



Network level 3 and 4

## **speed•pipe<sup>®</sup> system – fibre-to-the-X.**

Quick, easy and  
future-proof connection.



[www.gabocom.com](http://www.gabocom.com)



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Pages 4 – 5	Networks of the future
Pages 6 – 7	gabocom
Pages 8 – 9	speed•pipe® system
<b>Pages 10 – 11</b>	<b>Step 1 in broadband expansion</b> <b>Pipe-in-pipe solutions</b>
Pages 12 – 13	speed•pipe®
Pages 14 – 19	speed•pipe® bundles
Pages 20 – 21	Split duct system and branches
<b>Pages 22 – 23</b>	<b>Step 2 in broadband expansion</b> <b>Construction of micro duct systems</b>
Pages 24 – 25	speed•pipe® ground
Pages 26 – 29	speed•pipe® bundle ground SRV-G tc
<b>Pages 30 – 31</b>	<b>Fittings</b> <b>For a secure network</b>
Page 32	Connect, seal and fix
Page 33	Branch supports and protective elements
Pages 34 – 35	Sealing and fixing elements
Pages 36 – 37	House lead-ins
<b>Pages 38 – 41</b>	<b>The next level</b> <b>speed•pipe® indoor system</b>
Pages 42 – 43	Training

## Your plan for networks of the future. Location factor internet.

Whether streaming services, home office supply or smart building: internet more and more penetrates our everyday life. The increasing demands for high-performance and extensively available broadband connections culminate in one common denominator: the quick, efficient and sustainable development of fiber-optic networks.

**The challenge is: planning yet today for tomorrow.**

Wherever ranges of 30 megabit per second were considered as needs-based now it is definite: Only fiber-optic connections right to each house – and inside! – meet the requirements of the future.

Planners, Manufacturers, Network operators – all of them are in charge of pushing the broadband rollout. Looking at “the” cost driver civil engineering and the development of low-maintenance, long-lasting and secure networks are the key to success broadband project.

**The speed•pipe® micro duct system by gabocom exactly constitutes the basis for all types of fiber-optic extension (FTTx):**

- FTTN // Fibre to the node.
- FTTC // Fibre to the curb.
- FTTB // Fibre to the building.
- FTTH // Fibre to the home.

On the following pages you will discover more about  
how we can support you with your broadband-project.





## **gabocom.** Your partner for networks of the future.

A coordinated all-in system from one provider, constant capacities over the entire lifetime, more than 40 years of experience in telecommunication:

**gabocom is your manufacturer of micro duct systems – made in Germany.**

We give our advice eye-to-eye already during the development process of your fiber-optic network. Along with you we consider all requirements of the broadband extension. By means of our products you use existing duct systems, lay new duct routes and master the crossover between both variants. All times we are growing by new challenges in the FTTx-sector – every single experience gained improves our speed•pipe® system.

Not for nothing our products are complementary to one solution like made of one piece: fittings for sealing and fixing all dimensions of ducts and variants of bundles as well as our general fittings and split ducts for existing duct routes complete our portfolio as system provider.

**Withal reliability means tradition for us – in every respect.**

- gabocom products comply with relevant standards (and more).
- you can trust our word.
- facts say more than thousand words.

Visit our website:  
[www.gabocom.com](http://www.gabocom.com)

**Your investment in infrastructure is supposed to be secure and successful. Thereto we are by your side with pleasure. You can find your personal contact on our website at any time – Germany- and Europe-wide. Just make use of our callback service on [www.gabocom.com](http://www.gabocom.com).**





## speed•pipe® system. Flexible. Reliable. Proven.

The gabocom speed•pipe® system has been proven Europe-wide since 2002:

- with existing duct routes
- for the construction of fiber-optic networks
- in all FTTx-sectors
- with each type of laying

Only due to the constant personal interaction with our customers and the direct support of your projects we are able to coordinate our speed•pipe® system with your requirements. No two projects are alike – and every single experience was directly fed into our product development. Even though we can look back to almost 20 years of success of the speed•pipe® system: we will nowhere near stand still.

You can rely on the gabocom speed•pipe® system at any time. Since after all our in-house test laboratory passes every single production batch through extensive quality tests with strict testing criteria.

In the following three examples:

- speed•pipe® are tested for several hours according to DIN 16874: you use your micro duct system like on the first day, even after decades. Tested. Documented. Demonstrable.
- every sealing element withstands an x-fold of the required tensile force during the tensile test - and still remains reusable. Thus, a real repeat offender, because also take into consideration here: the capacity remains continuously.
- even during production we control the constant inner diameter of the speed•pipe® – indispensably for an optimal airflow during the blowing-in process. As soon as the tolerance value has been exceeded the process is immediately stopped.

### Our efforts – your benefit?

The higher the range when blowing in the fiber-optic cable, the less subsequent (and cost-intensive) excavation work is necessary. This is our contribution for minimizing your expansion costs.



The speed•pipe® and speed•pipe® bundles correspond to the EU Low-Voltage Directive 2014/35/EU and to the 1st Product Safety Regulation (ProdSV). Thereby gabocom speed•pipe® meet the needs of the safety- and health-requirements of the European Union. As evidence of this our duct systems are equipped with the CE label for secure, faultless and high-quality products on all European markets.





Tensile test

Step 1 in broadband expansion

# Utilization of existing duct systems. **speed•pipe®** **pipe-in-pipe solutions.**

The fastest and cheapest kind of broadband expansion:  
reduction of civil engineering costs by using already existing duct  
systems. PE-HD ducts that are non-occupied or occupied with  
cables or cable duct constructions often still contain valuable,  
unused underground space.

With the speed•pipe® system – single ducts as well as duct bundles  
– for pipe-in-pipe solutions as basis, you are able to upgrade existing  
plants with fiber-optic in only two steps. In this the current occupation  
with cables at first only is a downstream issue: our pipe-in-pipe  
solutions often have enough space beside already installed cables.  
Thus you optimally exhaust existing resources and remain flexible  
for the future.

By means of a jacket pipe, speed•pipe® bundles combine  
varicolored speed•pipe® to a loose compound. In just one step  
several speed•pipe® can be pulled into the existing duct system  
simultaneously.

For every single diameter of the duct system as well as for  
every FTTx-section you will find the appropriate solution  
for pipe-in-pipe installations in the speed•pipe® system.



## Step 1: Utilization of existing duct systems. speed•pipe® for pipe-in-pipe solutions.

### speed•pipe® – PIPE-IN-PIPE SOLUTION

speed•pipe® for pipe-in-pipe solutions are blown into PE-HD ducts over long distances. Due to their inner wall concept the empty space within occupied or empty duct systems can be optimally used. At the same time the higher inner diameter compared to the buriable micro ducts offers space for high fiber capacities – which you can exploit also decades afterwards for every single speed•pipe®.

#### Characteristics

- small outer diameter for an optimum exploitation of the existing duct capacity
- can also be blown into occupied PE-HD protective ducts (Ø 40, 50, 63 mm)
- even reusable after the removal of installed fiber-optic cables – practically like on the first day
- for all dimensions specified sliding ribs providing an optimum air cushion for the fiber-optic during the blowing-in process
- available in various dimensions in intense colours for better distinction

#### → // Notice //

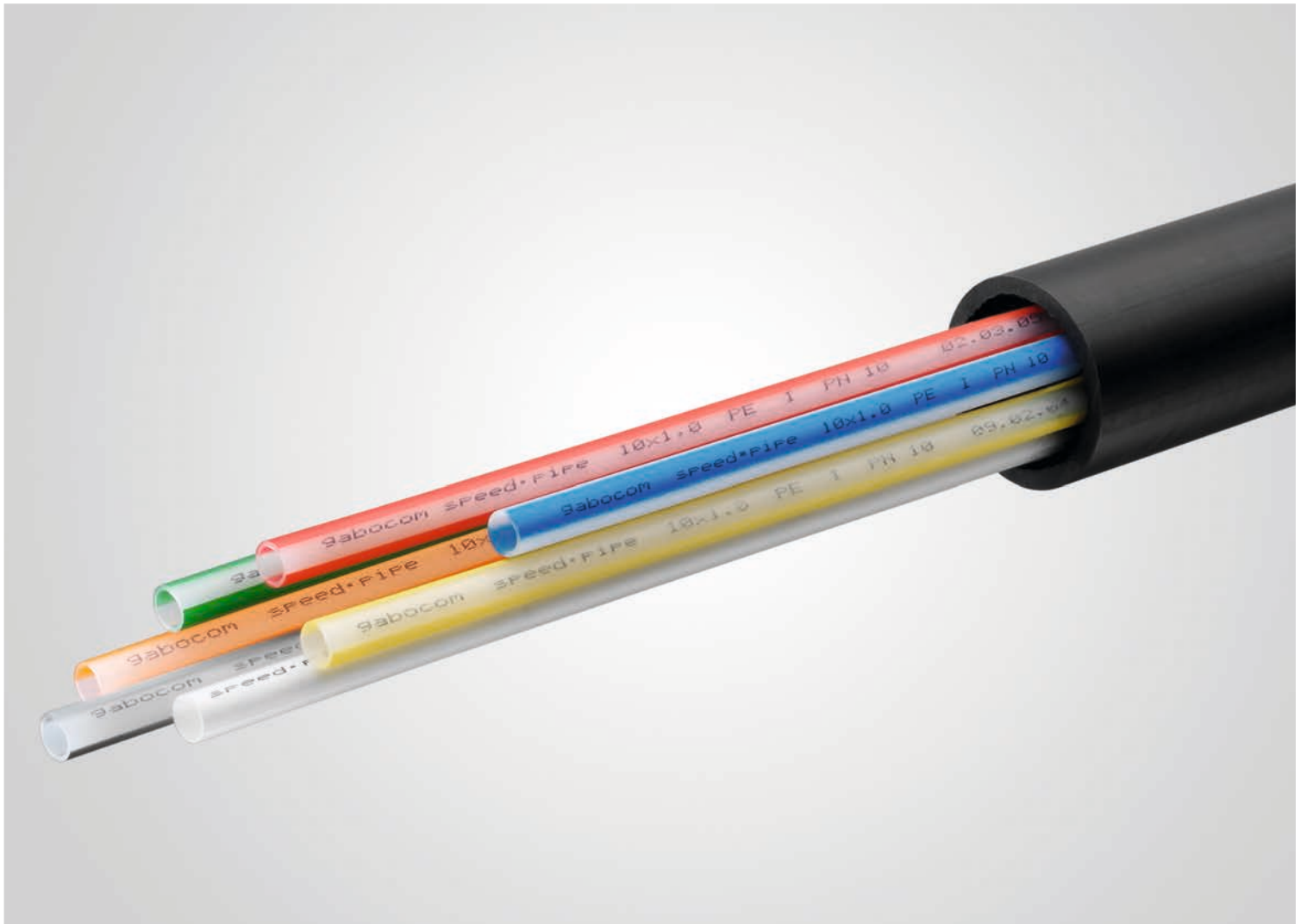
Each pipe-in-pipe system is only as good as its durability! Gas-, dirt- and water-tight sealing and fixing elements are essential for a long usability and for the protection of your network technology.

### speed•pipe® FOR PIPE-IN-PIPE APPLICATIONS

Term	Colour	D x s (mm)	Length (m)	Wooden one-way spool D x s (mm)
speed•pipe® 7 × 0.75	red, green, blue, yellow, white, grey, orange, black, brown, violet	7 × 0.75	5000	1200 × 370
speed•pipe® 10 × 1.0	red, green, blue, yellow, white, grey, orange	10 × 1.0	2500	1200 × 370
speed•pipe® 12 × 1.1	red, green, blue, yellow, white	12 × 1.1	2000	1200 × 370
speed•pipe® 14 × 1.3	red, green, blue, yellow, white	14 × 1.3	1500	1200 × 370

→ Additional colours available on request  
Fitting overview under chapter 1.1 in the product catalog or under [www.gabocom.com](http://www.gabocom.com)





## speed•pipe® bundles. Solid and progressive in one go.

### FOR CABLE DUCT SYSTEMS Ø > 110 MM

#### Thin-walled single tubes: SRV and D-SRV

By means of a cable basket on the flexible jacket pipe the speed•pipe® bundles SRV and D-SRV are pulled into cable duct systems.

- Characteristics*
- With the eight speed•pipe® 10 x 1.0 mm inside up to two bundles can be pulled into an empty cable duct Ø 110 mm.
  - Even in case of an occupation with a cable up to Ø 55 mm the SRV optimally exploits the remaining residual cross section for additional fiber-optic cables.
  - The comparison with a standard multi pipe MR4 clearly shows the advantages of the bundle with regard to effort in material and work.
  - **Main practical application with FTTN and FTTC**

→ **// Notice //**

Every pipe-in-pipe system is only as good as its durability! Gas-, dirt- and water-tight sealing and fixing elements are essential for a long usability and for the protection of your active network technology.

#### SRV 50 / 8 x 10 AND D-SRV 50 / 8 x 10 FOR FTTN AND FTTC

Term	Jacket pipe colour	Jacket pipe D x s (mm)	Length (m)	speed•pipe® amount	speed•pipe® D x s (mm)	(Double-) spool D x s (mm)
SRV 50 / 8 x 10	black	50 x 0.5	2300	8	10 x 1.0	2400 x 1200
SRV 50 / 8 x 10	orange-black	50 x 0.5	2300	8	10 x 1.0	2400 x 1200
D-SRV 50 / 8 x 10	black and orange-black	50 x 0.5	1100 per SRV	8 per SRV	10 x 1.0	2400 x 1200





## speed•pipe® bundles. Solid and progressive in one go.

### FOR CABLE DUCT SYSTEMS Ø > 80 MM

#### Thick-walled single tubes: SRV-G

By means of a cable basket on the flexible jacket pipe the speed•pipe® bundles SRV-G are pulled into cable duct systems.

#### Characteristics

- Reduce the time of installation and simplify the assembly at the same time: due to the thick-walled, inside speed•pipe® ground (see page 24) a higher tensile strength at the bundle is permitted.
- For higher distances the use of lubricants and turning the spool is recommended.
- Suitable for all FTTx-sections: FTTN, FTTC, FTTB, FTTH.

#### → // Notice //

Every pipe-in-pipe system is only as good as its durability! Gas-, dirt- and water-tight sealing and fixing elements are essential for a long usability and for the protection of your active network technology

### SRV-G FOR FTTC AND FTTN

Term	Jacket pipe orange D x s (mm)	l (m)	speed•pipe® ground / amount	speed•pipe® ground / D x s (mm)	Spool D x s (mm)
SRV-G 32 / 3 × 12	32 x 0.5	400	3	12 x 2.0	1200 × 370
SRV-G 40 / 4 × 12	40 x 0.5	2700	4	12 x 2.0	2400 × 1200
SRV-G 50 / 5 × 12	50 x 0.5	2700	5	12 x 2.0	2400 × 1200
SRV-G 40 / 3 × 14	40 x 0.5	3400	3	14 x 2.0	2400 × 1200
SRV-G 50 / 4 × 14	50 x 0.5	1700	4	14 x 2.0	2400 × 1200
SRV-G 50 / 5 × 14	50 x 0.5	1700	5	14 x 2.0	2400 × 1200
SRV-G 40 / 3 × 16	40 x 0.5	2100	3	16 x 2.0	2400 × 1200
SRV-G 40 / 4 × 16	50 x 0.5	2100	4	16 x 2.0	2400 × 1200





### SRV-G FOR FTTB AND FTTH

Term	Jacket pipe orange D x s (mm)	l (m)	speed•pipe® ground / amount	speed•pipe® ground / D x s (mm)	Spool D x s (mm)
SRV-G 32 / 6 × 7*	32 x 0.5	3500	6	7 × 1.5	2400 × 1200
SRV-G 40 / 8 × 7	40 x 0.5	3500	8	7 × 1.5	2400 × 1200
SRV-G 50 / 10 × 7	50 x 0.5	3500	10	7 × 1.5	2400 × 1200
SRV-G 32 / 4 × 10	32 x 0.5	450	4	10 × 2.0	1200 × 370
SRV-G 40 / 5 × 10*	40 x 0.5	3650	5	10 × 2.0	2400 × 1200
SRV-G 50 / 7 × 10	50 x 0.5	3500	7	10 × 2.0	2400 × 1200

\* after technical clarification

## speed•pipe® bundles. Solid and progressive in one go.

FOR PE-HD DUCTS Ø 32, 40, 50, 63 MM

Thick-walled single tubes with cutting device: SRV-G

The higher permissible tensile strength of speed•pipe® ground especially pays off in case of a tight relation of the existing capacity to the outer diameter of the speed•pipe®. Nevertheless for being able to use the remaining space, a cutting device removes the loose duct coat before the pulling-in process. A pulling head that is mounted directly at the ends of the speed•pipe® fixes the single tubes and guarantees the optimum focus on power – without taking up more space inside the duct. Thus also bundles with more than eight speed•pipe® inside or additional single tubes can be linearly fed into the duct system.

- Characteristics*
- A pulling head directly fixes the single speed•pipe®, without increasing the outer diameter of the speed•pipe® bundle.
  - A cutting device removes the flexible jacket pipe before reaching the duct system, for minimizing the friction losses.
  - For higher distances the use of lubricants and turning the spool is recommended.
  - In practical application for FTTB and FTTH

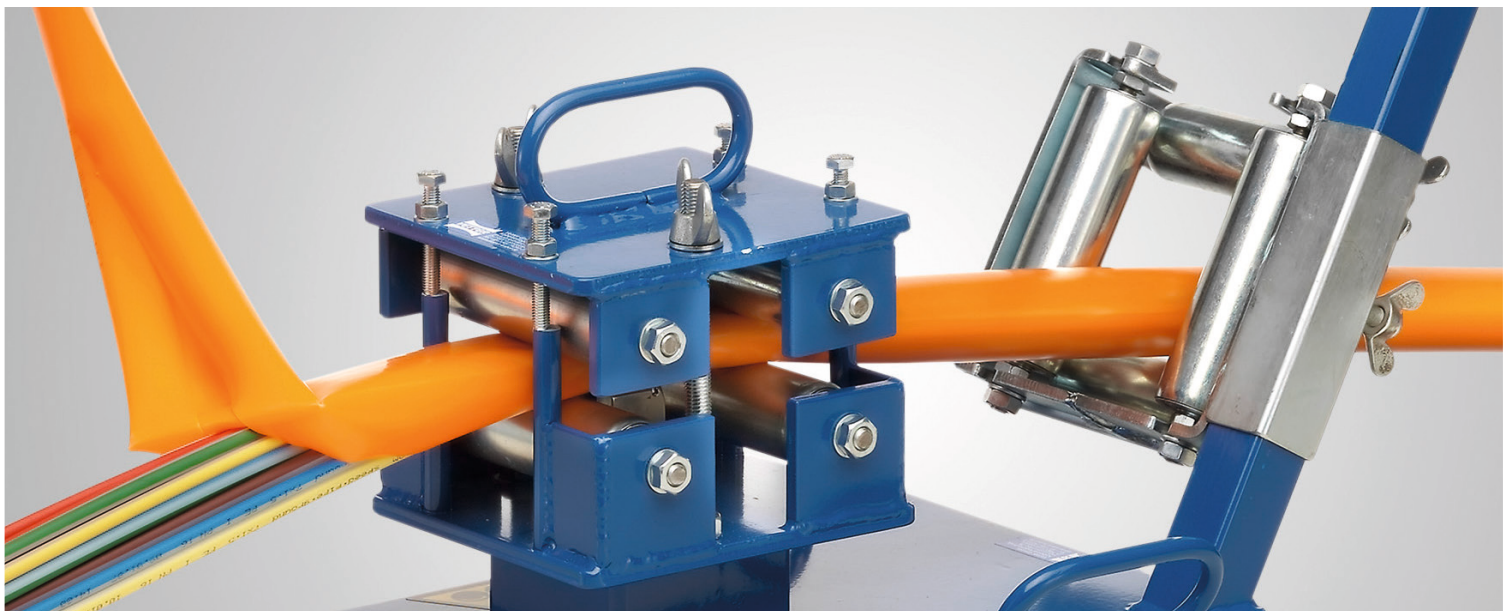
### SRV-G WITH CUTTING DEVICE FOR FTTB AND FTTH

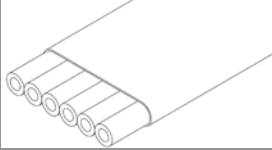
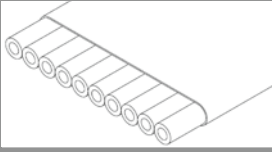
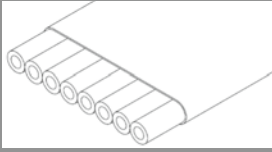

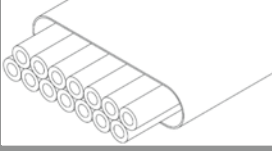
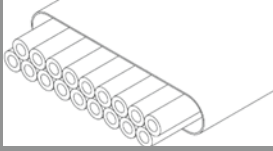

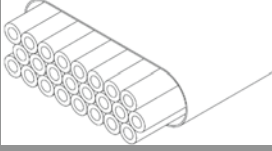
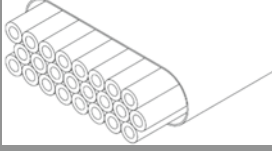

Term	Jacket Pipe orange D x s (mm)	l (m)	speed•pipe® ground / amount	speed•pipe® ground / D x s (mm)	Spool D x s (mm)
SRV-G 32 / 6 × 7*	32 x 0.5	3500	6	7 × 1.5	2400 × 1200
SRV-G 40 / 8 × 7	40 x 0.5	3500	8	7 × 1.5	2400 × 1200
SRV-G 50 / 10 × 7	50 x 0.5	3500	10	7 × 1.5	2400 × 1200
SRV-G 40 / 14 × 7	40 x 0.5	3500	14	7 × 1.5	2400 × 1200
SRV-G 50 / 18 × 7	50 x 0.5	1800	18	7 × 1.5	2400 × 1200
SRV-G 50 / 24 × 7	50 x 0.5	1800	24	7 × 1.5	2400 × 1200

G (kg)\* = Total weight including spool // \*\* after technical clarification // delivery of SRV-G on a non-returnable wooden spool: 2400 x 1200mm

Term	Colour	D x s (mm)	Length (m)	kg / m	Pressure	G (kg)*	Item no.
sp ground 12 × 2.0	yellowgreen	12 x 2.0	2000	ca. 0.060	PN 16	ca. 150	02175
sp ground 14 × 2.0	orange	14 x 2.0	1500	ca. 0.074	PN 16	ca. 140	04134
sp ground 16 × 2.0	turquoise	16 x 2.0	1200	ca. 0.084	PN 10	ca. 130	42302

G (kg)\* = Total weight including spool // delivery of speed•pipe® ground on a non-returnable wood spool: 1200 x 370 mm



PE-HD duct	speed•pipe® ground 7 x 1.5 mm	speed•pipe® ground 7 x 1.5 mm + speed•pipe® ground
Ø 32 x 2.9 (2.0)	SRV-G 32 / 6 x 7 	
Ø 40 x 3.7 (2.5)	SRV-G 50 / 10 x 7 	SRV-G 40 / 8 x 7 + 14 x 2.0 (12 x 2.0)  
Ø 50 x 4.6 (3.0)	SRV-G 40 / 14 x 7 	SRV-G 50 / 18 x 7 + 14 x 2.0 (12 x 2.0)  
Ø 63 x 5.8 (4.7)	SRV-G 50 / 24 x 7 	SRV-G 50 / 24 x 7 + 16 x 2.0 (14 x 2.0)  

Possible capacity of PE-HD ducts

## gabocom as system provider.

### Pipe-in-pipe solutions intended further ahead.

The beginnings of gabocom more than 40 year ago started off in intelligent duct systems for telecommunication and communications engineering. Until today we always keep in mind the big picture of durable broadband networks. With pipe-in-pipe solutions the reliability and the maintenance of the surrounding protective pipes are at least as important as the efficiency of the speed•pipe® inside.

#### SPLIT DUCT SYSTEM

The standard for later interventions at cable ducts.

- By means of the divisible split duct components blowing-in points are sealed or already occupied ducts ( $\varnothing > 32$  mm) are repaired quickly, easily and sustainably.
- Inside speed•pipe® or cables and the ongoing data transmission remain unaffected by the interventions at the protective pipe.
- The joint of split duct system and protective pipe is permanently gas- and water-tight up to 0.5 bar.
- Also PE-HD ducts ( $\varnothing 32, 40, 50$  mm) retain their technical characteristics: after having connected the split ducts, blowing-in procedures with a compression pressure up to 10 bar furthermore are possible.

#### (DOUBLE-) SPLIT DUCT TEE HRMA

- **Function 1:** Apertures of existing duct systems for branching off standard cables or inside speed•pipe® are sealed in a safe and simple way.
- **Function 2:** For branches off the duct system no manhole is necessary any more. Place the branches exactly there, wherever you minimize and optimize routes.
- **Function 3:** Due to the mechanical protection at the branch optimal results in blowing-in fiber-optic cables into the inside speed•pipe® are gained also decades later.

The continuation beyond the branch either is possible into another pipe-in-pipe system or directly into the ground. The appropriate speed•pipe® and fittings can be found starting page 24.

Term	D1 (mm)	D2 (mm)	$\alpha$	Length (mm)	Pcs. / unit	Item no.
HRMA 32 / 32 - 30°	32	32	30°	261	6	42174
HRMA 40 / 32 - 30°	40	32	30°	125	6	01034
HRMA 40 / 40-90°	40	40	90°	261	6	10315
HRMA 50 / 32-30°	50	32	30°	125	6	00486
HRMA 50 / 50-30°	50	50	30°	261	6	04621
HRMA 50 / 50-90°	50	50	90°	261	6	00983
HRMA 110 / 50-30°	110	50	30°	300	5	00288





Step 2 in broadband expansion

# Construction of micro duct systems. **speed•pipe® ground – solutions for direct burying.**

In case no existing duct systems are available for sections of a fiber-optic project, the new construction of subterranean routes is recommendable – especially with respect to the reliability and durability of the fiber-optic network.

In the construction of new fiber-optic routes using speed•pipe® ground and speed•pipe® bundles ground for direct burying, you can waive additional protective pipes without any losses in efficiency. You save material and work time: no additional storing of the protective pipes, no additional process for blowing-in micro ducts. In only one step – the professional laying of speed•pipe® ground – you raise a long-lasting passive infrastructure for long-lasting high ranges by blowing-in fiber-optic cables.

Depending on the ambient conditions you choose the construction style that is most economical for you – speed•pipe® ground are suitable for each type of laying. Of course the complete speed•pipe® system covers, in addition to the pipe-in-pipe system and solutions for direct burying, also the transition between both applications.

Due to constant performance characteristics throughout the whole durability you remain flexible for decades: so already today consider the future capacity requirements concerning quantity and dimension of ducts.



## Step 2: Expansion of existing infrastructure and new construction of passive infrastructure. speed•pipe® ground for direct burying.

### SPEED•PIPE® GROUND FOR DIRECT BURYING

speed•pipe® ground are suitable for direct burying in all FTTx-sections as well as for branches off existing duct routes. The dimensionally stable wall thickness out of first-class PE-HD protects every single duct against the emerging soil pressure. Due to the higher vertex pressure in comparison for example to a PE-HD duct Ø 50, the ducts keep their round cross-section. Also after decades the inside slide ribs contribute to the establishment of an optimum air cushion for high distances during the blowing-in process of fiber-optic cables.

- Characteristics*
- for branches off existing duct routes or for house connections in direct burying
  - dimensionally stable due to the higher wall thickness: high vertex pressure for a consistently round cross-section and high distances when blowing-in fiber-optic cables
  - specified slide ribs for each dimension, for an optimum air cushion of the fiber-optic cable during the blowing-in process
  - available in various dimensions and in strong colours for better distinction
  - combination with pipe-in-pipe solutions by means of appropriate fittings (see page 32)





#### SPEED-PIPE® GROUND FOR DIRECT BURYING

Term	Colour	D x s (mm)	Length (m)	Non-returnable wooden spool D x s (mm)
speed·pipe® ground 7 × 1.5	orange	7 × 0.75	1250	700 × 370
speed·pipe® ground 10 × 2.0	pink	10 × 2.0	500 / 2500	700 × 370 / 1200 × 370
speed·pipe® ground 12 × 2.0	yellow-green	12 × 2.0	2000	1200 × 370
speed·pipe® ground 14 × 2.0	orange	14 × 2.0	1500	1200 × 370
speed·pipe® ground 16 × 2.0	turquoise	16 × 2.0	1200	1200 × 370
speed·pipe® ground 20 × 2.5	pink	20 × 2.5	1400	1200 × 700

→ Fitting overview under chapter 1.2 in the product catalog or under [www.gabocom.com](http://www.gabocom.com)

## speed•pipe® bundles ground for direct burying. The all-rounder among the bundles.

### FOR DIRECT BURYING

Thick-walled single ducts: SRV-G tc

speed•pipe® bundles ground for direct burying bundle varicolored speed•pipe® ground by a tight outer sheath. Due to the diversity of single duct dimensions of the speed•pipe® ground and their combinations within the bundle, with the speed•pipe® bundles ground SRV-G tc you respect the capacity reserves for the future.

Our system concept is reflected in the protective function and ease of assembly of the tight outer sheath: it is sturdy against impacts of the surrounding soil, but still can be opened quickly, easily and safely for branches off the bundle.

For a secure laying the tight outer sheath fixes the inside speed•pipe® ground in their position. Additionally you insert the bundle by stripping it under tension in linear direction of the speed•pipe® ground directly into the provided aperture in the soil. The soil above also in future keeps the bundle and the single ducts on the spot.

(Continued on the next page: speed•pipe® bundles ground for direct bury)



#### SRV-G TC FOR FTTN AND FTTC

Term	Length (m)	speed•pipe® ground amount	speed•pipe® ground D x s (mm)	Spool D x s (mm)	Jacket pipe colours
SRV-G 2 × 12 tc	650	2	12 × 2.0	1200 × 370	orange
SRV-G 3 × 12 tc	2700	3	12 × 2.0	2400 × 1200	orange
SRV-G 7 × 12 tc	2400	7	12 × 2.0	2400 × 1200	orange
SRV-G 12 × 12 tc	1050	12	12 × 2.0	2400 × 1200	orange
SRV-G 2 × 14 tc	3400	2	14 × 2.0	2400 × 1200	orange
SRV-G 3 × 14 tc	3400	3	14 × 2.0	2400 × 1200	orange
SRV-G 4 × 14 tc	3000	4	14 × 2.0	2400 × 1200	orange
SRV-G 5 × 14 tc	1700	5	14 × 2.0	2400 × 1200	orange
SRV-G 7 × 14 tc	1700	7	14 × 2.0	2400 × 1200	orange
SRV-G 3 × 16 tc	2100	3	16 × 2.0	2400 × 1200	orange
SRV-G 4 × 16 tc	2100	4	16 × 2.0	2400 × 1200	orange
SRV-G 6 × 16 tc	1300	6	16 × 2.0	2400 × 1200	orange
SRV-G 7 × 16 tc	1300	7	16 × 2.0	2400 × 1200	orange
SRV-G 3 × 20 tc	1400	3	20 × 2.5	2400 × 1200	orange
SRV-G 4 × 20 tc	1400	4	20 × 2.5	2400 × 1200	orange

- ➔ **Available upon request:**
- further jacket pipe colours
  - speed•pipe® bundles SRV-G tc in gabo and DIN colour code
  - speed•pipe® double bundles D-SRV-G tc
  - SRV-G tc as anti-rodent version
  - SRV-G tc with locating cable

## speed•pipe® bundles ground for direct burying. The all-rounder among the bundles.

On account of the variety in variants of the SRV-G tc you are prepared for all steps of broadband expansion and application scenarios – optionally even combined in one design. The combination of smaller dimensions with an inside duct of a higher diameter is suitable as well for FTTB/H as for FTTN/C: speed•pipe® ground 7 x 1.5 or 10 x 2.0 are adapted for house connections, the additional speed•pipe® ground 12 x 2.0 or 14 x 2.0 expands your access network.

Alternatively with this combination you are equipped against unforeseen external interferences: In case the bigger duct diameter remains unoccupied, in the event of loss simply use the speed•pipe® ground as average-duct. Your fiber-optic network quickly returns to operation, simultaneously there is time for the professional repair of the fiber-optic cable.

Owing to the resistant material of the speed•pipe® ground and the outer sheath the bundles SRV-G tc are suitable for all common types of laying in compacted and open ground like for example in

- open trench
- ploughing method
- flush drilling method
- all common milling technologies

The above mentioned construction methods depend on the ambient conditions. For further details, especially how to apply our speed•pipe® bundle ground with tight outer sheath securely to each of the mentioned laying methods, please refer to our laying instructions and the laying videos on [www.gabocom.com](http://www.gabocom.com). For a personal consultation we are gladly at your disposal.



#### SRV-G TC FOR FTTB AND FTTH

Term	Length (m)	speed•pipe® ground amount	speed•pipe® ground D x s (mm)	Spool D x s (mm)	Jacket pipe colours
SRV-G 2 × 7 tc	400	2	7 × 1.5	700 × 370	orange
SRV-G 7 × 7 tc	4000	7	7 × 1.5	2400 × 1200	orange
SRV-G 8 × 7 + 1 × 12 tc	4000	8 1	7 × 1.5 12 × 2.0	2400 × 1200	orange
SRV-G 12 × 7 tc	4000	12	7 × 1.5	2400 × 1200	orange
SRV-G 12 × 7 tc + 1 × 14	2650	12 1	7 × 1.5 14 × 2.0	2400 × 1200	orange
SRV-G 14 × 7 tc	2650	14	7 × 1.5	2400 × 1200	orange
SRV-G 18 × 7 tc	2650	18	7 × 1.5	2400 × 1200	orange
SRV-G 22 × 7 + 1 × 12 tc	1950	22	7 × 1.5 12 × 2.0	2400 × 1200	orange
SRV-G 24 × 7 tc	1950	1	7 × 1.5	2400 × 1200	orange
SRV-G 24 × 7 + 1 × 14 tc	1570	24 1	7 × 1.5 14 × 2.0	2400 × 1200	orange
SRV-G 2 × 10 tc	900	2	10 × 2.0	1200 × 370	orange
SRV-G 7 × 10 tc	3650	7	10 × 2.0	2400 × 1200	orange
SRV-G 12 × 10 tc	1800	12	10 × 2.0	2400 × 1200	orange

- ➔ **Available upon request:**
- further jacket pipe colours
  - speed•pipe® bundles SRV-G tc in gabo and DIN colour code
  - speed•pipe® double bundles D-SRV-G tc
  - SRV-G tc as anti-rodent version
  - SRV-G tc with locating cable



# Connect, seal and fix. Small-scale investment, huge effect.

Whether pipe-in-pipe or direct burying: only with matching sealing, fixing and connecting elements you exploit your micro duct system also in the long run – and remain flexible with the fiber-optic occupancy.

On the following pages you will find an overview of

- how to connect speed•pipe® gas- and water-tight up to 0.5 bar – also by direct burying.
- how to cope with the transition from pipe-in-pipe to direct burying – for all speed•pipe® dimensions.
- how to prepare yourself against linear elongations in case of pipe-in-pipe installations – and therewith to be on the safe side for the future.
- how to avoid excavation works – by dint of marginal investments into the network security.
- how to handle speed•pipe® professionally – for a low-maintenance system for many years.

The simple assembly of the fittings has been standing alone to this day:

- Once learnt, always known: proven principles are repetitive in several products.
- Without great effort: every fitting is mounted by hand or standard tools.

Our extensive fitting accessories for all our speed•pipe® dimensions and bundles offer the carefree package in the matter of fiber-optic up to the building.



## Connecting elements. Simple. Gas- and water-tight.

### TRANSPARENT PERMANENT CONNECTORS DSM 7 / 10 / 12 / 14 / 16 / 20

Tensile, suitable for direct burying, pressure-tight up to 15 bar: By means of the transparent connectors two speed•pipe® with the same **outer diameter** can be connected – without any negative impact on the blowing-in distance. Quickly and easily mounted, the fittings are separated by removing the locking ring.

### REDUCERS

#### RSM 10 – 7 / 12 – 10 / 14 – 12 / 16 – 14

Tensile, suitable for direct burying, pressure-tight up to 15 bar: By means of the transparent reducers two speed•pipe® with the same **inner diameter** can be connected – without any negative impact on the blowing-in distance. Quickly and easily mounted, the fittings are separated by removing the locking ring.

### BLOWING-IN CONNECTORS

#### EBM 7 / 10 / 12 / 14 / 16 / 20

Short assembly time, huge time-saver at blowing-in fiber-optic cables: As soon as the maximum blowing-in length has been reached, the speed•pipe® is opened and the blowing-in procedure is simply continued at this point. The divisible connectors permanently connect the occupied speed•pipe® up to 0.5 bar – for jetting-in the complete length – gas- and water-tight up to 10 bar for 30 minutes.

### SPEED•PIPE® BUNDLE CONNECTORS

The SRV-M and SRV-M MAXI protect the joints of two buried speed•pipe® bundles against gas- and water-ingress through the gaps between the ducts in a pressure-tight way. At a pipe-in-pipe solution with a jacket pipe up to Ø 63 mm or at the transition to a buried bundle, the connectors link the whole duct system, as well gas-, pressure and water-tight.



## Branch supports, protective elements, tools. Quick installed.

### BRANCH SUPPORTS

Single speed•pipe® can be branched off the bundles ground. The T-branch-support TBS or the L-branch-support LBS lead them in a safe bend to the customer or to the distribution box. Cable ties are used for fixation. The use of the gabocom markerpeg facilitates the subsequent localisation.

### CABLE BOX

The cable box has been developed for excess lengths of mini cables. It is easy to install and is locked with a cover. This way it protects the installed cables in a secure and reliable manner against damages.

### SPEED•PIPE® BOX

The speed•pipe® box is a direct buried storing element for the mechanical protection of the excess length of a bundle of speed•pipe® ground 7×1.5 up to maximum 50 m. The use of a marking system like for example the 3M ball marker facilitates the subsequent localisation of the box.

### TOOLS

The speed•pipe® cutter and the bundle cutter are used for the professional installation. These tools allow the chipless and rectangular cut of speed•pipe® and speed•pipe® bundles. The sheath cutter with sliding guide and the ceramic safety cutter are particularly suitable for opening a coated bundle because these tools reduce the risk of injury in contrast to a knife for instance.



## Seal and fix. Safe. For a lifetime.

### DIVISIBLE SEALING ELEMENTS EZA-T 7 / 10 / 12 / 14 / 16 / 20

Tensile and reusable: The divisible sealing elements seal occupied and empty speed•pipe® against gas and water up to 0.5 bar. The integrated safety valve opens before having reached a blowing-in pressure of 10 bar.

### CONNECTORS WITH GAS-STOP EBM-GS 7 / 10 / 12 / 14 / 16

Tensile and directly buriable: The divisible connectors link already occupied speed•pipe®. Particularly before transfer points of buildings and before underground connectors the integrated gas-stop pays off: It provides a gas- and water-tight sealing of the speed•pipe® up to a pressure of 0.5 bar also in longitudinal direction. Houses and connectors remain dry and safe.

### TRANSPARENT PERMANENT END PLUGS ES 7 / 10 / 12 / 14 / 16 / 20

Tensile and directly buriable: The cover of the speed•pipe® ends protects the whole duct system against the ingress of water, dirt, and gas. The end plug itself is gas- and water-tight up to 0.5 bar. Mounted by simply pushing it onto the speed•pipe®, the end plug is just as easily removed by stripping off the locking ring.

### MARKING LABELS WITH PIPE PLUG KMR 7 / 10 / 12 / 14 / 16

Sealing and labelling in one step: By means of the pipe plug unoccupied speed•pipe® are gas- and water-tight up to 0.5 bar. Before the blowing-in process starts, the protection cap is broken off and remains at the speed•pipe® exit in the distributor as marking label.







#### DIVISIBLE SEALING ELEMENTS

#### EZA-T FOR PIPE-IN-PIPE OCCUPATION, SRV, SRV-G, SRV-G TC

Tailored to all SRV-G tc and occupancy variants of PE-HD ducts: Due to the variable gaskets bundles and protective pipes that are empty or occupied with speed•pipe® / cables, remain clean, dry and operational over decades. Gas- and water-tight even up to 0.5 bar, the divisible sealing elements fix speed•pipe® against temperature-affected length changes in pipe-in-pipe solutions.



#### INSIDE STIFFENER

#### SHI 32 / 40 / 50 / 63

For all pipe-in-pipe bundles: Before mounting the divisible sealing element, the flexible jacket pipe of the speed•pipe® bundle SRV and SRV-G is strengthened with a stiffener. A round duct with a normed diameter is the result.



#### (DOUBLE-) OUTSIDE STIFFENER

#### (D)SHA 50

For SRV bundles:

The sealing element ADE / TDUX 90 / 100 (CommScope) seals occupied cable ducts >110 mm. For this purpose the stiffeners strengthen the flexible jacket pipe of up to two SRV 50 / 8 x 10 from the outside. This way the divisible fittings avoid that the pressure of the TDUX changes the shape of the inside speed•pipe® (ovalization). Fiber-optic cables can be blown-in further on.



#### COMMON FITTINGS

A comprehensive range of accessories for telecommunication lines of various dimensions: Connecting and sealing elements, protective pipe sealings and half shells are dirt-, gas- and water-tight.

## House lead-in. Master the transition.

### IN THE CELLAR: ADSB, ADSB-D, ADSB-F

For ambiances with non-pressing water: Each kit contains an inner and an outer part, for a gas- and water-tight lead-in up to 1 bar of up to two speed•pipe® or cables into the house through the cellar. After the blowing-in procedure the speed•pipe® ground is lead into the integrated deflection duct and further on is lead along the wall of the cellar.

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### INSIDE WALLS: SKW

Applicable for the direct use in concrete, the house lead-in meets all requirements for brickworks. Please note: For allowing a complete grip of the integrated sealing by the lever mechanism also in case of brickwork we recommend the additional application of a sanded scabbard pipe.

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### ABOVE GROUND: HEO

By means of a gas-stop that is integrated at the wall of the house, in the exterior area it is modified from speed•pipe® ground to speed•pipe® indoor for the interior of the building. The gas-stop fixes the cable and seals it longitudinally against gas and water up to 0.5 bar. speed•pipe® and joint are covered by unobtrusive and simple blinds and are mechanically protected.



Term	Suitable for cable D (mm)	Suitable for speed•pipe® ground (mm)	Quantity cable / speed•pipe® ground
Set ADSB 28 / 7		7 × 1.5	1
Set ADSB 7.0 – 9.0	7.0 – 9.0	7 × 1.5	1
Set ADSB-D 7.0 – 9.0	7.0 – 9.0	7 × 1.5	2
Set ADSB 9.0 – 12.5	9.0 – 12.5	10 × 2.0 / 12 × 2.0	1
Set ADSB-D 9.0 – 12.5	9.0 – 12.5	10 × 2.0 / 12 × 2.0	2
Set ADSB-F 28 / 7		7 × 1.5	1
Set ADSB-F 28 / 10		10 × 2.0	1

→ The set contains an inner and an outer part.

Term	D (mm)	Length (mm)
SKW 32	32	390
SKW 32	32	500
SKW 50	50	390
SKW 50	50	500

Term	speed•pipe® ground (mm)
Set HEO 7 (with gas-stop)	7 × 1.5
Set MOB 7 (without gas-stop)	7 × 1.5
Set HEO 10 (with gas-stop)	10 × 2.0

→ Details of house lead-ins see point 5 in the product catalog or at [www.gabocom.com](http://www.gabocom.com)

# The next level. speed•pipe® indoor for buildings, drains and tunnels.

Provisions are obligatory – and meanwhile are engraved in stone for the whole European Union:

*„The existence of high-speed electronic communications networks up to the end-user should [...] be facilitated, in particular by high-speed-ready in-building physical infrastructure. Given that providing for mini-ducts during the construction of a building has only a limited incremental cost while retrofitting buildings [...], all new buildings or buildings subject to major renovation should be equipped with physical infrastructure, allowing the connection of end-users with high-speed networks.“*

(Excerpt from EU directive 2014/61/EU)

Article 8 of the directive demands the integration of high-speed-ready, in-building physical infrastructures for all new buildings and extensive renovations with applied building permit after the 31st of December 2016.

The directive for almost whole Europe has already been transposed into German law: According to § 77 k TCA (Telecommunications Act) new buildings, that are supposed to have connections for telecommunication services for the end-user, must be equipped with high-speed-ready passive network infrastructures inside the building up to the network termination points.

Regardless of the legal obligation especially in apartment buildings or highly charged buildings the infrastructure inside the building envelope must be suitable for a fast connection to the outside. But especially inside buildings particularly strict requirements are effective – primarily with regard to fire protection.

The speed•pipe® indoor system masters the line between safety, optimum blowing-in characteristics and ease of assembly..





## Secure networks inside buildings. speed•pipe® indoor.

### SPEED•PIPE® INDOOR

speed•pipe® indoor may look rather unimposing – but just optically! With regard to their technical characteristics they withstand all requirements. According to the EU Low-Voltage Directive 2014/35/EU the speed•pipe® indoor system entirely is tested in accordance with EN 61386-22, e.g.

- fire tests corresponding to the statutory security objectives
- regulations for installation and laying
- compatibility with firewalls

speed•pipe® indoor are flame-retardant and tested according to EN 60684-2 with regard to the absence of halogens and EN 61034-2 with regard to low smoke density. With speed•pipe® indoor every single homeowner and resident is well prepared for the case of emergency.

### SPEED•PIPE® INDOOR FITTINGS

Tested according to EN 61386 and EN 60684-2 the halogen-free and flame-retardant speedpipe indoor fittings constitute the ideal complement to the speed•pipe® indoor.

- Components*
- indoor divisible sealing elements
  - indoor connectors with gas-stop
  - indoor end plugs
  - indoor connectors
  - indoor divisible connectors
  - indoor bends
  - indoor marking labels with pipe plug

#### AVAILABLE SPEED•PIPE® INDOOR DIMENSIONS

Term	Colour	D x s (mm)	Length (m)	Non-returnable wooden-spool D x s (mm)
speed•pipe® indoor 4 × 0.75	white	4 × 0.75	600	340 × 340 × 340 (box)
			1600	600 × 360
speed•pipe® indoor 5 × 0.75	white	5 × 0.75	400	340 × 340 × 340 (box)
			1000	600 × 360
speed•pipe® indoor 7 × 1.5	white	7 × 1.5	250	340 × 340 × 340 (box)
			500 / 1250	600 × 360 / 700 × 370
speed•pipe® indoor 10 × 1.0	white	10 × 1.0	500 / 2500	700 × 370 / 1200 × 370
speed•pipe® indoor 10 × 2.0	white	10 × 2.0	500 / 2500	700 × 370 / 1200 × 700
speed•pipe® indoor 12 × 2.0	white	12 × 2.0	350 / 2000	700 × 370 / 1200 × 370
speed•pipe® indoor 14 × 2.0	white	14 × 2.0	250 / 1500	700 × 370 / 1200 × 370

→ Further dimensions available on request / overview of fittings see point 1.3 in the product catalog or at [www.gabcom.com](http://www.gabcom.com)











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## Experience gabocom live. Our training center.

gabocom is domiciled in the Lower Bavarian community Niederwinkling – 125 km from Munich Airport, at the edge of the Bavarian Forest, but directly next to highway A3.

Along with development, production and distribution also the modern training center is located on the company premises. In the practice room you try out on your own to connect bundles, to branch speedpipe off a bundle, to assemble sealing elements and much more.

Gladly we will tailor the course contents to your individual preferences and main topics.

Simply contact us! For your personal contact please refer to [www.gabocom.com](http://www.gabocom.com)





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Personal. Competent.

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