



Pipes for
industrial ventilation
and air conditioning

Polymer
Ventilation Pipes

Pipes and formed components for industrial ventilation and air conditioning

Polymer Ventilation Pipes

Material alternatives for polymer ventilation pipes for industrial engineering

The use of polymer pipes for industrial applications – in particular chemical engineering – is regarded as an established market segment with a strong potential for further growth. As a matter of fact, in many cases only polymer pipes are regarded as the safe and economic solution for conveying chemical media. In particular, this applies to ventilation piping.

Additional benefits are:

- low weight
- excellent corrosion resistance
- simple installation
- an outstanding cost-performance ratio

Typical fields of application for polymer ventilation pipes in industrial engineering are exhaust ducts in chemical process, semicon-galvanizing or pickling industries as well as ventilation of laboratories, hospitals or swimming-pools.

Unaffected from the individual application, any material decision in this field is guided by the following general aspects:

- technical requirements (e.g. chemical resistance, profile, service-temperature-range)
- overall cost range
- relevant standards regarding flame resistance / fire protection
- system availability
- jointing-technology

Based on this, there is no general answer to the question of choice of material; each system rather has its strong and weak sides for the respective applications; in particular, the different ventilation pipe systems often rather complement one another than competing. Consequently, an individual reflection is necessary before selecting any kind of material.

Being fully aware of this, Georg Fischer DEKA (in close cooperation with selected fabrications for fittings, sheets and welding rod) offers this option for comprehensive consultation as part of our service.



Material alternatives for ventilation pipes made of polymers

Property	DEKAPROP®-s PP-s	DEKADUR PVC-U	DEKADUR-C® PVC-C	PVDF
Chemical resistance profile	Caustic media; many non-oxidizing mineral acids; various organic media (such as many solvents)	Mineral acids, caustic media, strong oxidizers, Halogens, Ozone, selected classes of organic media		Mineral acids, oxidizers, Halogens (not F ₂), some selected organic media (esp. at lower temperatures)
Service temperature range / °C	0-100	0-60	10-100	-20-140
Vicat-softening-temperature (B50/°C)	85	85	114	145
Density / (g/cm³)	0.92	1.42	1.53	1.78
Tensile-E-Modulus / (N/mm²)	1300	3000	2600	2500
Jointing technology	Welding	Welding / adhesive jointing		Welding
Flame retardancy	Yes	Yes	Yes	Yes

Guiding values without any guarantee.

Benefits of using ...

DEKAPROP®-s:

- flame-retardant according to DIN 4102 B1 (Allgem. Bauaufsichtliches Prüfzeugnis MPA Stuttgart; P-BWU 03-I-16.5.76)
- color: grey
- attractive profile of chemical resistance; well designed to complement the corresponding profile of PVC materials
- good cold-forming properties (outer fiber strain)
- good cost-performance ratio
- system availability of pipes (OD 32 – 500 mm) sheets, welding rod, fittings
- very low density

DEKADUR/DEKADUR-C®:

- flame-retardant according to DIN 4102 B1 (up to 3,2 mm wall-thickness)
- very low coefficient of thermal expansion
- easy installation due to adhesive jointing (OD ≤ 315 mm)
- attractive profile of chemical resistance; well designed to complement the corresponding profile of PP-s materials
- high stiffness



DEKADUR in particular:

- system availability of pipes (OD 50 – 600 mm), sheets, welding rod, fittings
- attractive cost-performance ratio
- alternative colors are available up on request

DEKADUR-C®:

- for selected applications we also offer ventilation pipes made of FM 4910 listed C-PVC

PVDF:

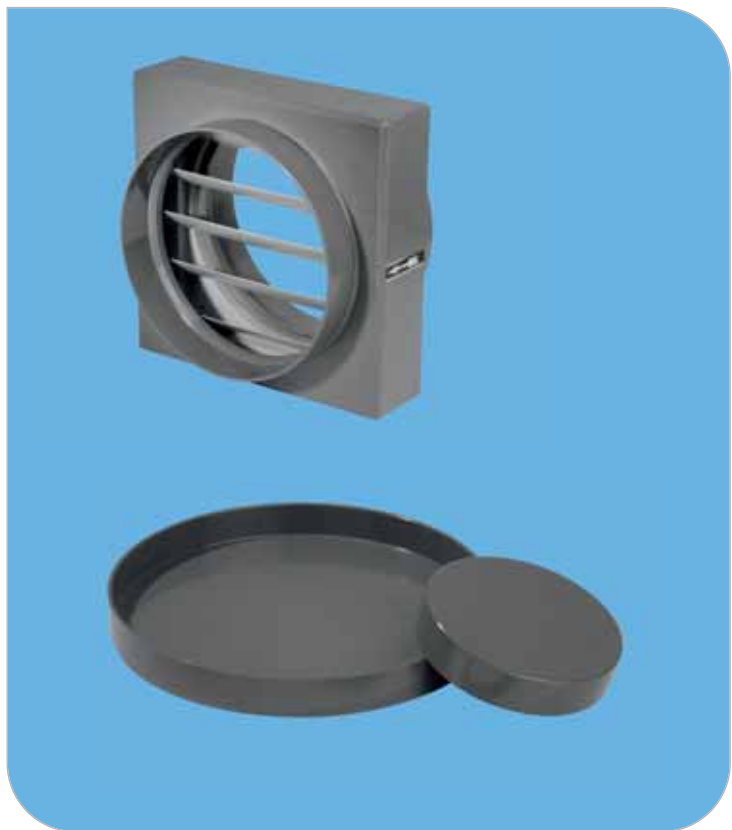
- (Pls. contact us concerning availability of corresponding SYGEF pipes made by GEORG FISCHER)
- high temperature resistance
 - intrinsic flame-retardancy
 - UV-resistance

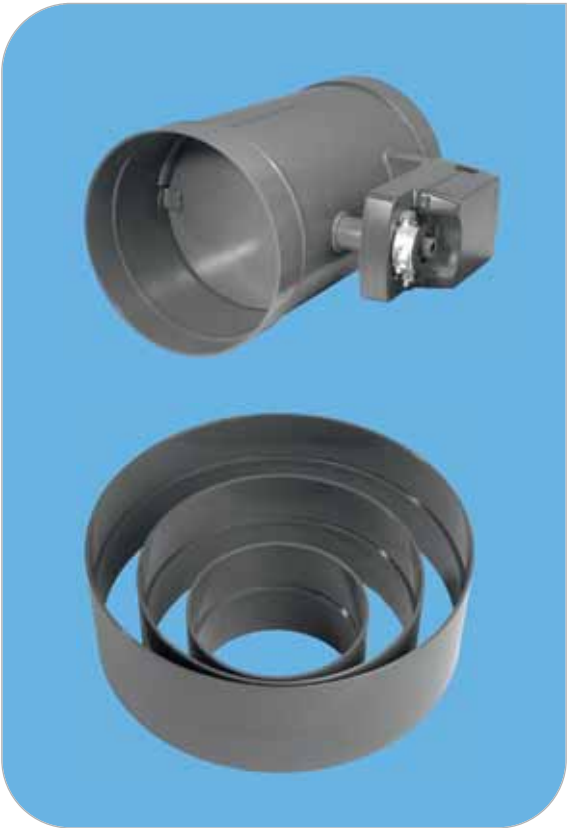
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Technical data and
dimensions
on request





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Sample applications

www.dekapipe.de
www.georgfischer.com



DEKADUR-ventilation pipes
made of PVC-U acc. DIN 8062
flame retardant
acc. DIN 4102 B1*
colour: dark grey RAL 7011
length: 5000 mm, plain ends

* up to wallthickness 3,2 mm

Dimension d x s	Weight kg / m
110 x 1,8	0,950
125 x 1,8	1,080
140 x 1,8	1,210
160 x 1,8	1,390
180 x 1,8	1,570
200 x 1,8	1,740
225 x 1,8	1,960
250 x 2,0	2,400
280 x 2,3	3,110
315 x 2,5	3,780
355 x 2,9	4,870
400 x 3,2	6,100
450 x 3,6	7,650
500 x 4,0	9,370
160 x 2,5	1,910
180 x 2,5	2,150
200 x 2,5	2,390
210 x 3,0	2,954
225 x 2,8	2,970
250 x 2,5	3,000
250 x 2,9	3,420
260 x 3,0	3,668
280 x 2,9	3,720
315 x 2,9	4,320
355 x 4,4	7,600
400 x 5,0	9,300
450 x 5,6	11,710
500 x 5,6	13,400
600 x 5,0	14,010



DEKAPROP®-s ventilation pipes
made of Polypropylene (PP-s)
flame retardant
acc. DIN 4102 B1
P-BWU03-l-16.5.76
colour: grey
length: 5000 mm, plain ends

Dimension d x s	Weight kg / m
32 x 3,0	0,281
40 x 3,0	0,363
50 x 3,0	0,445
63 x 3,0	0,580
75 x 3,0	0,702
90 x 3,0	0,848
110 x 3,0	1,050
125 x 3,0	1,190
140 x 3,0	1,340
160 x 3,0	1,530
180 x 3,0	1,730
200 x 3,0	1,930
225 x 3,5	2,530
250 x 3,5	2,820
280 x 4,0	3,580
315 x 5,0	5,000
355 x 5,0	5,560
400 x 6,0	7,610
450 x 7,0	9,900
500 x 8,0	12,560



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www.piping.georgfischer.com



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