



CORRUGATED PIPE FOR CMV



Controlled Mechanical Ventilation
and aspiration



 **ITALIANA CORRUGATI**

 **SYSTEM GROUP**

11.2022


MADE IN ITALY

ITALIANA CORRUGATI S.p.A. is part of **SYSTEM GROUP**, a big GROUP of specialized companies that creates technical and productive synergies in order to provide modern products, systems, services and consulting to Clients, designers and network managers. Today is one of the main character in the polyethylene (PE) and polypropylene (PP) pipes' market, corrugated type with double and triple wall.

Its work is built on strong foundations: the Quality, the constant training of personnel, the supervision of production, the services of technical consulting, other than a structured and established sales network. The company is equipped with modern and technological extrusion and corrugation plants that, together with Quality systems (UNI EN ISO 9001), allow to obtain excellent standards of quality and production.

Pipes are manufactured according to the required national and international standards, with multiple marks of product's Quality released by accredited third party certification Bodies.



The product range consists of:

- Pipes for non-pressure waste water networks (sewerage and drainage of waste water)
- Slotted pipes for underground drainage systems
- Pipes for cables insertion
- Pipes for ventilation systems of buildings
- Standard and tailor-made fittings for completion of the system.

The products from **SYSTEM GROUP** are added as completion to the products range of **ITALIANA CORRUGATI**:

- Pipes for non-pressure waste water networks (sewerage and drainage of waste water) Spiral type (up to DN 2500 mm)
- Manholes and inspection chambers made of PE and PVC
- Systems of water storage and management realized with modular artifacts made of PE (tanks or pipes)
- Site services (video inspection - hydraulic seal of the system).

Boscarini



**CERTIFICATIONS
ITALIANA CORRUGATI**



COMPANY

ITALIANA CORRUGATI S.P.A. IS PROVIDED WITH THE FOLLOWING CERTIFICATIONS:

PRODUCTION QUALITY

in accordance with the standard UNI EN ISO 9001



ENVIRONMENTAL QUALITY

in accordance with the standard UNI EN ISO 14001



The company certifications are available on our website: www.tubi.net

OF PRODUCTS



The certifications are available in the PRODUCT PAGES on www.tubi.net



ITALIANA CORRUGATI is regularly registered at PolieCo Consortium.
Certified registration n. 4322 required by law (D.Lgs. 152/2006 - art. 234).



THE PROBLEM



- > POLLUTION AND CONSUMPTION OF INNER AIR
- > WATERTIGHT ENVIRONMENTS WITH LOW AIR EXCHANGE
- > HUMIDITY, CONDENSATION AND MOULDS INCREASE
- > LOW SANITIZED BUILDINGS
- > RESPIRATORY DISEASES AND ALLERGIES

In order to avoid these risks, natural ventilation needs to be incorporated or replaced by controlled mechanical ventilation systems (CMV). This allows to have buildings or environments with better air quality. These systems become part of the building and increase its value due to the fact that they grant durability, efficiency and ease to maintain.

THE SOLUTION



CORRUGATED PIPE FOR CONTROLLED MECHANICAL VENTILATION SYSTEMS AND ASPIRATION

Aspiration and ventilation pipes in private, public and industrial buildings.

High qualitative features

- > MECHANICAL
- > HYGIENICAL
- > SOUND INSULATION
- > THERMAL INSULATION
- > EFFICIENT AND SAFE AIR EXCHANGE

WHY AIRCOR?

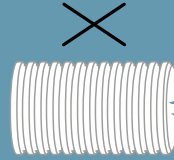


ANTIBACTERIAL

It's resistant to the microbial development thanks to the antibacterial agent.

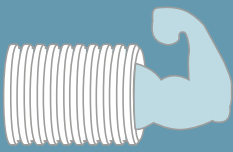
DUSTPROOF

Dust creation is prevented with antistatic agents.



ODOURLESS

Given the biocide active ingredient, the AIRCOR pipes fight those bacteria responsible for the bad smells and keep the air clean.



TOUGH

Resistant to time and corrosion because of PE double walls which can be placed in false ceilings, partition walls and floors.



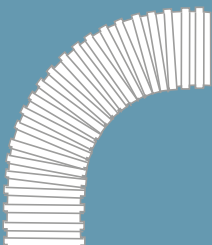
CONVENIENT AND SAFE

Lightweight and easy to manage, providing a safe tightness.



CUSTOMISABLE

Marking can be customised according to customer's needs.



BEND RADIUS

The flexibility of the pipe allows curves with smaller radius four times the diameter of the pipe, reducing the need of special pieces, allowing easy installation, even in confined spaces and in presence of obstacles.



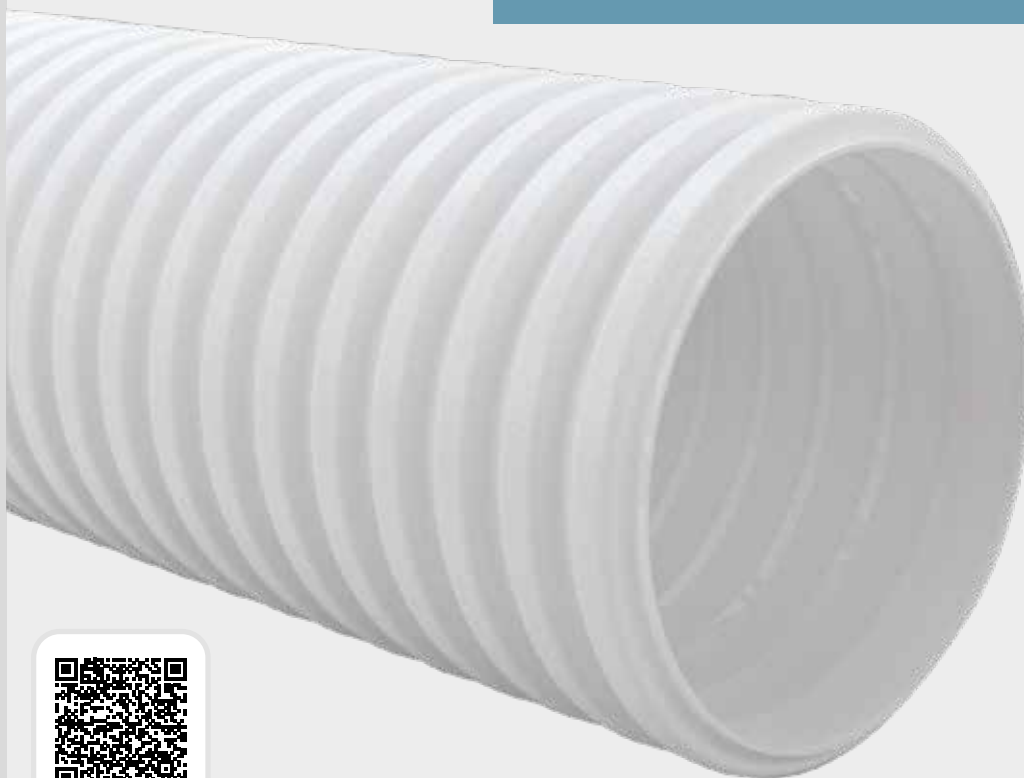
ISOAIR

Pipe with thermal and sound insulation.



GUARANTEE

Guarantee for more than one year.



scan me



SPECIFICATION

Polyethylene pipe made through continuous wall coextrusion, designed for pipes which find application in ventilation for civil and industrial installations. The pipe has inner smooth wall and outer corrugated wall. The inner surface will be made of 100% pure polyethylene of white colour, with the addition of antistatic and antibacterial agents in order to prevent the risk of dust storage and the bacteria and mould spread. The pipe is certified by third party laboratory.

For the version equipped with PRE-INSULATION. Pipes need to be completely covered by a flexible closed cell polyethylene foam sheath in order to create the thermal-acoustic insulation, with a thickness of ... mm.

The pipe manufacturer needs to be equipped with systems of management of COMPANY QUALITY in accordance with UNI EN ISO 9001 and of ENVIRONMENT in accordance with UNI EN ISO 14001, all certified and validated by accredited third party Organization and regularly enrolled in the PolieCo Consortium (D.Lgs. 152/2006 – art. 234).

PE corrugated pipe d.p. for CMV DN/od ...mm €/m ...



CARATTERISTICHE

Grazie alla maggiore flessibilità permette di raggiungere un raggio di curvatura maggiore evitando crepe o rotture della parete interna.

In fase di estrusione vengono utilizzati materiali eccellenti che non intaccano l'aria trasportata, mantenendone le caratteristiche naturali.



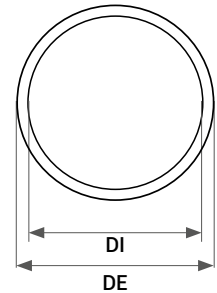
ADVANTAGES

- > FLEXIBILITY
- > INNER WALL HIGHER RESISTANCE
- > SAFETY
- > THE AIR QUALITY IS UNCHANGED



TECHNICAL INFO

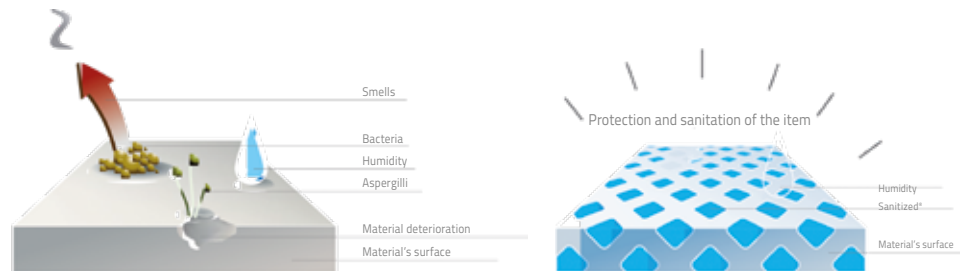
DN/OD		length		coils per pallet	packaging	AIRCOR FLEX	availability	pallet size
DN/ID	m	n.	€/m			H - L - P		
63	51	50	16	pallet with extensible film	2,76	available in warehouse	230x200x100	
75	63	50	7		3,48	available in warehouse	255x110x110	
90	76	50	6		4,44	available in warehouse	255x120x120	
110	92	50	-		6,21	on request	-	
125	105	50	-	loose	7,56	on request	-	
160	137	50	-		11,61	on request	-	
200	171	25	-		18,90	on request	-	



Sizes in millimeters [mm]



CERTIFICATION



:: Sanitized Certifies the absence of bacteria in pipes
Brings clean air
Guarantees high quality standards.



The German institute of Hygiene (hygiene institute des Ruhrgebiets) is one of the largest and most modern European institution of its kind in Europe. It regularly carries out tests and controls of natural resources (water, soil, air). It specializes in the research of any traces of pollution or other contaminants released by specific products placed on the market. Products are tested before the market launch in order to see their suitability for drinking water, food or air.

- :: ÖNorm H6021** for protection and cleaning of ventilation systems
- :: VDI 6022 - SWKI VA104-01** for hygiene of ventilation and air conditioning systems
- :: ÖNorm H6038** for design, installation and maintenance of ventilation systems



INSTALLATION

WHERE DO YOU INSTALL IT?

- Wall gaps
- Inside the insulating jacket
- In ceilings
- Inside utility rooms
- Under track
- Fixture or buried in accordance with UNI ENV 1046

TEMPERATURES RESISTANCE

The PE material has a softening temperature higher than 130°C and an ignition flame temperature higher than 350°C. In order to guarantee the system durability, you need to avoid the surfaces with a temperature higher than 60°C.

DOUBLE WALL CORRUGATED STRUCTURE

It protects the inner surface from impacts and point loads, but it is better to avoid installation where the product is in contact with sharp bodies such as reinforcing iron, brickwork spurs, cutting parts, screws or bolts.



GENERAL FEATURES

APPLICATION

Aspiration systems, natural ventilation, controlled mechanical ventilation (CMV), humidity control, heat exchange and conditioning.

STRUCTURE

Outer surface with UV protection, inner surface with antistatic, antibacterial and anti-mould agents, tested in accordance with the ISO 22196 (antibacterial activity test on plastics) and EN ISO 846 A+C section methods (evaluation of the action of microorganisms on plastics: fungal growth test).

INSTALLATION

Laying in trenches, under the ground, in wall cavities, in false ceilings, suspended with brackets.

ACCESSORIES

Every coil is provided with pressure caps at the end in order to maintain the cleaning of the inner wall.

LIMIT OF USAGE

-20 °C / +60 °C.

CHEMICAL FEATURES

Halogen free

THERMAL TRANSMITTANCE

2,8 W/m²/K (analytical value at 20°C)

FIRE RESISTANCE

Rating of fire reaction (UNI EN 13501-1:2019): Euro class E₁
Flame spread: Fs < 150 mm in 20 s



MARKING

Ø _ _ _ _ gg _ mm _ aa _ _ ora _ min _ UV_SANITIZED

ISOAIR



AIRCOR-TYPE CORRUGATED PIPE COMPLETE WITH THERMAL- ACOUSTIC INSULATION IN EXPANDED ELASTICIZED CHEMICAL COMPACT CLOSED CELL POLYETHYLENE



MAIN FEATURES OF THE THERMAL/SOUND INSULATION:

> THICKNESS	4 MM
> COLOUR	GREY / BLACK
> DENSITY	35 KG/M3
> COEFFICIENT OF THERMAL CONDUCTIVITY	0,039 W/MK A 10°C
> THERMAL RESISTANCE	0,10 M2K/W
> OPERATING TEMPERATURE	-20 + 80°C
> SOUND INSULATION OF THE PRODUCT ONLY	10 DB RW
> COMPRESSIVE STRESS AT 10% DEFORMATION (BASED ON AVAILABLE DATA)	13,002 KPA
> TOXICITY STANDARDS AFNOR FR F16-101-1988	TEST REPORT CONCERNING THE TOXICITY AND OPACITY OF FUMES CSI N. DC01/494F05 DEL 07/07/05
> DYNAMIC STIFFNESS	SP 4 MM: 43,0 MN/M3
> DIMENSIONAL TOLERANCE	± 10%

OD Ø External	ID Ø Internal	length m	packaging	coils per pallet n.	availability
71	51	50	pallet with stretched film	6	on request
83	63	50		6	on request
98	76	50		5	on request

Sizes in millimeters [mm]



ISOMAX



SUPER FLEXIBLE INSULATION WITH CLOSED CELL PE FILM

INSULATION THREADING DURING THE INSTALLATION PHASE



> ECO-FRIENDLY

λ 0,035 (a 40°)

μ 15.000



THIS NEW INSULATOR HAS MULTIPLE FUNCTIONS, SOME REVOLUTIONARY:

> OPERATING TEMPERATURE	45°C + 100°C
> SPECIFIC WEIGHT	30 ± 35 KG/M3 TOLERANCE ± 10%
> COEFFICIENT OF THERMAL CONDUCTIVITY EN 12667:2001	A + 40°C = 0,035 W (M° K)
> STEAM PERMEABILITY EN 13469:2004	GREAT μ 15.000
> TOXICITY	IT DOES NOT RELEASE TOXIC AND OPAQUE FUMES, CERTIFIED: N. 003/CF/T 98 DEL 26/01/98 N. 002/CF/T 98 DEL 26/01/98
> DIMENSIONAL STABILITY	AT + 95°C PER 24 HOURS 0,787%
> DEFORMATION RESISTANCE	GREAT
> REACTION TO FIRE	FIRE BEHAVIOUR FIRE REACTION, CLASS BL-S1 DO CE CERTIFICATION OF CONFORMITY N. 0497/CPD/4697/12
> IT HAS NO CFC (FREON)	IN CONFORMITY TO THE LAW N.549 DEL 28/12/93



OD Ø External	ID Ø Internal
83	51
95	63
110	76

Sizes in millimeters [mm]

length	packaging	availability
m	n.	
2	32	on request
2	24	on request
2	20	on request



ACCESSORIES

JOLLY SLEEVE



piece for
package

∅	n.	€/each.
63	600	1,60
75	350	2,00
90	100	2,10
110	loose	2,50
125	loose	4,60
160	loose	6,00
200	loose	9,00

Sizes in millimeters [mm]

ELBOW WITH DOUBLE NOZZLE



piece for
package

∅	n.	€/each.
63	-	-
75	1	20,00
90	1	22,00
110	-	-
125	-	-
160	-	-
200	-	-

Sizes in millimeters [mm]

COMPRESSION END CAPS IN LLDPE



piece for
package

∅	n.	€/each.
63	500	1,00
75	200	1,10
90	150	1,20
110	loose	1,50
125	loose	1,80
160	loose	2,20
200	loose	2,80

Sizes in millimeters [mm]

ELASTOMERIC LIP GASKETS IN EPDM RUBBER



piece for
package

∅	n.	€/each.
63	100	0,90
75	100	1,00
90	100	1,10
110	loose	1,70
125	loose	1,90
160	loose	2,60
200	loose	3,10

Sizes in millimeters [mm]

CLIP FOR PIPE



piece for
package

∅	n.	€/each.
63	-	-
75	48	2,50
90	48	3,00
110	-	-
125	-	-
160	-	-
200	-	-

Sizes in millimeters [mm]

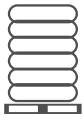
COUPLING WITH DOUBLE NOZZLE



piece for
package

∅	n.	€/each.
63	-	-
75	1	13,00
90	1	15,00
110	-	-
125	-	-
160	-	-
200	-	-

Sizes in millimeters [mm]



PACKAGING

HANDLING AND STORAGE

- in case of long storage, place the rolls in horizontal position and **avoid direct contact between the rolls and the ground surface.**
- during handling, **avoid dropping, dragging or rolling pipes**, especially on irregular surfaces, or in presence of material that can damage them
- in the presence of temperatures below **5°C**, PE reduces its characteristic of elasticity and impact resistance, in these conditions it is advisable to pay **more attention** during the unloading and handling phases.



PACKAGING

All pipes are individually protected by a plastic bag, and are wrapped with a PE stretch film. In this way they are:

- **UV protected**, allowing extended storage even outdoors
- protected from bad weather when are stored outside.



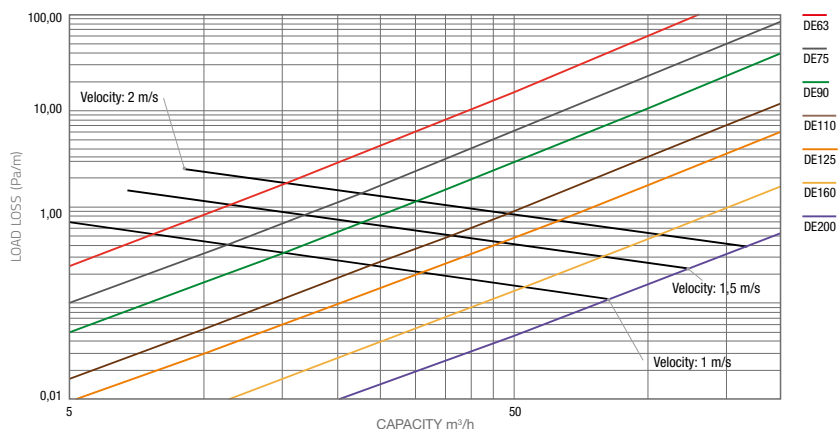
DESIGN

PRESSURE LOSSES DISTRIBUTED AT 20°C PIPES FOR VENTILATION

Capacity	m³/h	5	10	15	20	25	30	40	50	60	70	80	90	100	150	200
	l/s	14	2,8	4,2	5,6	6,9	8,3	11,1	13,9	16,7	19,4	22,2	25,0	27,8	41,7	55,6
OD	DI	Velocity (m/s)														
63	52	0,66	1,13	1,97	2,62	3,27	3,93	5,24	6,54	7,85	9,16	10,47	11,78	13,08	19,62	26,16
75	63	0,45	0,9	1,34	1,79	2,23	2,68	3,57	4,46	5,35	6,24	7,13	8,02	8,92	13,37	17,83
90	73	0,34	0,67	1	1,33	1,66	2	2,66	3,32	3,99	4,65	5,31	5,98	6,64	9,96	13,28
110	92	0,21	0,42	0,63	0,84	1,05	1,26	1,68	2,09	2,51	2,93	3,35	3,77	4,18	6,27	8,36
125	105	0,17	0,33	0,49	0,65	0,81	0,97	1,29	1,61	1,93	2,25	2,57	2,89	3,21	4,82	6,42
160	137	0,1	0,19	0,29	0,38	0,48	0,57	0,76	0,95	1,14	1,32	1,51	1,7	1,89	2,83	3,77
200	171	0,07	0,13	0,19	0,25	0,31	0,37	0,49	0,61	0,73	0,85	0,97	1,09	1,21	1,82	2,42

OD	DI	Pressure losses distributed per meter of pipe (Pa/m)														
63	52	0,25	0,82	1,71	2,86	4,29	6,03	10,31	15,64	22,10	29,68	38,34	48,09	58,85	129,27	226,88
75	63	0,10	0,33	0,67	1,12	1,66	2,32	3,94	5,95	8,36	11,17	14,38	17,98	22,02	47,94	83,80
90	73	0,05	0,16	0,33	0,54	0,81	1,13	1,89	2,85	4,00	5,32	6,82	8,53	10,40	22,52	39,18
110	92	0,02	0,05	0,11	0,18	0,26	0,36	0,61	0,91	1,27	1,68	2,15	2,68	3,24	6,94	11,99
125	105	0,01	0,03	0,06	0,10	0,14	0,19	0,32	0,48	0,66	0,87	1,12	1,38	1,68	3,58	6,14
160	137	0,00	0,01	0,02	0,03	0,04	0,05	0,09	0,13	0,18	0,24	0,30	0,37	0,45	0,95	1,61
200	171	0,00	0,00	0,01	0,01	0,01	0,02	0,03	0,05	0,06	0,08	0,10	0,13	0,15	0,32	0,54

DIAGRAM OF PRESSURE LOSSES OF THE AIRCOR PIPE AT 20°C



Technical
department of
ITALMA CORRUGATI

OUR PROJECTS  AIRCOR



Technical documentation
and design software
available on request at
www.tubi.net



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