Technology and processing

Ms. Häberl: +49 9181 6946-29
E-mail: m.haeberl@variotec.de

QASA/VIP Inquiries and orders

Ms. Schmid: +49 9181 6946-10
E-mail: k.schmid@variotec.de

Delivery time:

Standard elements from the programme SAFE & SPEED:
Delivery within **8* working days** ex works up to 50 m²,
from 51 m² on request.

*If you need the goods faster → **just call us!!**

* You get the layout drawings (element sizes acc. to measurements) **for free!**

BY FAX to: +49 9181 6946-71 or by E-MAIL to: qasa@variotec.de

send form

Further application areas of the vacuum insulation at a glance

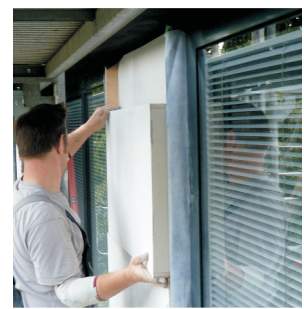
**Balcony, terrace,
flat roof insulation**



**Façade insulation -
B1/B2 Fire protection façade with approval**



**Window soffit
Door or lintel encasing**



**Insulation for venetian
blinds/roller shutter boxes**



Ceiling/Internal wall insulation



**Surface laying of
unlaminated panels**



Internal floor insulation



Dormer and bay insulation



Post and beam façade



General VARIOTEC processing instructions for VIP/QASA components

1. Transport, storage

- 1.1 The VIP/QASA panels must be protected from any mechanical damage during transport to the installation location. Do not store upright on the unprotected panel edge.
- 1.2 The panels are delivered lying down on pallets and must also be transported to the construction site or stored temporarily in the same way.
- 1.3 The pallets must not be stacked or weighted at points.
- 1.4 The panels must be stored such that they are protected from wet, prolonged insolation, and mechanical damage. QASA type N (uncoated VIPs) may be exposed to high temperatures, high humidity and/or aggressive gases neither during storage nor during use; please note in particular that permanent moisture levels above 60% rel. humidity and temperatures of + 80°C / - 15°C must be avoided.
- 1.5 The max. ambient and processing temperature is 80 °C. When installing VIP in glass façade elements, please note that permanent and long-term function of the VIP element can also be guaranteed only up to a max. temperature load of 80° C.

2. Checking the VIP/QASA components for integrity before installation

The VIP/QASA components delivered must be checked for:

- 2.1 Visual inspection with respect to external damage (sort out damaged components, if applicable check for leaks by VARIOTEC). With type N, the high barrier film must tightly enclose the support core; the 4-sided edge protection band must not be damaged, the panel must not be “soft”.
- 2.2 Check the seal of the cover film on QASA components with open edge formation (leaks are revealed by cover films fitting loosely on the core).

3. Checking the base at the installation location

- 3.1 The base must be smooth, level and free of pointed elevations or edges. Unevenness must be levelled before installation.
- 3.2 The base must be clean and dry (observe the specifications of the adhesive manufacturer).
- 3.3 All objects adjoining the insulation must likewise be checked for hazard potential for the VIP/QASA components.

4. Assembly of the VIP elements

- 4.1 The cover film of the VIP/QASA components must not be damaged. Sawing, drilling and other mechanical processing is possible only to a limited extent in the area of installed and clearly labelled EPS/XPS/PUR edge strips. If there is no label or if the processor is unsure, please consult the supplier. After any processing that takes place, the VIP/QASA components must be checked again for leaks. After adaptation on site, the cut edges must be taped off with waterproof adhesive tape.
- 4.2 In the case of surfaces for which a layout plan is available, the elements must be installed in accordance with the plan (by numbers).
- 4.3 If detailed drawings of the VIP/QASA components are affixed to the elements then these must be removed only after finished processing / adaptation on site.

General VARIOTEC processing instructions for VIP/QASA components

- 4.4 The VIP/QASA components can be stuck with mineral adhesive or polyurethane adhesive and the assembly adhesive systems available on the market. Adhesive application quantity coordinated with the adhesive used (observe the processing guidelines of the adhesive manufacturer guidelines). Foaming with PUR foams is also technically possible but should be balanced and tested in advance.
 - 4.5 Mechanical fixing by screwing is possible only with VIP/QASA components that are intended specifically for such, with edge formation or centre bar. Edge widths must be observed.
 - 4.6 To guarantee the seal at the butt joints to avoid thermal bridges and to compensate for dimensional tolerances, we refer to the use of compression tapes (Comb300 is supplied by VARIOTEC) in the butt and connection area and in the area of adjoining components; likewise, we refer to the taping off of the panel joints with fabric tape of type 386 (use aluminium adhesive tape no. 705 for B1 design). It is essential to avoid wet and moisture in the area of the butt joints.
 - 4.7 If possible, dimensional tolerances must not be included in flat surfaces but rather in the outside corners (tolerances for VIP/QASA elements: length/width +/- 2 mm, total thickness -1/+2 mm).
 - 4.8 Do not damage vacuum panels with tensile and pressure load or by bending.
 - 4.9 Point loads of the VIP/QASA components must be avoided. They may be exposed only to even, flat load. When installing and using QASA type N, they should be exposed to only little or no mechanical load. Spot loads and prolonged shaking or pulling on the cover are to be avoided in particular.
 - 4.10 In the assembly processing phase, moisture ingress between the built-in vacuum panels and the flat seal lying on them must be avoided if possible. To avoid heating of the panels in installed condition, it is recommended to finish the further layers e.g. such as moisture insulation, gravel, stone slabs, screed etc. immediately. The use of moisture barriers must likewise be agreed and determined by a structural physicist.
 - 4.11 When liquid sealing is used please note that only by VARIOTEC authorized products, which are with the GFRP top layer coordinated, are permitted to use. With the use of liquid sealing it is essential not to use them as a final coating but only as a moisture insulation below a final layer. In case of use of liquid sealing we ask for consultation with our with our application consultants.
- 5. Assembly staff, other trades, users**
- 5.1 The VIP/QASA components may be processed only in consideration of the above points. In case of queries, please contact the following number: +49 9181 6946-29.
 - 5.2 Before assembly, the “general VARIOTEC processing instructions for VIP/QASA components” must be pointed out to the assembly staff.
 - 5.3 The risk of VIP/QASA components being damaged by mechanical influences must likewise be pointed out to workers from the subsequent trades.
 - 5.4 The specific features of the VIP/QASA insulation must likewise be pointed out to the users.
- 6. Further information can be found in our brochure „einfach-sicher-dämmen“**
<http://variotec.de/hp2741/Vakuumdaemmung-VIP-QASA.htm>

Advice on questions concerning QASA/VIP technology and processing at
Tel. no.: +49 9181 6946-29 or by mail to gasa@variotec.de.