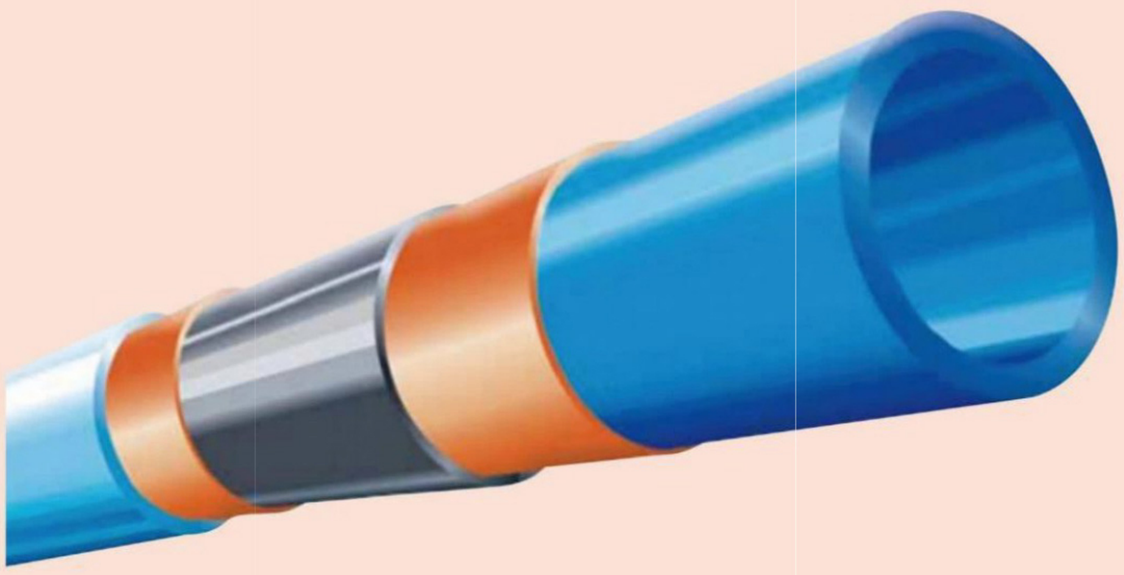
Zhuji Fengfan Piping Co.,Ltd.

The multi-talented IFAN multilayer pipe



Combines the advantages of PE-X technology with the positive features of a metal pipe

Applications:
Tap water installations
and radiator connections

SYSTEM **IFAN**

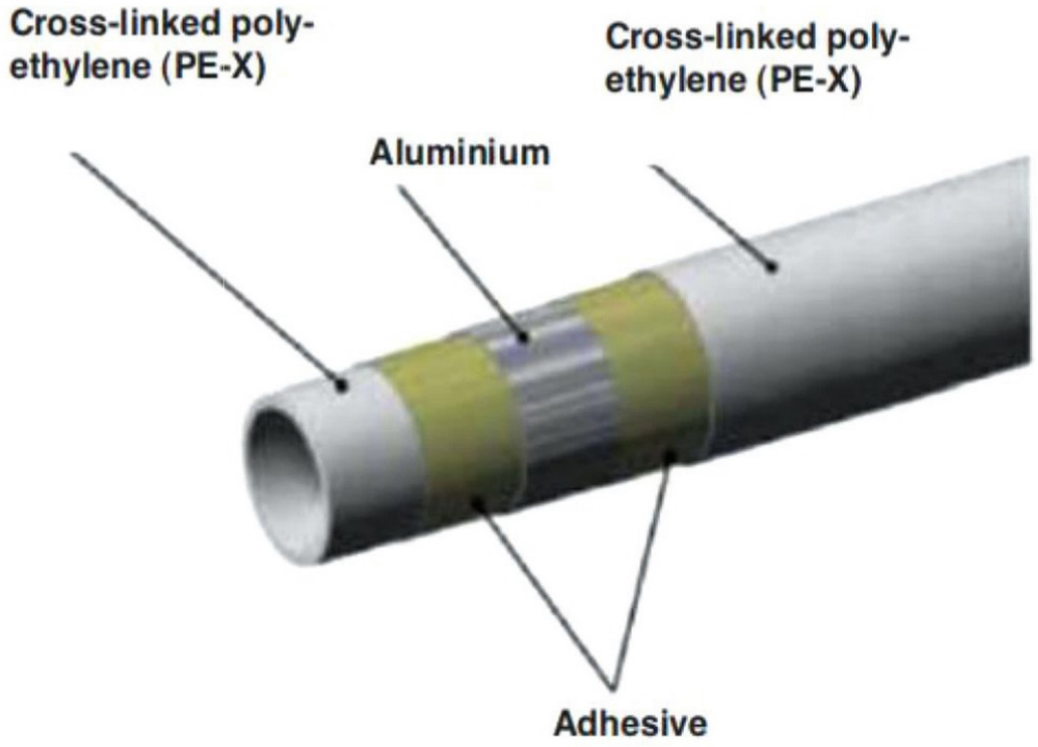
Catalogue

Technical Information

https://www.ifanfittings.com/

GENERAL INFORMATION

The Ifan® pipe system is the culmination of constant advancements in conventional PEX pipes manufacturing technology that combines the special characteristics of cross-linked polyethylene pipes with the merits of metal pipes. You no longer have to choose between metal pipes and plastic pipes: The Ifan® system features major pressure resistance and stabi-lity during temperature fluctuations without sacrificing elasticity.



The Ifan® multi-layer composite pipe is made of an inner and outer layer of cross-linked polyethylene that not only guarantees high mechanical strength,
but is also highly resistant to chemicals and thermal stress.
The intermediate aluminium layer welded with the TIG/laser
technique under a shielding gas atmosphere drives down the pipe'
s thermal expansion to make bending easier.
This guarantees absolute sealing towards oxygen while preventing the medium
in the pipe from being contaminated by the surrounding atmosphere.
The material composite
is created with two adhesive layers to firmly link the aluminium and polyethylene layers.

AREAS OF APPLICATION

You can use Ifan® pipes for:
- conducting cold and warm water for drinking water, heating and sanitary system
- conducting other fluid warm in heating systems both in heating ele-ments and floor heating systems
- conducting warm water and other fluid warm for industrial applications
- conducting food liquids

TOXICITY

This system guarantees compliance with maximum safety requirements
for impurities in the liquids conducted. All components used have been
selected and engineered to be able to guarantee maximum safety for these systems.
- there are absolutely no toxicity problems
- they are not susceptible to the spread of bacteria
- there are no oxidation or corrosion problems
- they are not susceptible to encrustations.

HOW THEY ARE CONNECTED

There are different ways to connect Ifan® pipes:

- series 6000 compression fittings
- series 6400 press fittings

THE PROPERTIES OF THE MATERIALS USED

1.1 CROSS-LINKED POLYETHYLENE

The PEX layer is made of polyethylene cross-linked with PE-X. It is made of linearly structured macromolecules linked by networking via cross-connections to keep the molecules from flowing when exposed to temperature and pressure.

CHEMICAL-PHYSICAL PROPERTIES	
Specific weight (g/cm³)	0.943
Tensile strength (Mpa)	20-26
Elongation percentage at break	350-450
Modulus of elasticity at 0°C (Mpa)	1400
Modulus of elasticity at 80°C (Mpa)	600
Yield strength (Mpa)	17-23
Degree of cross-linking	≥65

THERMAL PROPERTIES	
Range of use (°C)	-100°+100°
Thermal expansion coefficient (mm/m°C)	0.15
Specific heat (Kcal/Kg°C)	0.51
Thermal conductivity (Kcal/hm°C)	0.35

ELECTRICAL PROPERTIES	
Dielectric constant	2.2
Volume resistivity (Ohmcm)	$>1x10^{16}$
Dielectric rigidity (Kv/mm)	20

1.2 ALUMINIUM

We chose aluminium due to its low coefficient of thermal expansion and sealing towards oxy-gen.

CHEMICAL-PHYSICAL PROPERTIES	
Specific weight (g/cm³)	2.70
Tensile strength N/mm²	200:220
Elongation percentage at break	30
Modulus of elasticity at (Mpa)	60000-65000
Yield strength N/mm²	110:125

ELECTRICAL PROPERTIES	
Volume resistivity (Ohmcm)	2.845×10^6

THERMAL PROPERTIES	
Thermal expansion coefficient (mm/m°C)	0.0234
Specific heat (Kcal/Kg°C)	0.217
Thermal conductivity (Kcal/hm°C)	178

2. TECHNICAL DATA FOR IFAN® PIPE

Pipe dimensions in mm	1216	1418	1620	2025	2026	2632
Outer diameter, nominal size in mm	16	18	20	25	26	32
Wall thickness nominal size in mm	2.0	2.0	2.0	2.5	3.0	3.0
Internal diameter, nominal size in mm	12	14	16	20	20	26
Pipe weight in g/m	100	119	132	203	240	305
Pipe weight with water in g/m	238	286	358	525	612	924
Internal volume in l/m	0.113	0.154	0.201	0.314	0.314	0.531
Heat conductivity in W/m · K1)	0.43	0.43	0.43	0.43	0.43	0.43
Expansion coeffi cient in mm/m · K	0.024	0.024	0.024	0.024	0.024	0.024
Surface roughness [inner pipe] in µm	1.5	1.5	1.5	1.5	1.5	1.5
Oxygen diffusion in mg/(m2· d)	0	0	0	0	0	0
Max. operating temperature in °C	95	95	95	95	95	95
Max. operating pressure [at 95 °C] in bar	10	10	10	10	10	10
Short-time pressure loads [at 95 °C] in bar	15	15	15	15	15	15
Bend radius, freely bent	≥ 5 x D	≥ 5 x D	≥ 5 x D	≥ 5 x D	≥ 5 x D	≥ 5 x D
Bend radius with bending tools	≥ 3,5 x D	≥ 3,5 x D	≥ 3,5 x D	≥ 3,5 x D	≥ 3,5 x D	≥ 3,5 x D

*using special bending tool; 1) mean value
All values are guide values; additional pipe dimensions on request.

TAB. 2.0

2.1 OPERATING PRESSURE RANGE

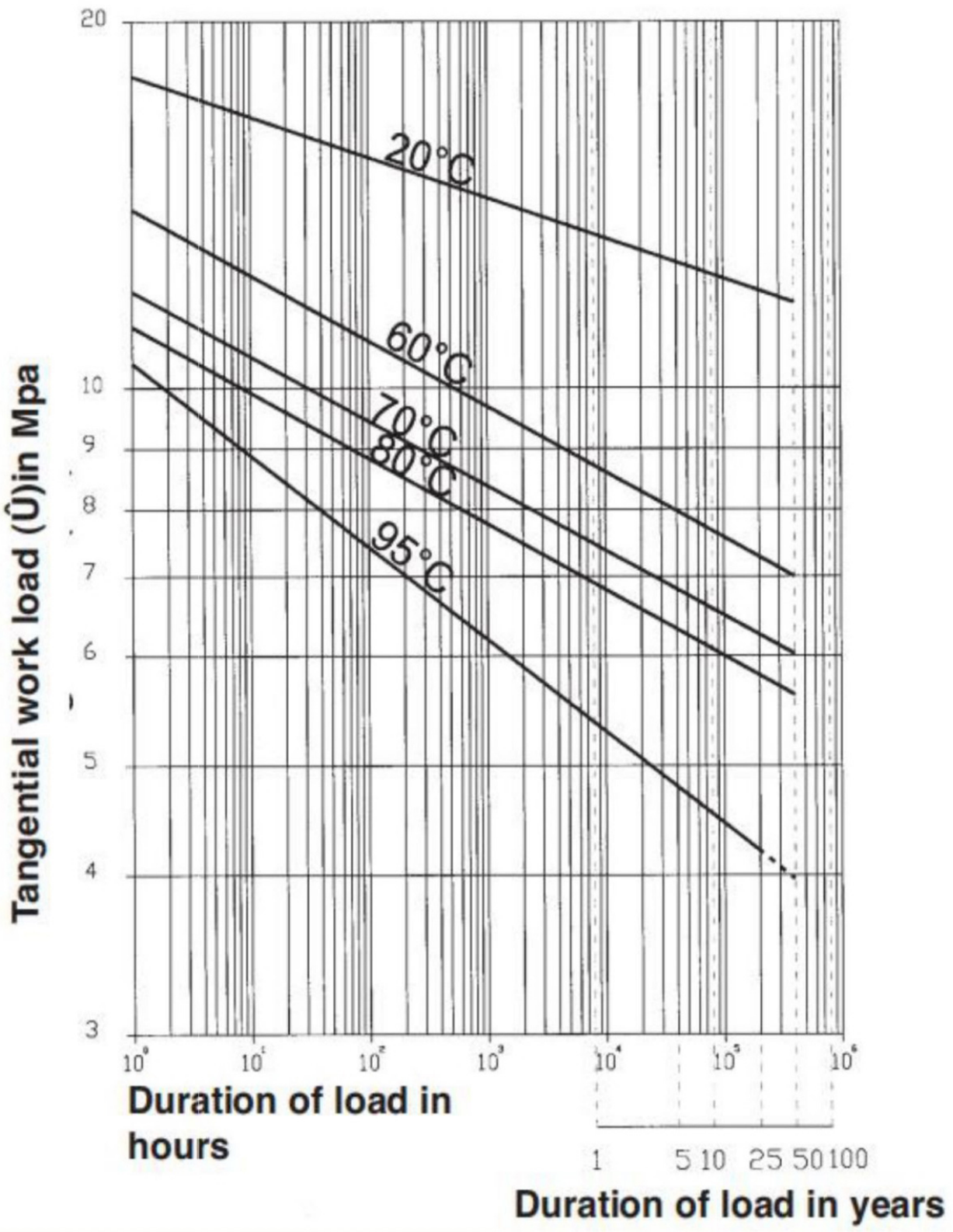
The **Ifan®** pipe allows relatively high operating pressure depending upon a wide range of different factors including

- the pipe thickness
- the operating temperature
- the maximum application time.

The general rule is the greater the pipe thickness, the higher the pressure resistance. But in reality, both the temperature of the medium conducted and the time period that the pipe is exposed to this temperature are crucial factors for greater or lower pipe strength at any given pressure.

We have shown a diagram below as an example with the regression curves obtained in tests for the **Ifan®** Ref.16-2.0 pipe type.

DIAGRAM OF EXPERIMENTAL REGRESSION CURVES FOR Ifan PEX PIPE
Valid for 16x20 pipe



TAB. 2.1.1

But, the formulas below can also be used to calculate the maximum acceptable pressure for the various pipe types:

1) Pmax = 2 x S x σ max /(D –S)
2) Pe = Pmax / F

where:
Pmax = maximum acceptable pressure
Pe = effective operating pressure
S = pipe thickness
D = outside pipe diameter
Û max = experimental tangential work load
F = coefficient of safety

Therefore, the calculated maximum pressure Pmax (formula 1) should be divided by the cor-rect coefficient of safety F (formula 2) that depends on operating temperature.

The value cal-culated for Pe (formula 2) is the maximum working pressure. In general , 1.5 is set for f at temperatures below 20° C and 2 should be used for F at temperatures ranging between 20°

C and 80° C. F equals 2.5 for temperatures up to 95° C.

TABLE OF VALUES FOR MAXIMUM WORKING PRESSURE

Reference	mm	14x2.0	16x2.25	16x2.0	18x2.0	20x2.5	20x2.0	26x3	32x3
External diameter	mm	14	16	16	18	20	20	26	32
Thickness	mm	2.0	2.25	2.0	2.0	2.5	2.0	3	3
Max. pressure 20°C	MPa	4	4,45	3,43	3	3,43	2,67	3,135	2,486
Max. pressure 80°C	MPa	1,87	2,1	1,6	1,4	1,6	1,24	1,46	1,16

The maximum pressure values calculated in this fashion clearly prove that the **Ifan®** pipe has
no problem satisfying the DVGW requirements (70° C / 10 BAR / 50 years of service life
in constant operation). The **Ifan®** pipe has a service life of >25 years in constantly operation if water is used at temperatures up to 95°
C at the maximum acceptable operating pressure and a coefficient of safety of F = 2.5.

2.2 THERMAL EXPANSION

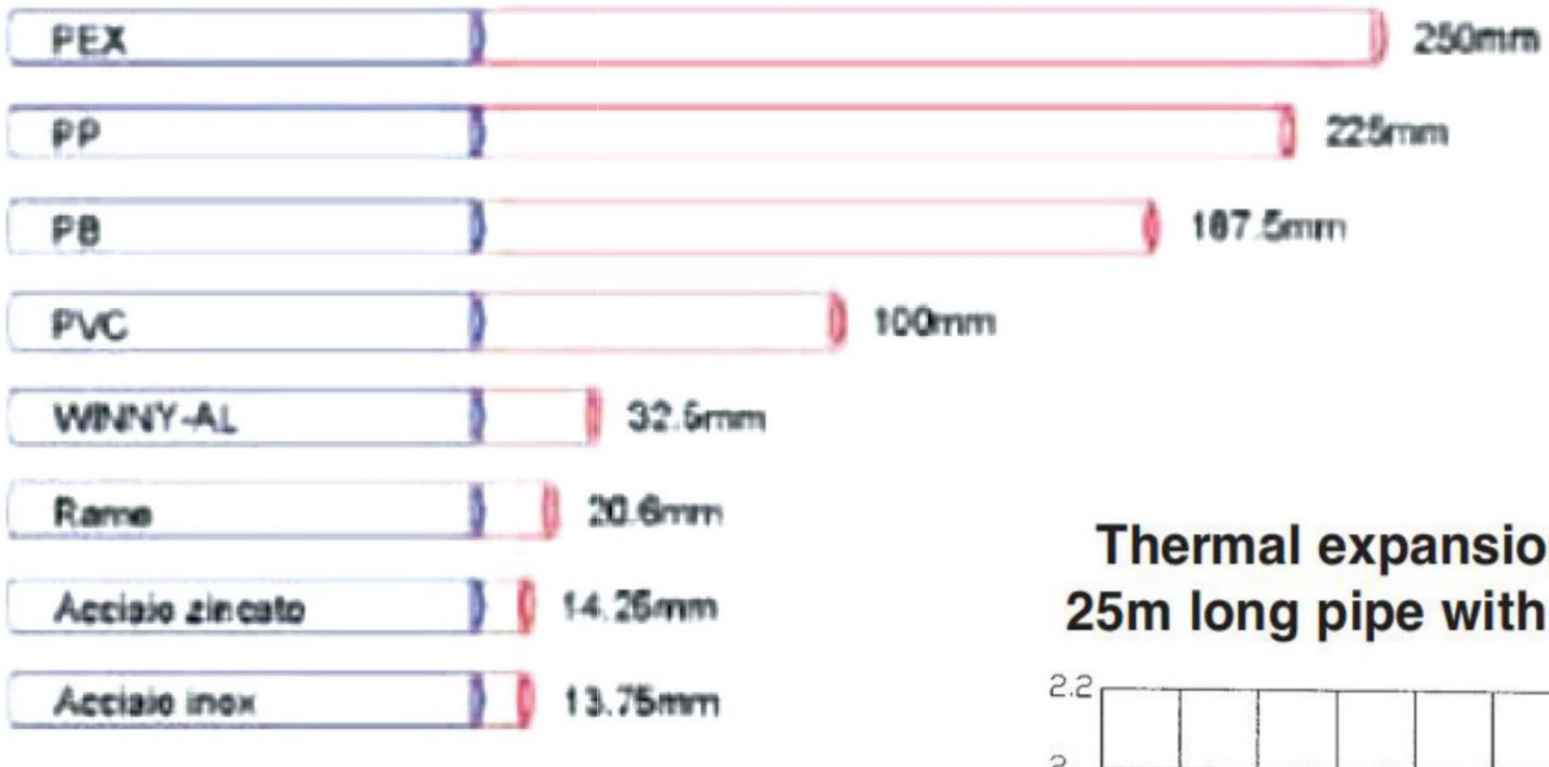
One of **Ifan®** multi-layer composite pipe's most amazing features is its low coefficient of thermal expansion because it uses an aluminium layer with excellent thermal stability pr oper-ties and a high-
performance adhesive between the PEX layers and the aluminium layer. The adhesive provides a permanent bond between layers making them one single body that ca nnot warp. That means that you get a pipe made almost entirely of plastic.
That makes it lightweight and elastic,
although it resembles a metal pipe in its thermal properties.

TABLE FOR COMPARING THE LINEAR EXPANSION FOR THE IFAN® PIPE

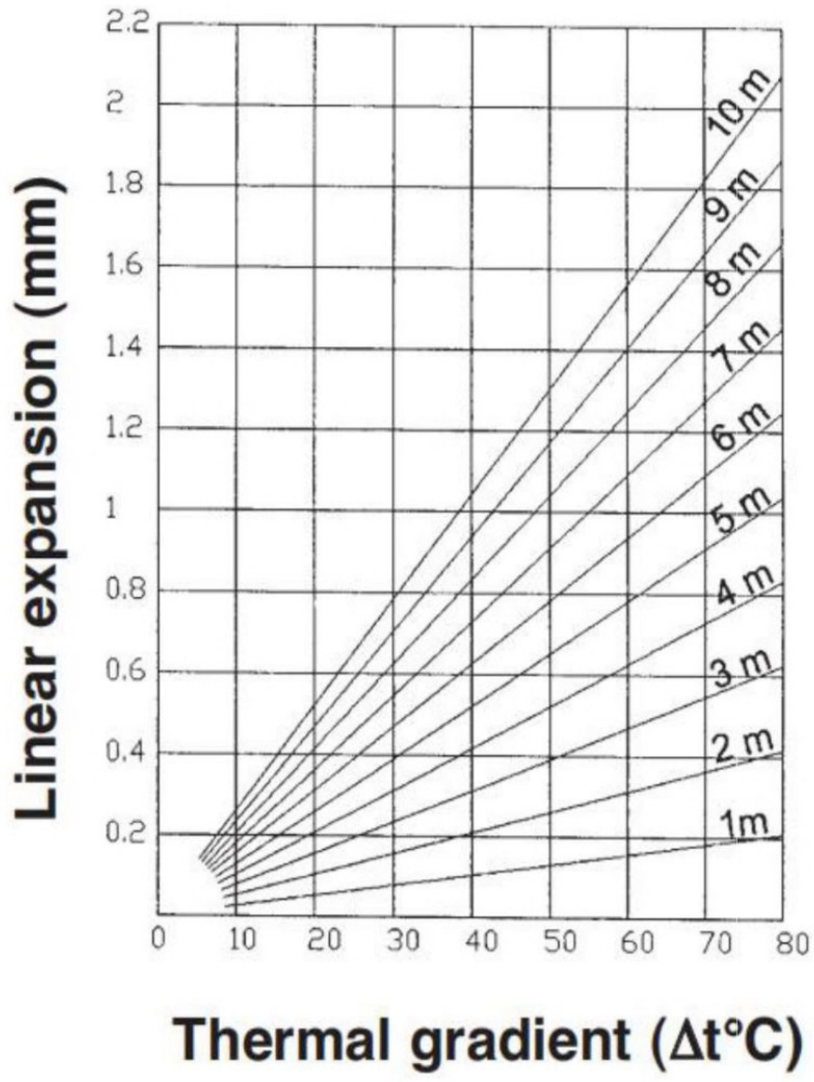
MATERIAL	Thermal expansion coefficient (mm/m°C)
IFAN	**0.026**
PEX	0.20
PP	0.18
PB	0.08
COPPER	0.017
GALVANISED STEEL	0.012
STAINLESS STEEL	0.017

Tabla 2.2.1

A dynamic comparison between the **Ifan ®** pipe and pipes made of other materials (test specimen length 25 m and temperature change 50° C)



Thermal expansion of a 25m long pipe with ¢t=50°



2.3 PIPE PRESSURE DROP

Pipe pressure drop determines the flow energy loss of the medium circulating in the line due to energy dissipation when the liquid is flowing through the system. In other words, the grea-ter the pipe roughness from minor irregularities on its inside surfaces, the higher the resistan-ce the liquid encounters when flowing through the pipe line.

TABLE OF INHERENT ROUGHNESS OF EXISTING PIPES

MATERIAL	ROUGHNESS (µm)
IFAN	7.0
PEX	7.0
PP	7.0
COPPER	15.0
STAINLESS STEEL	40.0
GALVANISED STEEL	45.0

Tab. 2.3.1

Thanks to the special properties of the materials used for the **Ifan ®** pipe and the low inside
layer roughness (only 7 µm), our product'
s surface can be deemed hydraulically smooth for all prac-tical purposes.
The pipe friction obtained in tests come very close to the level that hydraulically smooth pipes meet according to the Nikuradse equation (for Reynold'
s numbers between 10^5 e 10^7) or the Blasius equation (for Reynold's numbers below 10^7).

$$J = \frac{\Psi V^2}{2gD}$$

Where:
J = pipe pressure drop
V = flow velocity of the medium
g = falling acceleration
D = pipe diameter
Ψ is calculated from the equations:

- $10^3\Psi = 3.2 + 221 Re^{-0.287}$ (Nikuradse equation for 105 <Re<107)
- $10^3\Psi = 316 Re^{-0.25}$ (Blasius equation for Re<105)

Since Reynold's number is reverse proportional to the medium's kinematic viscosity (which in turn is very temperature-dependent), it makes sense that the medium's viscosity will be lower at higher temperatures. That means that the resistance that the liquid has to overcome when moving through the line also drops. This is the reason why it helps to analyse pipe pressure drop at different temperatures, which is why we are giving tables below for pipe pressure drop at typical operating temperatures for line systems.

Ref.	20x2.5		20x2.0		26x3.0		32x3.0	
Flowth rough (l/s)	Speed (m/s)	Pressure loss (mbar/m)	Speed (m/s)	Pressure loss (mbar/m)	Speed (m/s)	Pressure loss (mbar/m)	Speed (m/s)	Pressure loss (mbar/m)
0,01	0,056	0,063	0,049	0,046	0,031	0,016	0,018	0,004
0,02	0,113	0,213	0,099	0,157	0,063	0,054	0,037	0,015
0,03	0,169	0,433	0,149	0,319	0,095	0,110	0,056	0,031
0,04	0,226	0,717	0,199	0,528	0,127	0,183	0,075	0,052
0,05	0,283	1,060	0,248	0,780	0,159	0,270	0,094	0,077
0,06	0,339	1,459	0,298	1,073	0,191	0,372	0,113	0,107
0,07	0,396	1,911	0,348	1,406	0,222	0,487	0,131	0,140
0,08	0,452	2,414	0,398	1,776	0,254	0,614	0,150	0,177
0,09	0,509	2,966	0,447	2,183	0,286	0,756	0,169	0,217
0,1	0,566	3,567	0,497	2,625	0,318	0,909	0,188	0,261
0,15	0,849	7,252	0,746	5,337	0,477	1,849	0,282	0,531
0,2	1,132	11,992	0,995	8,8302	0,636	3,059	0,376	0,879
0,25	1,415	17,731	1,244	13,041	0,796	4,521	0,471	1,300
0,3	1,698	24,395	1,492	17,956	0,955	6,220	0,565	1,789
0,35	1,981	31,949	1,741	23,513	1,114	8,147	0,659	2,342
0,4	2,264	40,359	1,990	29,703	1,273	10,291	0,753	2,959
0,45	2,547	49,597	2,239	36,502	1,4331	12,647	0,848	3,637
0,5	2,830	59,639	2,488	43,893	1,592	15,208	0,942	4,373
0,55	3,113	70,465	2,736	51,860	1,751	17,968	1,036	5,167
0,6	3,397	82,054	2,985	60,390	1,910	20,924	1,130	6,017
0,65	3,680	94,392	3,234	69,470	2,070	24,070	1,224	6,922
0,7					2,229	27,403	1,319	7,880
0,75					2,388	30,919	1,413	8,892
0,8					2,547	34,616	1,507	9,955
0,85					2,707	38,491	1,601	11,069
0,9					2,866	42,540	1,696	12,234
0,95					3,025	46,762	1,790	13,448
1					3,184	51,154	1,884	14,711
1,05							1,978	16,022
1,1							2,072	17,381
1,15							2,167	18,788
1,2							2,261	20,240
1,25							2,355	21,739
1,3							2,449	23,283
1,35							2,544	24,873
1,4							2,638	26,507
1,45							2,732	28,186
1,5							2,826	29,909
1,55							2,920	31,675
1,6							3,015	33,485
1,65							3,109	35,338
1,7							3,203	37,233
1,75							3,297	39,171
1,8							3,392	41,150

Ref.	14x2.0		16x2.25		16x2.0		18x2.0	
Flowth rough (l/s)	Speed (m/s)	Pressure loss (mbar/m)	Speed (m/s)	Pressure loss (mbar/m)	Speed (m/s)	Pressure loss (mbar/m)	Speed (m/s)	Pressure loss (mbar/m)
0,01	0,127	0,435	0,096	0,224	0,088	0,183	0,064	0,088
0,02	0,254	1,464	0,192	0,753	0,176	0,622	0,129	0,296
0,03	0,382	2,976	0,288	1,532	0,265	1,265	0,194	0,602
0,04	0,502	4,924	0,385	2,535	0,353	2,093	0,259	0,996
0,05	0,636	7,277	0,481	3,746	0,442	3,093	0,324	1,471
0,06	0,764	10,012	0,577	5,154	0,530	4,256	0,389	2,025
0,07	0,891	13,112	0,674	6,751	0,619	5,574	0,454	2,652
0,08	1,019	16,564	0,770	8,528	0,707	7,041	0,519	3,350
0,09	1,146	20,356	0,866	10,480	0,796	8,653	0,584	4,117
0,1	1,273	24,477	0,963	12,602	0,884	10,405	0,649	4,950
0,15	1,910	49,765	1,444	25,622	1,326	21,156	0,974	10,065
0,2	2,547	82,333	1,926	42,389	1,769	35,001	1,299	16,652
0,25	3,184	121,66	2,408	62,640	2,211	51,722	1,624	24,607
0,3	3,821	167,39	2,889	86,182	2,653	71,161	1,949	33,855
0,35			3,371	112,861	3,096	93,196	2,274	44,338
0,4			3,852	142,581	3,538	117,73	2,599	56,010
0,45							2,924	68,831
0,5							3,249	82,767
0,55							3,574	97,791

DIAGRAM OF PIPE PRESSURE DROP AT 10° C
IFAN® PIPE

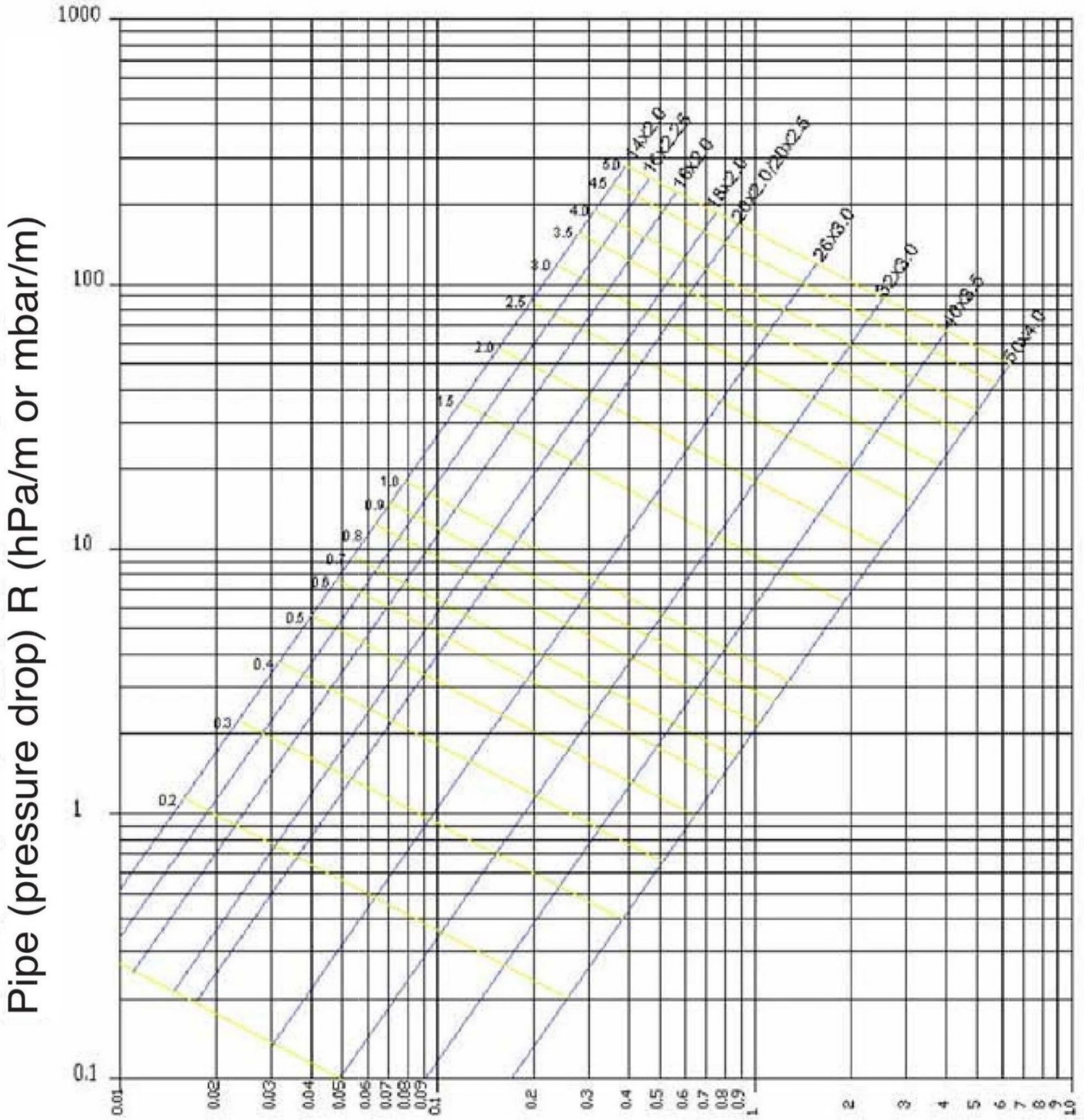


TABLE OF PIPE PRESSURE DROP AT 50° C

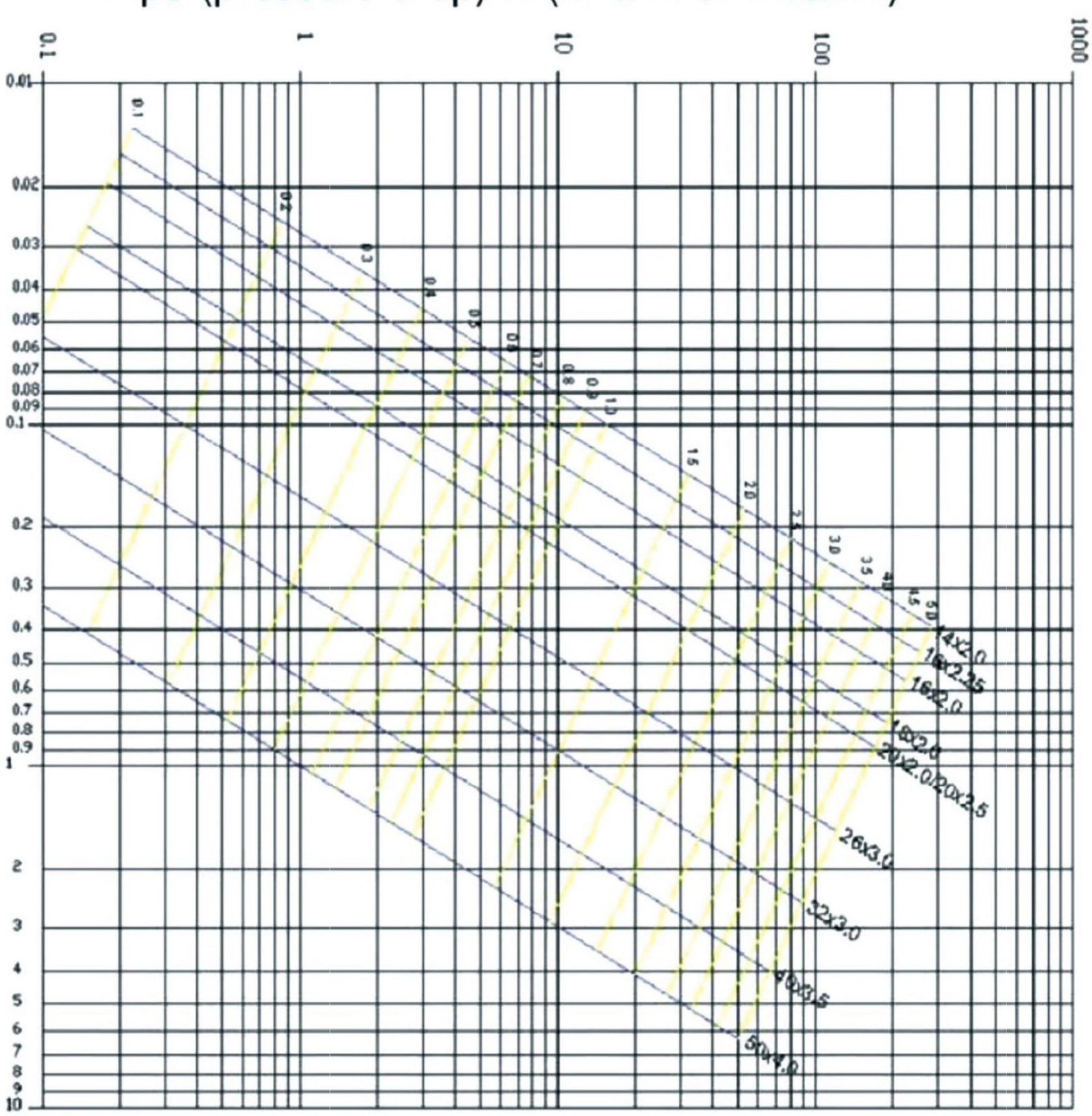
Ifan® multi-layer composite system

Rif.	20x2.5		20x2.0		26x3.0		32x3.0	
Portata (l/s)	Velocità (m/s)	Perdita di carico (mbar/m)	Velocità (m/s)	Perdita di carico (mbar/m)	Velocità (m/s)	Perdita di carico (mbar/m)	Velocità (m/s)	Perdita di carico (mbar/m)
0,01	0,056	0,050	0,049	0,037	0,031	0,013	0,018	0,004
0,02	0,113	0,170	0,099	0,125	0,063	0,043	0,037	0,012
0,03	0,169	0,345	0,149	0,254	0,095	0,088	0,056	0,025
0,04	0,226	0,571	0,199	0,420	0,127	0,146	0,075	0,042
0,05	0,283	0,843	0,248	0,621	0,159	0,215	0,094	0,062
0,06	0,339	1,160	0,298	0,854	0,191	0,296	0,113	0,085
0,07	0,396	1,520	0,348	1,119	0,222	0,388	0,131	0,111
0,08	0,452	1,920	0,398	1,413	0,254	0,490	0,150	0,141
0,09	0,509	2,359	0,447	1,736	0,286	0,602	0,169	0,173
0,1	0,566	2,837	0,497	2,088	0,318	0,723	0,188	0,208
0,15	0,849	5,768	0,746	4,245	0,477	1,471	0,282	0,423
0,2	1,132	9,542	0,995	7,023	0,636	2,433	0,376	0,700
0,25	1,415	14,101	1,244	10,378	0,796	3,596	0,471	1,034
0,3	1,698	19,401	1,492	14,278	0,955	4,947	0,565	1,423
0,35	1,981	25,408	1,741	18,700	1,114	6,479	0,659	1,863
0,4	2,264	32,097	1,990	23,622	1,273	8,185	0,753	2,354
0,45	2,547	39,444	2,239	29,030	1,4331	10,058	0,848	2,893
0,5	2,830	47,430	2,488	34,907	1,592	12,095	0,942	3,478
0,55	3,113	56,039	2,736	41,243	1,751	14,290	1,036	4,110
0,6	3,397	65,256	2,985	48,027	1,910	16,640	1,130	4,786
0,65	3,680	75,068	3,234	55,248	2,070	19,142	1,224	5,505
0,7					2,229	21,793	1,319	6,267
0,75					2,388	24,590	1,413	7,072
0,8					2,547	27,530	1,507	7,917
0,85					2,707	30,611	1,601	8,803
0,9					2,866	33,831	1,696	9,729
0,95					3,025	37,189	1,790	10,695
1					3,184	40,681	1,884	11,699
1,05							1,978	12,742
1,1							2,072	13,823
1,15							2,167	14,941
1,2							2,261	16,097
1,25							2,355	17,288
1,3							2,449	18,517
1,35							2,544	19,781
1,4							2,638	21,081
1,45							2,732	22,416
1,5							2,826	23,786
1,55							2,920	25,191
1,6							3,015	26,630
1,65							3,109	28,104
1,7							3,203	29,611
1,75							3,297	31,152
1,8							3,392	32,726

Rif.	14x2.0		16x2.25		16x2.0		18x2.0	
Portata (l/s)	Velocità (m/s)	Perdita di carico (mbar/m)	Velocità (m/s)	Perdita di carico (mbar/m)	Velocità (m/s)	Perdita di carico (mbar/m)	Velocità (m/s)	Perdita di carico (mbar/m)
0,01	0,127	0,344	0,096	0,178	0,088	0,146	0,064	0,070
0,02	0,254	1,166	0,192	0,599	0,176	0,490	0,129	0,235
0,03	0,382	2,365	0,288	1,219	0,265	0,996	0,194	0,479
0,04	0,502	3,922	0,385	2,016	0,353	1,647	0,259	0,792
0,05	0,636	5,788	0,481	2,980	0,442	2,434	0,324	1,171
0,06	0,764	7,957	0,577	4,100	0,530	3,349	0,389	1,610
0,07	0,891	10,434	0,674	5,369	0,619	4,386	0,454	2,109
0,08	1,019	13,171	0,770	6,782	0,707	5,541	0,519	2,664
0,09	1,146	16,176	0,866	8,335	0,796	6,809	0,584	3,274
0,1	1,273	19,470	0,963	10,022	0,884	8,188	0,649	3,937
0,15	1,910	39,584	1,444	20,377	1,326	16,647	0,974	8,005
0,2	2,547	65,488	1,926	33,711	1,769	27,541	1,299	13,243
0,25	3,184	96,772	2,408	49,816	2,211	40,698	1,624	19,569
0,3	3,821	133,143	2,889	68,539	2,653	55,994	1,949	26,924
0,35			3,371	89,762	3,096	73,332	2,274	35,261
0,4			3,852	113,391	3,538	92,636	2,599	44,544
0,45							2,924	54,740
0,5							3,249	65,823
0,55							3,574	77,770

Tab. 2.3.3

DIAGRAM OF PIPE PRESSURE DROP AT 50° C
IFAN® PIPE

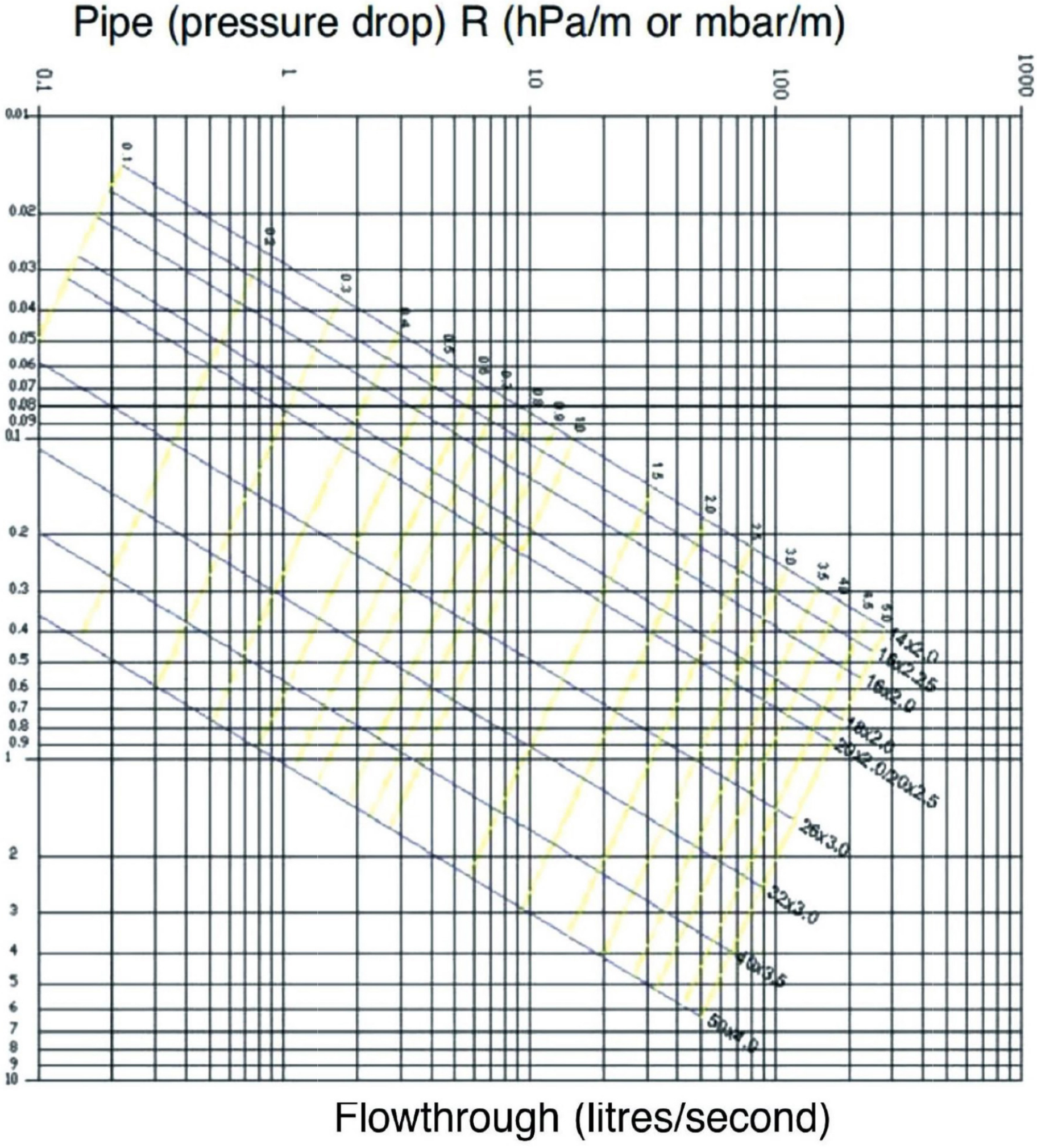


Ref.	20x2.5		20x2.0		26x3.0		32x3.0	
Flowth rough (l/s)	Speed (m/s)	Pressure loss (mbar/m)	Speed (m/s)	Pressure loss (mbar/m)	Speed (m/s)	Pressure loss (mbar/m)	Speed (m/s)	Pressure loss (mbar/m)
0,01	0,056	0,039	0,049	0,029	0,031	0,010	0,018	0,003
0,02	0,113	0,133	0,099	0,098	0,063	0,034	0,037	0,010
0,03	0,169	0,270	0,149	0,199	0,095	0,069	0,056	0,020
0,04	0,226	0,447	0,199	0,329	0,127	0,114	0,075	0,033
0,05	0,283	0,660	0,248	0,486	0,159	0,168	0,094	0,048
0,06	0,339	0,908	0,298	0,668	0,191	0,232	0,113	0,067
0,07	0,396	1,189	0,348	0,875	0,222	0,303	0,131	0,087
0,08	0,452	1,502	0,398	1,106	0,254	0,383	0,150	0,110
0,09	0,509	1,846	0,447	1,359	0,286	0,471	0,169	0,135
0,1	0,566	2,220	0,497	1,634	0,318	0,566	0,188	0,163
0,15	0,849	4,514	0,746	3,322	0,477	1,151	0,282	0,331
0,2	1,132	7,467	0,995	5,496	0,636	1,904	0,376	0,548
0,25	1,415	11,035	1,244	8,121	0,796	2,814	0,471	0,809
0,3	1,698	15,182	1,492	11,173	0,955	3,871	0,565	1,113
0,35	1,981	19,883	1,741	14,633	1,114	5,070	0,659	1,458
0,4	2,264	25,117	1,990	18,485	1,273	6,405	0,753	1,842
0,45	2,547	30,866	2,239	22,717	1,4331	7,871	0,848	2,264
0,5	2,830	37,116	2,488	27,316	1,592	9,465	0,942	2,722
0,55	3,113	43,853	2,736	32,275	1,751	11,182	1,036	3,216
0,6	3,397	51,065	2,985	37,583	1,910	13,022	1,130	3,745
0,65	3,680	58,744	3,234	43,234	2,070	14,980	1,224	4,308
0,7					2,229	17,054	1,319	4,904
0,75					2,388	19,242	1,413	5,534
0,8					2,547	21,543	1,507	6,196
0,85					2,707	23,954	1,601	6,889
0,9					2,866	26,474	1,696	7,614
0,95					3,025	29,102	1,790	8,369
1					3,184	31,835	1,884	9,155
1,05							1,978	9,971
1,1							2,072	10,817
1,15							2,167	11,692
1,2							2,261	12,596
1,25							2,355	13,529
1,3							2,449	14,490
1,35							2,544	15,479
1,4							2,638	16,497
1,45							2,732	17,541
1,5							2,826	18,614
1,55							2,920	19,713
1,6							3,015	20,839
1,65							3,109	21,992
1,7							3,203	23,172
1,75							3,297	24,377
1,8							3,392	25,609

Ref.	14x2.0		16x2.25		16x2.0		18x2.0	
Flowth rough (l/s)	Speed (m/s)	Pressure loss (mbar/m)	Speed (m/s)	Pressure loss (mbar/m)	Speed (m/s)	Pressure loss (mbar/m)	Speed (m/s)	Pressure loss (mbar/m)
0,01	0,127	0,269	0,096	0,139	0,088	0,114	0,064	0,055
0,02	0,254	0,913	0,192	0,469	0,176	0,383	0,129	0,184
0,03	0,382	1,851	0,288	0,954	0,265	0,779	0,194	0,375
0,04	0,502	3,069	0,385	1,578	0,353	1,289	0,259	0,620
0,05	0,636	4,530	0,481	2,332	0,442	1,905	0,324	0,916
0,06	0,764	6,226	0,577	3,208	0,530	2,621	0,389	1,260
0,07	0,891	8,165	0,674	4,201	0,619	3,432	0,454	1,650
0,08	1,019	10,307	0,770	5,307	0,707	4,336	0,519	2,085
0,09	1,146	12,659	0,866	6,522	0,796	5,329	0,584	2,562
0,1	1,273	15,236	0,963	7,843	0,884	6,407	0,649	3,081
0,15	1,910	30,976	1,444	15,946	1,326	13,027	0,974	6,264
0,2	2,547	51,247	1,926	26,381	1,769	21,552	1,299	10,363
0,25	3,184	75,728	2,408	38,983	2,211	31,848	1,624	15,314
0,3	3,821	104,190	2,889	53,634	2,653	43,817	1,949	21,069
0,35			3,371	70,242	3,096	57,386	2,274	27,593
0,4			3,852	88,733	3,538	72,492	2,599	34,857
0,45							2,924	42,836
0,5							3,249	51,509
0,55							3,574	60,859

Tab. 2.3.4

DIAGRAM OF PIPE PRESSURE DROP AT 80° C
IFAN® PIPE



2.4 ACCEPTABLE FLOWTHROUGH QUANTITIES

It is generally advisable to limit the medium's flow velocity
(and therefore also the flow through the pipe)
because of noises developing from turbulences in the flow or to limit normal corrosion and wear and tear on curved line sections, connections and valves, etc.
The table below gives the flow velocity limits for the **Ifan®** pipe....

Reference	14x2	16x2.25	16x2.0	18x2.0	20x2.5	20x2.0	26x3.0	32x3.0	40x3.5	50x4.0
Liquid speed (m/s)	2	2	2	2	2	2	2	3	3	3

Tab. 2.4.1

and the following table provides a comparative cross-section of the potential flowthroughs
with the different types of pipes due to the various flow velocity limits.

Acceptable flowthrough quantities	IFAN	PP	PEX
0.1			12x2.0
0.12	14x2.0		14x2.0 15x2.5
0.13		16x2.7	
0.18	16x2.25		16x2.2
0.2			
0.22	16x2.0		
0.24			17x2.3
0.26		20x3.4	
0.33	18x2.0		
0.35			20x2.8
0.38	20x2.5		
0.42	20x2.0		22x3.0
0.45		25x4.2	
0.58			
0.65	26x3.0	32x5.4	28x4.0
1.2			
1.35	32x3.0	40x6.7	
2			
2.1			
2.2	40x3.5	50x8.4	
2.9			50x6.9
3.2			
3.5	50x4.0	63x10.5	
5.5			
6	63x4.5		75x10.4

Tab. 2.4.2

2.5 CHEMICAL RESISTANCE

Since the plastic forming the inner layer of the **Ifan®** pipe comes directly into contact with the medium flowing through the pipe, the tables below list compatibility or not compatibility with the most common chemicals

FLUIDS THAT CAN BE CARRIED AT ATMOSPHERIC PRESSURES OF UP TO 60°C

Fluids that can be carried at atmospheric pressures of up to 60°C

FLUIDS	CONCENTRATION
Acetic acid	10%
Vinegar	-
Adipic acid	sat. sol
Allylic alcohol	96%
Alum	sol.
Aluminium chloride	sat. sol
Aluminium fluoride	sat. sol
Aluminium sulphate	sat. sol
Ammonia, gas	100%
Ammonia, liquid	100%
Ammonia, water	dil. sol.
Ammonium chloride	sat. sol
Ammonium fluoride	sol.
Ammonium nitrate	sat. sol
Ammonium sulphate	sat. sol
Ammonium sulphide	sol.
Antimony trichloride	90%
Arsenic acid	sat. sol
Oxygenated water	30%
Water	-
Silver acetate	sat. sol
Silver cyanide	sat. sol
Silver nitrate	sat. sol
Barium sulphate	sat. sol
Hydrobromic acid	100%
Benzoic acid	sat. sol
Beer	-
Borax	sat. sol
Boric acidsat.	sol
Butane gas	100%
Butanol	100%
Calcium carbonate	sat. sol
Calcium chlorate	sat. sol
Calcium chloride	sat. sol
Calcium hydrate	sat. sol
Calcium hypochlorite	sol.
Calcium nitrate	sat. sol
Calcium sulphate	sat. sol
Carbonic anhydride, dry	100%
Carbon monoxide	100%
Chloridric acid	10%
Chloroacetic acid	sol.
Citric acid	sat. sol
Cyclohexanol	sat. sol
Cyanhydric acid	10%
Dextrin	sol.
Dioxane	100%
Ethylene glycol	100%
Ferric chloride	sat. sol
Ferric nitrate	sol.
Ferric sulphate	sat. sol
Ferrous chloride	sat. sol
Fluosilicic acid	40%
Formaldehyde	40%
Formic acid	98%
Phenol	sol.
Fluorohydric acid	4%
Photographic acid	work. sol.
Glucose	sat. sol
Glycerine	100%
Glycolic acid	sol.
Hydrogen	100%
Sulphurated hydrogen	100%
Hydroquinone	sat. sol
Milk	-
Lactic acid	100%
Yeast	sol.
Magnesium carbonate	sat. sol
Magnesium chloride	sat. sol
Magnesium hydrate	sat. sol
Magnesium nitrate	sat. sol
Maleic acid	sat. sol
Mercury chloride	sat. sol
Mercury cyanide	sat. sol
Mercurous nitrate	sol.
Mercury	100%
Methanol	100%
Molasses	work. sol.
Nickel chloride	sat. sol
Nickel nitrate	sat. sol
Nickel sulphate	sat. sol
Nitric acid	25%
Orthophosphoric acid	50%
Oxalic acid	sat. sol
Potassium bromate	sat. sol
Potassium bromide	sat. sol
Potassium carbonate	sat. sol
Potassium chlorate	sat. sol
Potassium chloride	sat. sol
Potassium chromate	sat. sol

Fluids that can be carried at atmospheric pressures of up to 60°C

Potassium cyanide	Sol.
Potassium dichromate	Sol. sat
Potassium ferrocyanide	Sol. sat
Potassium fluoride	Sol. sat
Potassium bicarbonate	Sol. sat
Potassium bisulphate	Sol. sat
Potassium bisulphate	Sol. sat
Potassium hydroxide	Sol.
Potassium nitrate	Sol. sat
Potassium orthophosphate	Sol. sat
Potassium perchlorate	Sol. sat
Potassium permanganate	20%
Potassium persulphate	Sol. sat
Potassium sulphate	Sol. sat
Potassium sulphide	Sol.
Propionic acid	Sol. sat
Sodium benzoate	Sol. sat
Sodium bromide	Sol. sat
Sodium carbonate	Sol. sat
Sodium chlorate	Sol. sat
Sodium chloride	Sol. sat
Sodium cyanide	Sol. sat
Sodium ferrocyanide	Sol. sat
Sodium fluoride	Sol. sat
Sodium bicarbonate	Sol. sat
Sodium bisulphate	Sol.
Sodium hydroxide	Sol.
Sodium hypochlorite	15%
Sodium nitrate	Sol. sat
Sodium nitric	Sol. sat
Sodium orthophosphate	Sol. sat
Sodium sulphate	Sol. sat
Sodium sulphide	Sol. sat
Sulphuric acid	50%
Stannic chloride	Sol. sat
Stannous chloride	Sol. sat
Sulphurous anhydride, dry	100%
Sulphurous acid	30%
Photographic developer	work. sol.
Tannic acid	Sol.
Tartaric acid	Sol.
Urea	Sol.
Urine	-
Wine	-
Zinc carbonate	Sol. sat
Zinc chloride	Sol. sat
Zinc oxide	Sol. sat
Zinc sulphate	Sol. sat

Fluids that cannot be carried

FLUIDS	CONCENTRATION
Acqua regia	HCL/HNO3=3/l
Bromine dry gas	100%
Bromine liquid	100%
Carbon bisulphide	100%
Carbon tetrachloride	100%
Chlorine dry gas	100%
Chlorine water	Sol. sat
Chloroform	100%
Fluorine gas	100%
Nitric acid	> 50%
Ozone	100%
Sulphuric acid	
Sulphuric anhydride	100%
Thionyl chloride	100%
Toluene	100%
Trichloroethylene	100%
Xylene	100%

Fluids that can be carried at atmospheric pressures of up to 20°C

FLUIDS	CONCENTRATION
Acetaldehyde	100%
Glacial Acetic acid	> 96%
Acetic anhydride	100%
Amyl alcohol	100%
Aniline	100%
Oxygenated water	90%
Benzaldehyde	100%
Benzine	-
Butyric acid	100%
Cromic acid	50%
Cicloesano	100%
Decahydro-naphtalene	100%
Dioctylphtalate	100%
Hepthane	100%
Ethanol	40%
Ethyl acetate	100%
Furfurilic alcohol	100%
Fluoridric acid	60%
Phosphoric trichloride	100%
Nicotinic acid	Sol. dil.
Oils and greases	-
Oleic acid	100%
Orthophosphoric acid	95%
Oxygen	100%
Picric acid	Sol. sat
Lead acetate	Sol. sat
Potassium hypochlorite	Sol.
Propionate acid	100%
Pyridine	100%
Sulphuric acid	98%
Triethanolamine	Sol.

2.6 ABRASION RESISTANCE

Thanks to its inside layer consisting of cross-linked polyethylene, the Ifan® pipe is not susceptible either to chemical or electrochemical corrosion. In other words, neither oxygena-ted particles nor calcium encrustations are detached from the pipe' s inner surface. Beyond this, the inner PEX layer has particularly high abrasion resistance, which is especially of impor-
tance in curved line sections where the abrasion effect of particles and impurities is increase d by the medium's greater velocity.

2.7 ACOUSTIC INSULATING PROPERTIES

The Ifan® pipe has excellent sound absorption properties because, in contrast to conven-tional metal pipes,
the low transmission velocity of vibrations in the polyethylene here swallows noises when they are developing.

2.8 BURNING PROPERTIES

The metal layer on the inside makes the pipe flame-resistant and the flue gases from burning polyethylene are very low density without any damaging components.

3. PRECAUTIONS

We would like to point out that MULTI-LAYER COMPOSITE PIPES may not be used for electrical grounding, even though it is made with an aluminium layer. Due to the flexibility properties you requested, polyethylene pipe lines are also not suited for supporting loads. This is the reason why we recommend not using polyethylene pipes for supporting or hanging objects. If the pipe line freezes, only warm water should be used to restart it while open flames may never be poin-ted at pipes or pipe connections. In any event, please bear the fact in mind that frozen water in the line system can damage both plastic and brass connections and fittings. To prevent damage from frost, pipe lines should be insulated and line systems should be evacuated espe-cially in frost-prone zones.

3.1 SAFETY AND SECURITY

Physical connection,simple,convenient and safe

3.2 DURABILITY

The middle aluminum layer is resistant to oxygen,and theh outer layer of PE is allowed to add antioxidants and light to prevent secondary pollution of water bodies;

3.3 HIGH TEMPERATURE TESISTANCE

High temperature resistance.95℃ -110℃ ,long term use 95℃,up to 110℃

3.4 AGING RESISTANCE

Anti-aging,compared with PPR contains a large number of tertiary carbon atoms,it is susceptible to aging due to the action of light and oxygen impurities;

3.5 BENDABILITY

Bendability,temperature change and small deformation,two reasons:one is that the aluminum plastic pipe is flexible coil;the other is that it has aluminum;

3.6 HEALTH AND ECOLOGY

The materials used to manufacture the system components are physiologically and microbiologically neutral in drinking water installations;they are friendly to the environment and to health-PZH approved

4. TABLE WITH MASSES AND PACKAGING FEATURES

Description	Bare pipe						Insulated pipe				
Dimension	14 mm	16 mm	18 mm	20 mm	26 mm	32 mm	14 mm	16 mm	18 mm	20 mm	26 mm
Roll length	100 m	100 m	100 m	100 m	50 m 100 m	50 m	50 m	50 m	50 m	50 m	50 m
Meters x pallet	2800 m	2600 m	2600 m	2400 m	1000 m 1200 m	1000 m	600 m	600 m	600 m	600 m	500 m
Pallet size	70x 140x200	70x 140x200	70x 140x200	70x 140x200	70x 140x200	70x 140x200	80x 80x200	80x 80x200	80x 80x200	80x 80x200	80x 80x200
Roll weight	Kg. 8,500	Kg. 10,300	Kg. 12,000	Kg. 13,400	Kg. 12,250 Kg. 24,500	Kg. 15,400	Kg. 5,500	Kg. 6,700	Kg. 8,000	Kg. 16,300	Kg. 20,480
Pallet weight	Kg. 251,000	Kg. 280,800	Kg. 325,000	Kg. 321,600	Kg. 122,500 Kg. 294,000	Kg. 308,000	Kg. 66,000	Kg. 80,400	Kg. 96,000	Kg. 195,600	Kg. 204,800
Reel m³	0,051	0,051	0,058	0,080	0,082 0,078	0,082	0,077	0,077	0,085	0,085	0,119
Pallet m³	1,96	1,96	1,96	1,96	1,96	1,96	1,28	1,28	1,28	1,28	1,28

5. INSTALLATION INSTRUCTIONS

Here are a couple of simple suggestions that should be used for correct installation of systems with **Ifan®** pipes.

5.1 Bending

Pipes can be bent in a variety of ways taking the pipe type and desired bending radius incon-sideration.
The table contains the minimum recommended curving radiuses and the besttechnique to bring them about. We especially advise against hand bending small curving radiuses since this can make the pipes unstable including the defects on the outside pipe surface it cau-ses.

BENDING TECHNIQUES

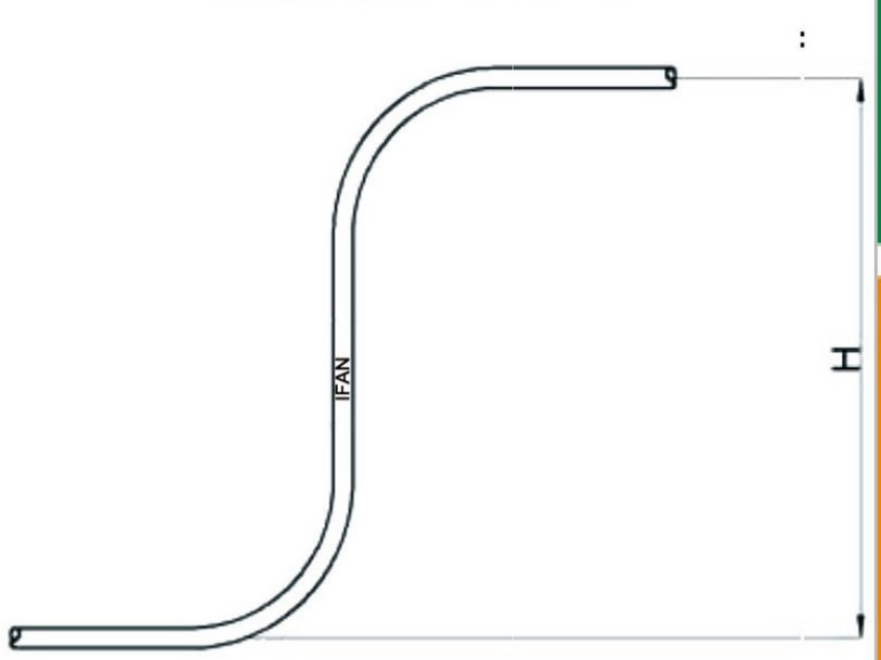
Diameter and Thickness	By hand	With external spring	With internal spring	With portable pipe bender
	Min. curve radius (mm)	Min. curve radius (mm)	Min. curve radius (mm)	Min. curve radius (mm)
14x2.0	70	55	55	41
16x2.25	80	65	65	49
16x2.0	80	65	65	49
18x2.0	90	75	75	65
20x2.5	100	80	80	80
20x2.0	100	80	80	80
26x3.0	140	—	—	90
32x3.0	160	—	—	120

Tab. 5.1.1

MINIMUM MISALIGNMENT (H) BETWEEN TWO CONSECUTIVE PIPE BENDS

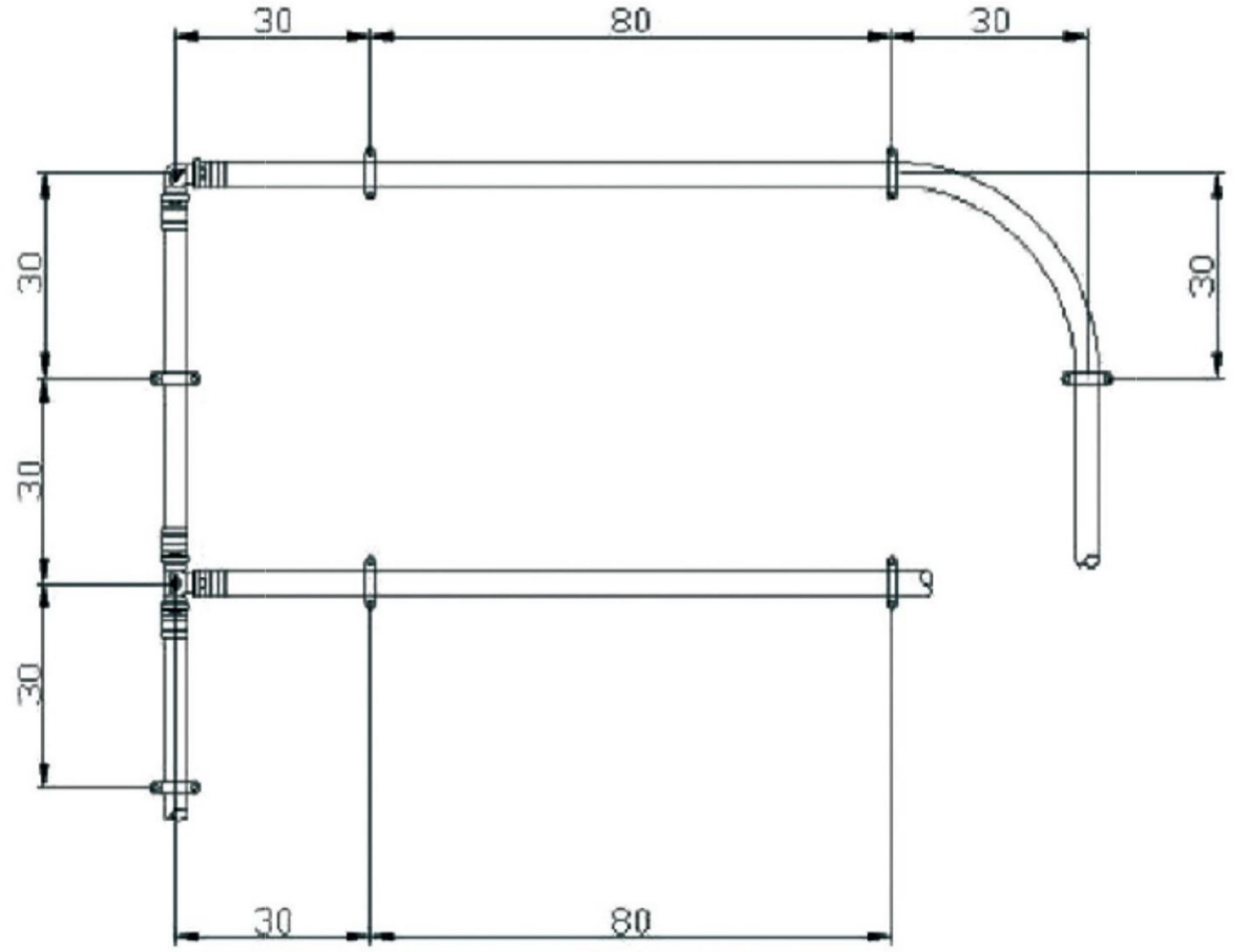
Diameter and Thickness	By hand	With external spring	With internal spring	With portable pipe bender
	H (mm)	H (mm)	H (mm)	H (mm)
14x2.0	90	160	160	110
16x2.25	100	170	170	120
16x2.0	100	170	170	120
18x2.0	110	175	175	125
20x2.5	120	180	180	130
20x2.0	120	180	180	130
26x3.0	150	—	—	180
32x3.0	220	—	—	240

Tab. 5.1.2



5.2 FLOOR INSTALLATION

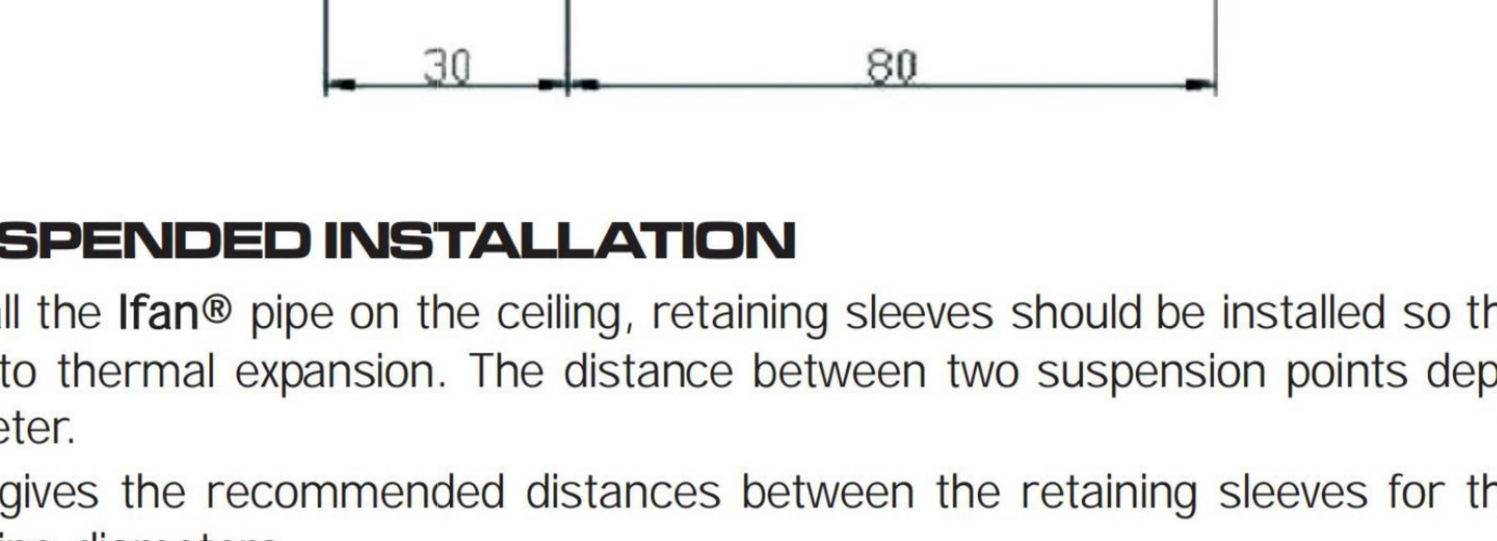
The line should be fastened on the floor with the right rings to ensure correct installation of the **Ifan®** pipe. There should be 80 cm between two fastening points on straight line sections.There should be one fastening point 30 cm before and after changing direction.



5.3 SUSPENDED INSTALLATION

If you install the **Ifan®** pipe on the ceiling, retaining sleeves should be installed so the pipe can-not bend due to thermal expansion. The distance between two suspension points depends on the pipe diameter.

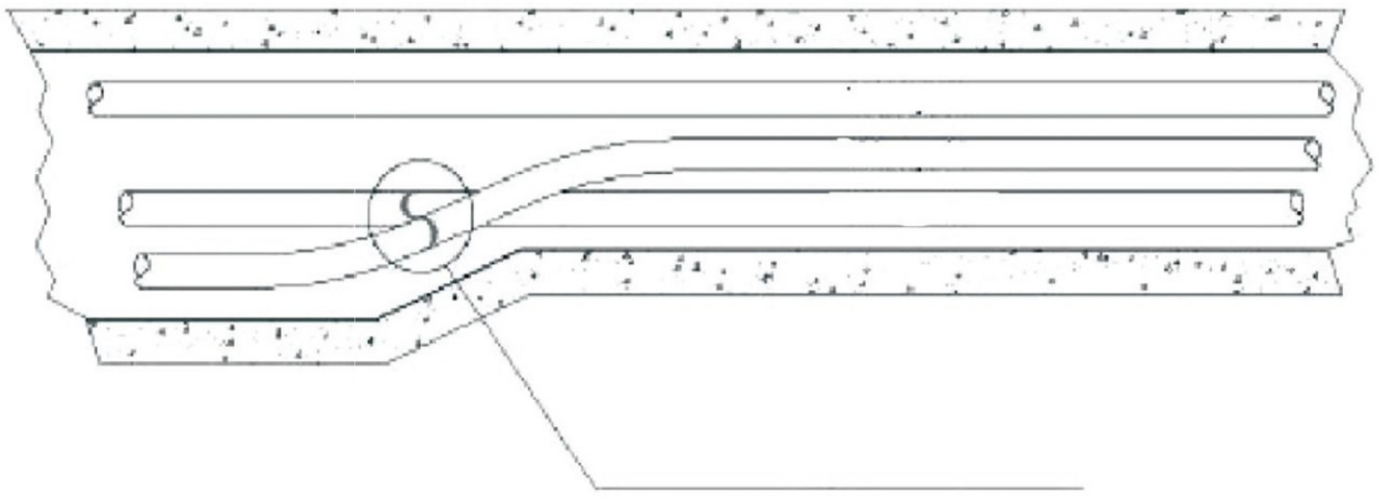
The table gives the recommended distances between the retaining sleeves for the available pipe diameters.



Reference	14x2	16x2.25	16x2.0	18x2.0	20x2.5	20x2.0	26x3.0	32x3.0
L (mm)	750	1000	1000	1100	1250	1250	1500	2000

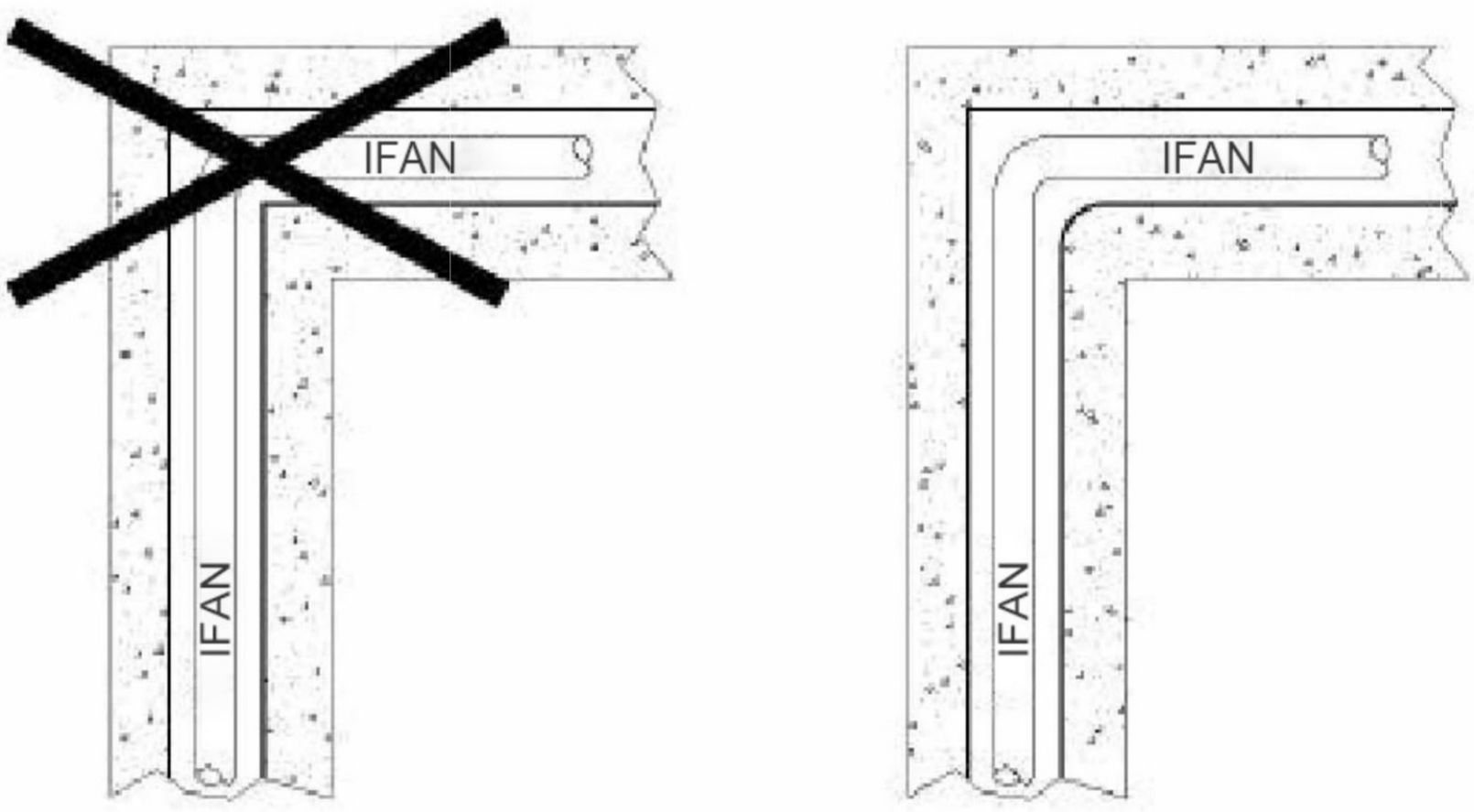
5.4 INSTALLATION UNDER TRACKING

For correct line installation in pipe ducts, they should be arranged systematically and straight fastening any intersections into one another



Fix the intersections

In addition, please make sure that the pipes are not crushed during installation by protecting them from persons walking on them or heavy objects falling on them. If they are installed in pipe ducts and walls, please also make sure that pipes are not bent over sharp edges.



5.5 CALCULATING THERMAL EXPANSION

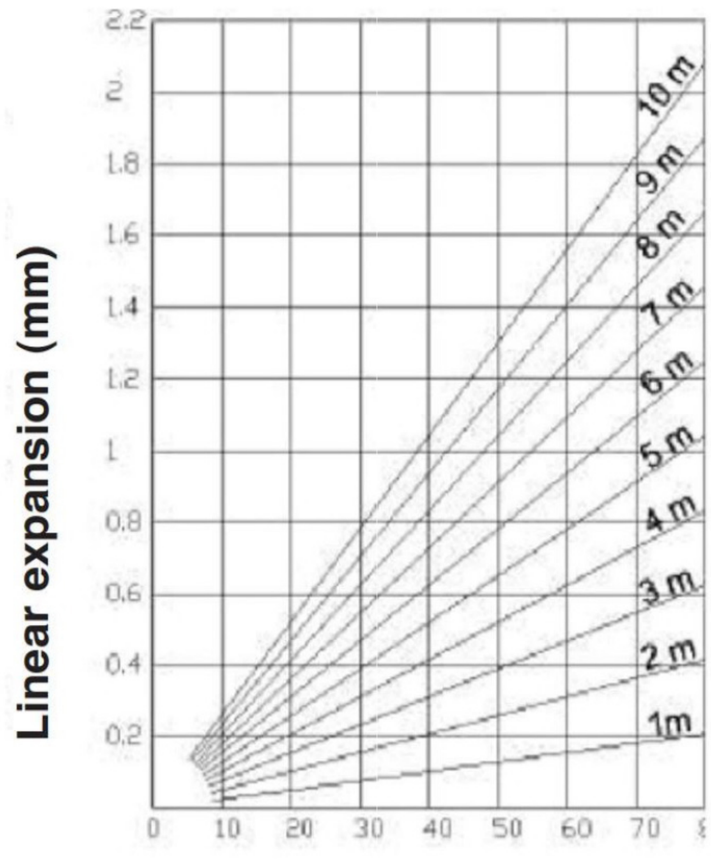
As already indicated, the Winny-al® pipe has thermal expansion properties comparable to that of metal. Nevertheless, it is very important to calculate thermal expansion to prevent any pro-blems during and after installation. The linear expansion of the pipe is proportional both to tem-perature change and pipe length as described generally by the equation below:

$$\Delta L = \alpha \times L \times \Delta T$$

Where:

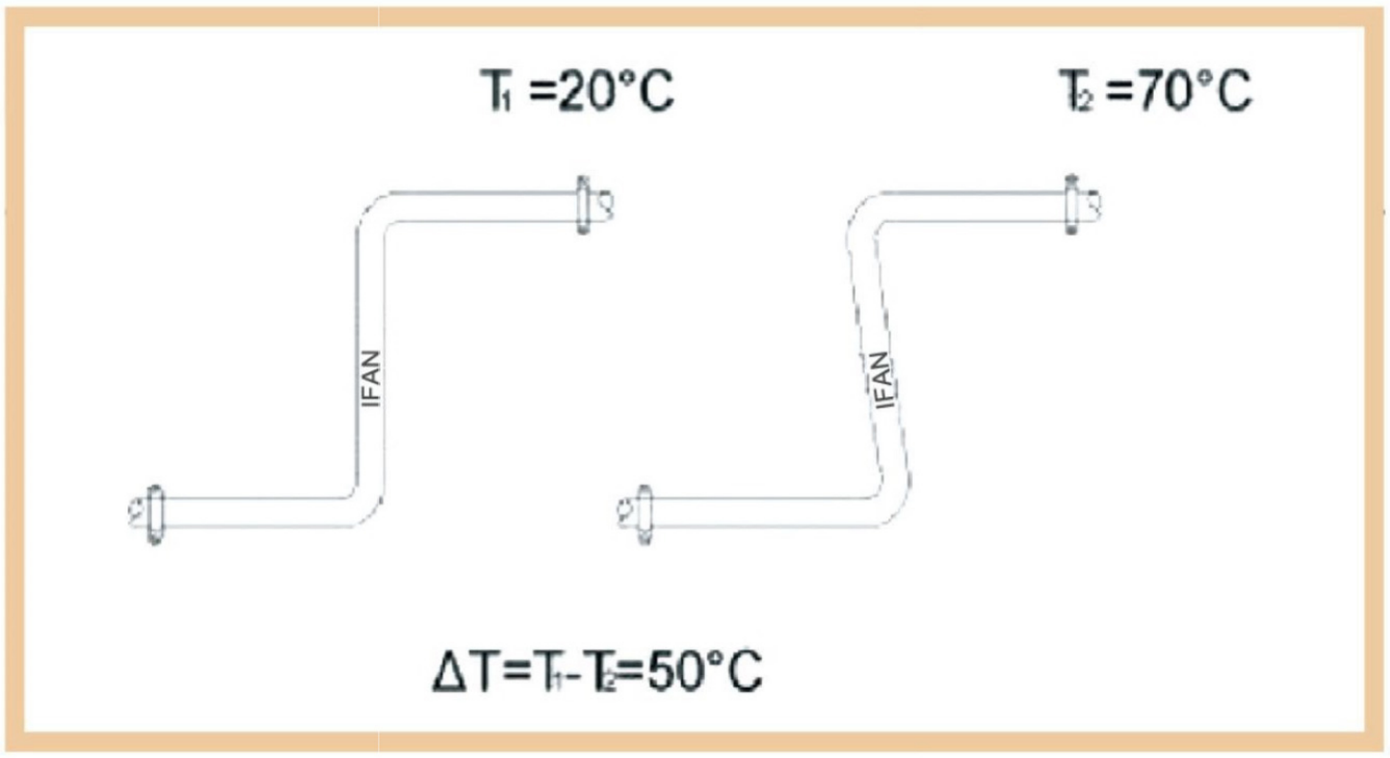
ΔL = linear expansion of the pipe in mm
α = coefficient of thermal expansion (i.e., 0.026 mm/m° C)
L = initial pipe length in m
ΔT = temperature change in° C

Pipe length (m)	ΔT=30°C	ΔT=50°C
	Expansion (mm)	Expansion (mm)
5	3,9	6,5
6	4,68	7,8
7	5,46	9,1
8	6,24	10,4
9	7,02	11,7
10	7,8	13
11	8,58	14,3
12	9,36	15,6
13	10,14	16,9
14	10,92	18,2
15	11,7	19,5
16	12,48	20,8
17	13,26	22,1
18	14,04	23,4
19	14,82	24,7
20	15,6	26
21	16,38	27,3
22	17,16	28,6
23	17,94	29,9
24	18,72	31,2
25	19,5	32,5

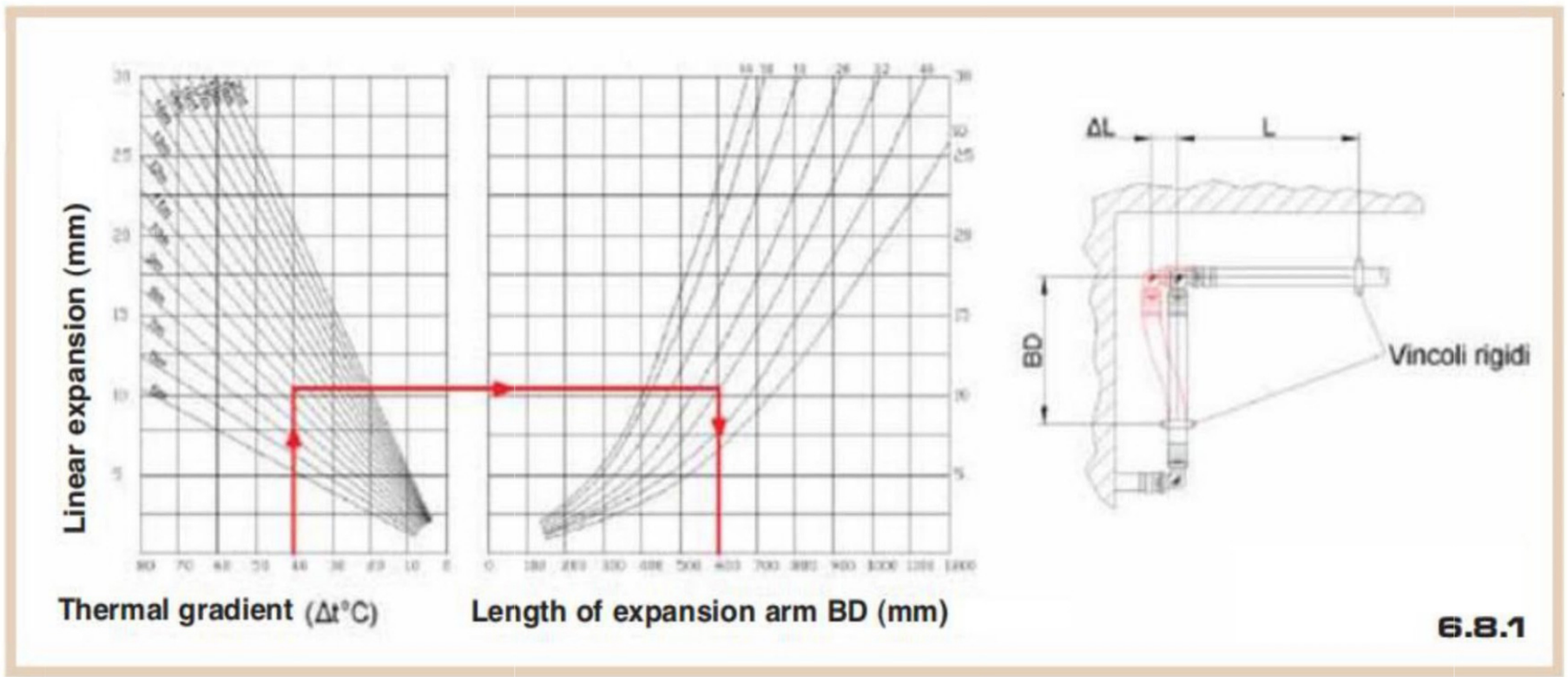


5.6 EXPANSION BENDS

Since pipe heating and cooling causes pipe expansion and pipe contraction, it is important pre-vent any damage. One technique for compensating for pipe movements is providing expansion bends in the line section to allow the pipe to expand and contract unhindered.



L tubo (m)	14x2.0		16x2.25 16x2.0		18x2.0		20x2.5 20x2.0		26x.3.0		32x3.0		40x3.5	
	BD (mm)		BD (mm)		BD (mm)		BD (mm)		BD (mm)		BD (mm)		BD (mm)	
	30°C	50°C	30°C	50°C	30°C	50°C	30°C	50°C	30°C	50°C	30°C	50°C	30°C	50°C
5	244	315	261	337	276	357	291	376	332	429	369	476	412	532
6	267	345	286	369	303	391	319	412	364	470	404	521	452	583
7	289	372	308	398	327	422	345	445	393	508	436	563	488	630
8	308	398	330	426	350	452	369	476	420	543	466	602	521	673
9	327	422	350	452	371	479	391	505	446	576	495	639	553	714
10	345	445	369	476	391	505	412	532	470	607	521	673	583	753
11	362	467	387	499	410	529	432	558	493	636	547	706	611	789
12	378	488	404	521	428	553	452	583	515	665	571	737	639	824
13	393	508	420	543	446	576	470	607	536	692	594	767	665	858
14	408	527	436	563	463	597	488	630	556	718	617	796	690	890
15	422	545	452	583	479	618	505	652	576	743	639	824	714	922
16	436	563	466	602	495	639	521	673	594	767	659	851	737	952
17	450	580	481	621	510	658	537	694	613	791	680	878	760	981
18	463	597	495	639	525	677	553	714	630	814	699	903	782	1010
19	475	614	508	656	539	696	568	733	648	836	719	928	803	1037
20	488	630	521	673	553	714	583	753	665	858	737	952	824	1064
21	500	645	534	690	567	732	597	771	681	879	756	975	845	1090
22	511	660	547	706	580	749	611	789	697	900	773	998	865	1116
23	523	675	559	722	593	766	625	807	713	920	791	1021	884	1141
24	534	690	571	737	606	782	639	824	728	940	808	1043	903	1166
25	545	704	583	753	618	798	652	841	743	959	824	1064	922	1190
26	556	718	594	767	630	814	665	858	758	978	841	1085	940	1213
27	567	732	606	782	643	829	677	874	772	997	857	1106	958	1237
28	577	745	617	796	654	845	690	890	786	1015	872	1126	975	1259
29	587	758	628	810	666	860	702	906	800	1033	888	1146	993	1281
30	597	771	639	824	677	874	714	922	814	1051	903	1166	1010	1303



6.8.1

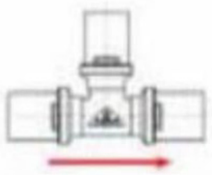
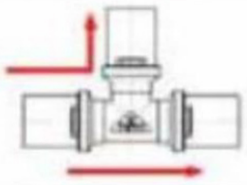
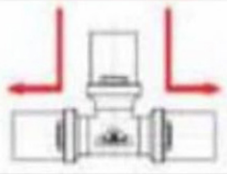
For example: calculating the expansion bend length

Calculating the expansion bend length for a **Ifan®** pipe 32 x 3.0 10 m long
that is expo-sed to a 40° C temperature change:
Go into the first diagram 6.8.1 on the left
hand side with the values for the temperature chan-ge and pipe length,
put the point obtained into the right-hand side of the diagram (as in the figure),
calculate the intersection with the curve for the pipe diameter and read the linear expansion on the abscissa (in our example, it's BD = 600 mm).

5.7 CALCULATING THE CONCENTRATED FLOW LOSS

You can use the table below to calculate the concentrated flow losses caused by such things as connections or pipe bends. They are given in meters as pipe length equivalents so that the concentrated flow loss can be added to the distributed flow loss without requiring any other complicated calculations.
Local flow losses in pipe length equivalents in meters

CONCENTRATED FLOW LOSSES EXPRESSED IN EQUIVALENT PIPE METRES

Reference		14x2.0	16x2.25	16x2.0	18x2.0	20x2.5	20x2.0	26x3.0	32x3.0	40x3.5	50x4
Curved pipe		0.75	0.65	0.63	0.60	0.55	0.54	0.50	0.55	0.45	0.48
90° angle support		1.8	1.45	1.4	1.3	1.2	1.1	1.05	0.95	1.15	1.15
90° T-piece		1.5	1.25	1.0	0.9	0.75	0.73	0.62	0.59	0.55	0.65
90° T-piece		1.75	1.55	1.53	1.50	1.45	1.44	1.4	1.3	1.2	1.2
90° T-piece		1.9	1.65	1.50	1.35	1.25	1.24	1.2	1.1	1.25	1.3
Straight connec-tion		1.15	0.85	0.80	0.75	0.75	0.70	0.65	0.20	0.35	0.45

For example: Calculating the total flow loss

Calculate the total flow losses in a line system with 80 m of IFAN pipes 32 x 3.0, 3 angle supports and 2 straight connections for a flowthrough of 0.8 l/s.
First of all add the pipe length and pipe length equivalents from various connections.

Pipe	angle support	Straight connections	total
80	3x0.95	2x0.2	**83.25**

IFAN HEATING PIPE SYSTEM

A.PEX-AL-PEX PIPE
B.PEXB STABI PIPE
C.PEXA PIPE
D.PEXB PIPE
E.PEXB EVOH PIPE
F.PEXC PIPE
G.PEXC EVOH PIPE
H.PERT PIPE
I.PERT EVOH PIPE

Tubo Multilayer insulated pipe PEX-AL-PEX ACQUA

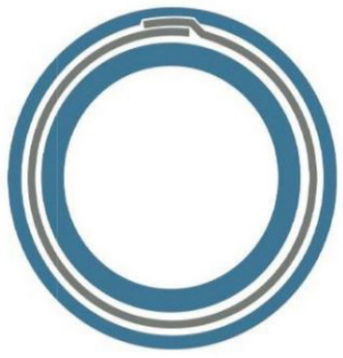
Multilayer insulated pipe PEX-AL-PEX IN rolls

Prodotto certificato
Certified product

PEX PIPES SYSTEM

A.PEX-AL-PEX PIPE

a.1 OVERLAP WELDING:



80001

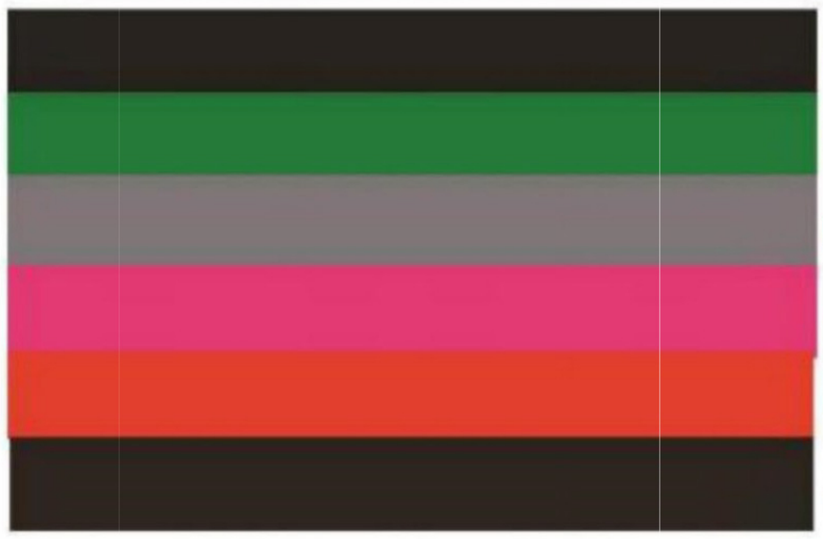
Outside Diameter (mm)	Wall thickness (mm)		Aluminium thickness (mm)	ROLL (m)	Weight kg/100m	Water capacity (L)
	PN12.5MPA	PN2.0MPA				
16	2.0	2.2		100	10.0	0.113
18	2.0	-		100	11.9	0.154
20	2.0	2.8		100	13.2	0.201
25	2.5	3.5		100	20.3	0.307
26	3.0	-		100	24.0	0.307
32	3.0	4.4		100	30.5	0.523

a.2 BUTT WELDING-LASER:

80002

Outside Diameter (mm)	Wall thickness (mm)		Aluminium thickness (mm)	ROLL (m)	Weight kg/100m	Water capacity (L)
	PN12.5MPA	PN2.0MPA				
16	2.0	2.2		100	10.0	0.113
18	2.0	-		100	11.9	0.154
20	2.0	2.8		100	13.2	0.201
25	2.5	3.5		100	20.3	0.307
26	3.0	-		100	24.0	0.307
32	3.0	4.4		100	30.5	0.523

Different color standard normally use in different area :



Black Hot&cold potable water

Green Rainwater

Lilac Recycleed water(non-potable)

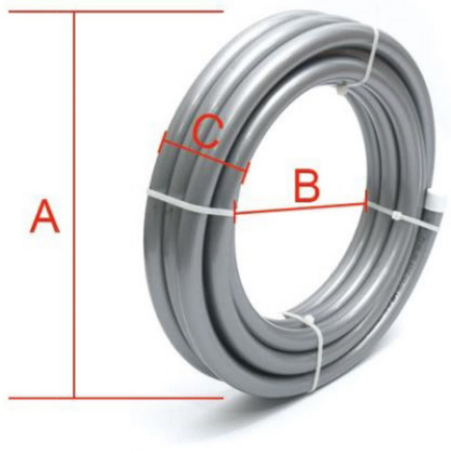
Pink Hydronic heating

Red Hot water

Conduit In/under slab hot&cold water

Aluminum composite pipe packing size specifications:

ROLLS SIZE



SIZE MM	ROLL M	Packing rools CM		
		A.	B.	C.
1216	100	47	17	18
1418	100	60	23	18
1620	100	56	23	18
2026	100	74	31	21
2632	100	94	48	17

B.PEXb-STABI PIPE

80003

SIZE (mm)	Outside Diameter (mm)	Wall thickness (mm)	Inside	Middle	Outside	ROLL (m)	Weight kg/100m
16	16.2	2.6	PEXb	AL	PE	100	13
20	20	2.9	PEXb	AL	PE	100	18.5
25	25	3.7	PEXb	AL	PE	100	29
32	32	4.7	PEXb	AL	PE	100	46.2
40	40	6.0	PEXb	AL	PE	100	73.4

As a leading pipeline manufacture in China,Ifan started producing peroxides crosslinked polyethylene stabi pipelines.With a history of more than 20 years,Ifan has extensive experience inthe production and application of exproxides crosslinked polyethylene (stabi) pipelines.

The combination of rihao tightening ring connection technology provides you with a reliable leak-free connection and exsure the system with excellent toughness and strength for over 50 years of service life.Stabi crosslinked polyethylene has the following excellent performance advantages over other floor heating pipe marerials:

Excellent creep rupture resistance and high temperature stability
The short-term maximum temperature can reach 100 ℃

-Significant memory(self-heating ability)

-Rapid expansion and slow reduction

-Good impact strength,resistance to low temperature impact strength can be as low as to 50 ℃

-Excellent chemical resistance and wear resistance

-No damage due to minor scratches

-Stabi pink purple pipe,stabi flex silver gray pipe,more suitable for dark heat sink

C.PEXa PIPES

80005

SIZE (mm)	Outside Diameter (mm)	Wall thickness (mm)	ROLL (m)	Weight kg/100m
16×2.0	16	2.0	100	8.5
16×2.2	16	2.2	100	9.4
20×2.8	20	2.8	100	15.5
25×3.5	25	3.5	100	23
32×4.4	32	4.4	100	36.8

D.PEXb PIPES

80006

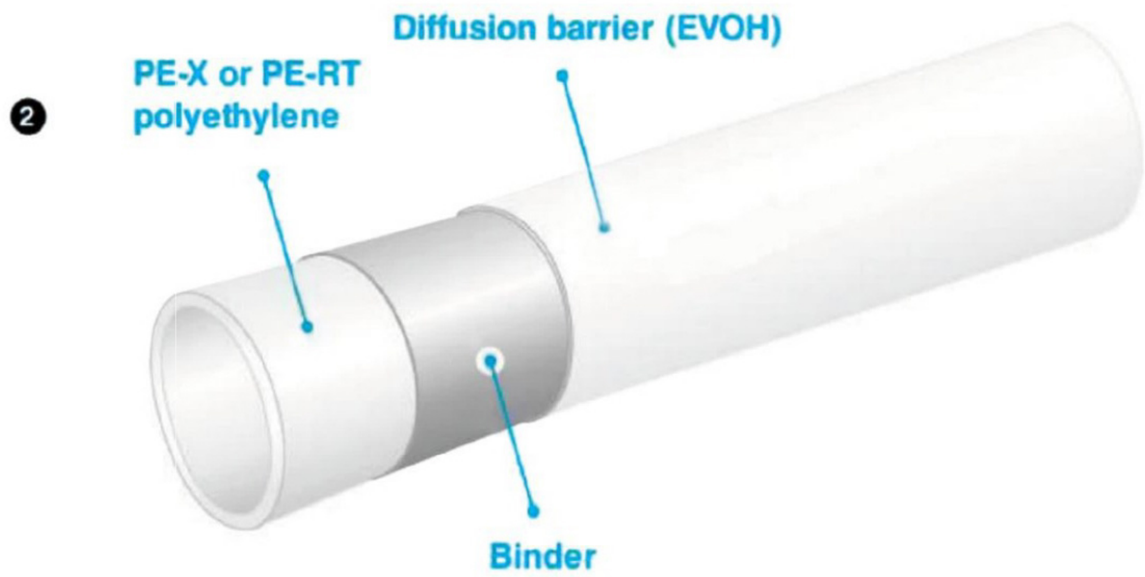
SIZE (mm)	Outside Diameter (mm)	Wall thickness (mm)	ROLL (m)	Weight kg/100m
16×2.0	16	2.0	100	8.5
16×2.2	16	2.2	100	9.4
20×2.8	20	2.8	100	15.5
25×3.5	25	3.5	100	23
32×4.4	32	4.4	100	36.8

E.PEXb EVOH PIPES

80007

SIZE (mm)	Outside Diameter (mm)	Wall thickness (mm)	ROLL (m)	Weight kg/100m
16×2.0	16	2.0	100	8.5
16×2.2	16	2.2	100	9.4
20×2.8	20	2.8	100	15.5
25×3.5	25	3.5	100	23
32×4.4	32	4.4	100	36.8

Homogenous polyethylene pipes are available in different material variants PEXb,PEXc and PE RT



F.PEXc PIPES

80008

SIZE (mm)	Outside Diameter (mm)	Wall thickness (mm)	ROLL (m)	Weight kg/100m
16×2.0	16	2.0	100	8.5
16×2.2	16	2.2	100	9.4
20×2.8	20	2.8	100	15.5
25×3.5	25	3.5	100	23
32×4.4	32	4.4	100	36.8

G.PEXc EVOH PIPES

80009

SIZE (mm)	Outside Diameter (mm)	Wall thickness (mm)	ROLL (m)	Weight kg/100m
16×2.0	16	2.0	100	8.5
16×2.2	16	2.2	100	9.4
20×2.8	20	2.8	100	15.5
25×3.5	25	3.5	100	23
32×4.4	32	4.4	100	36.8

H.PE RT PIPES

80010

SIZE (mm)	Outside Diameter (mm)	Wall thickness (mm)	ROLL (m)	Weight kg/100m
16×2.0	16	2.0	100	8.5
16×2.2	16	2.2	100	9.2
20×2.0	20	2.0	100	11.3
20×2.8	20	2.8	100	15.5
25×3.5	25	3.5	100	23
32×4.4	32	4.4	100	36.8

I.PE RT EVOH PIPES

80011

SIZE (mm)	Outside Diameter (mm)	Wall thickness (mm)	ROLL (m)	Weight kg/100m
16×2.0	16	2.0	100	8.5
16×2.2	16	2.2	100	9.2
20×2.8	20	2.8	100	15.5
25×3.5	25	3.5	100	23
32×4.4	32	4.4	100	36.8