



LEVEL III

TAHWEEL SILENT DRAINAGE SYSTEM

Don't underestimate
the power of silence



TAHWEEL
Plumbing Systems



WHY TAHWHEEL SILENT ?

Tahweel Silent Drainage pipes are manufactured with a 3-Layers, Polypropylene based, halogen free composite structure and a co-moulded ring that helps to achieve noise levels under 12 dB with system standards of EN 1451.

HIGH QUALITY PRODUCTS

WIDE RANGE OF PRODUCTS

MANUFACTURING EXCELLENCY

PRODUCT ENGINEERING

EASE OF INSTALLATION

QUALITY ASSURANCE SYSTEM

WIDE DISTRIBUTION NETWORK

TAHWEEL SILENT SEWAGE SYSTEM

The pipes for domestic sewerage systems together with the appropriate coupling sleeves are intended to be used for the removal of all kinds of waste water.

Tahweel Silent piping system is a promoted version of Tahweel HTPP home sewage system and it is specially designed for installation in places where sound insulation is taken into account.

Installed with special pipe clamps (with profiled rubber ring) provides reduction in noise and acoustic vibrations up to level of 12dB(A)*.

The latest technology of three-layer extrusion pipe and materials modified with mineral additives have raised disposal of waste water systems within the building structure on a higher level.



- AVAILABLE PROFILES

32 - 160
- EASY CAMERA INSPECTION
- WHITE ANTIBACTERIAL LAYER
- TEMPERATURE RESISTANCE

Up to 60°C
- COMBUSTIBILITY

Class B2
- SOUND ISOLATION

12dB

SPECIFICATION OF SILENT PIPES & FITTINGS

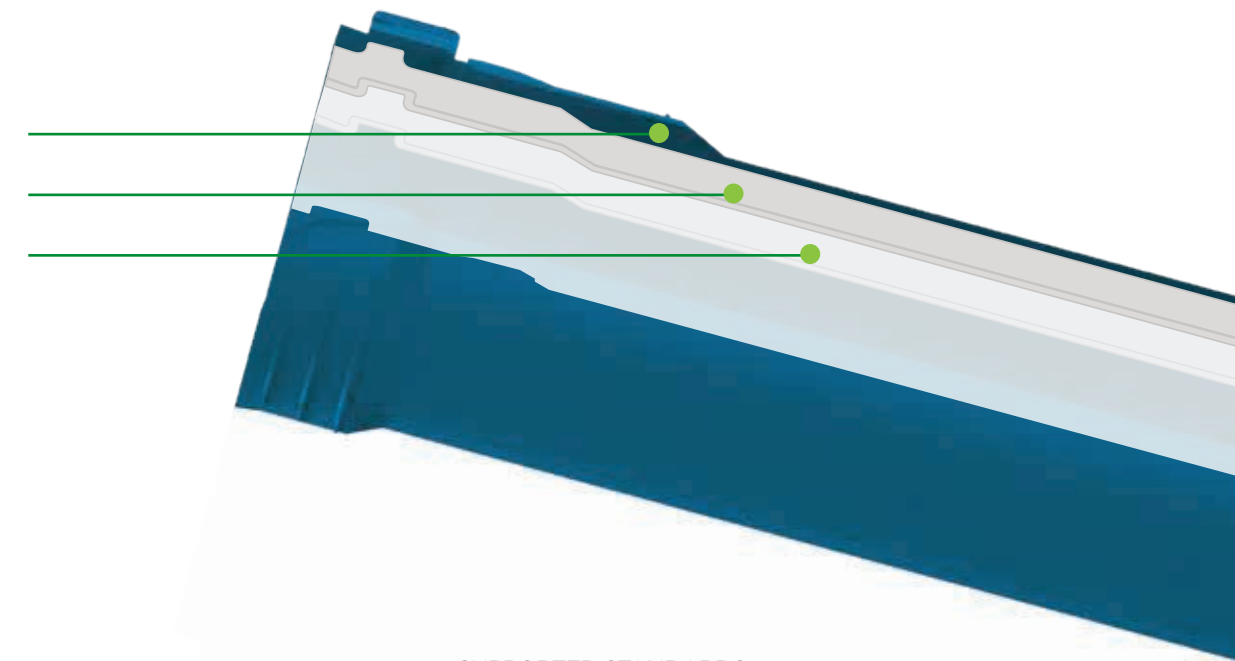
Tahweel Silent pipes are consisted of three layers, where each layer contributes to the desired characteristics of the product.

INNER LAYER: Made of polypropylene copolymer, smooth white inner surface prevents the buildup of sludge and reduces abrasion on the pipes. It allows easy inspection of the pipeline as it is white. It is resistant to high temperatures and chemicals.

MIDDLE LAYER: Made of polypropylene copolymer and strengthened mineral filler, gives to pipes strength and flexibility.

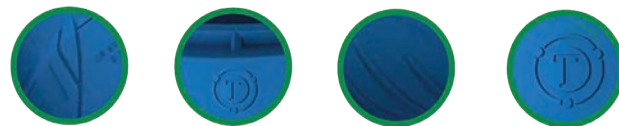
EXTERNAL LAYER: Made of polypropylene copolymer, blue. Provides better impact resistance to the pipes, and greater safety when handling and installing products.

OUTER LAYER
MIDDLE LAYER
INNER LAYER



SUPPORTED STANDARDS:
EN 1451 • EN 1411 • EN 14366 • EN 681 • EN 12056

Material	PP-H (polypropylene copolymer)
Pipe structure	Three-layer composite pipe PPC-PPM-PPC
Density	pipes (Ø32-Ø160) - 1.3 g/cm ³ fitting - 1.4 g/cm ³
Hot water resistance	short term up to 95°C long term up to 60°C
Linear expansion coefficient	0.05 mm/m°C
Chemical resistance	pH 2- pH 12
E - modulus	2400-3100 MPa
Joining method	Push-fit sockets with inserted rubber ring - resistant to leakage up to pressure of 0.5bar
Application category	BD (instalation in buildings and in building construction)
Fire classification	B2 - normal inflamability
Sound insulation level	12 dB(A) sound insulation Level III

**NEW - IMPROVED**

design of fitting socket

MARKER

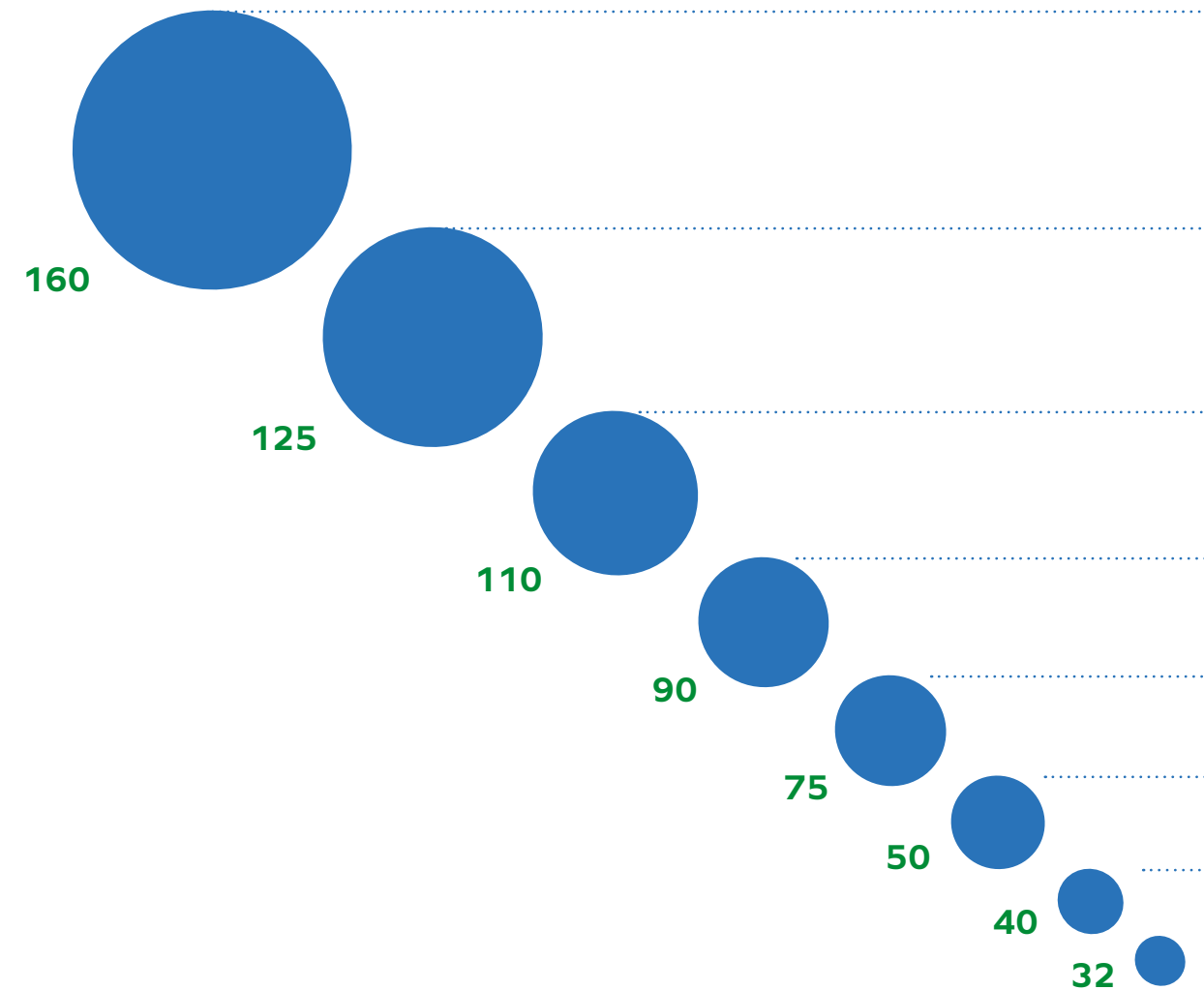
for determining angle of rotation of the fitting.

REINFORCEMENT

ribs for strengthening the fitting Tahweel logo, "T" on the bottom of the fitting is used as a marker for the depth of insertion of the fitting into the socket of a pipe or other fitting.

Tahweel logo "T"

on the bottom of the fitting is used as a marker for the depth of insertion of the fitting into the socket of a pipe or other fitting.



ADVANTAGES OF TAHWEEL PIPES AND FITTINGS

- High thermal, chemical and corrosion resistance
- Good electric insulator
- Simple and easy way of transport and manipulation
- Fast and cheap assembling
- Connection is performed through the socket with inserted rubber ring
- O-rings are made of EPDM rubber (according to EN681).
- White surface of inner layer allows easy inspection of pipe system
- Fully compatible with Tahweel's PVC and HTPP pipes and fittings
- High wear and impact resistance
- Acoustic insulation level 12dB(A) according to EN14366
- Made of a light material with excellent mechanical characteristics
- Practically no costs of pipeline maintenance
- Service life longer than 50 years

NOISE FROM WASTE WATER INSTALLATIONS

There are two types of noise in waste water installation systems:

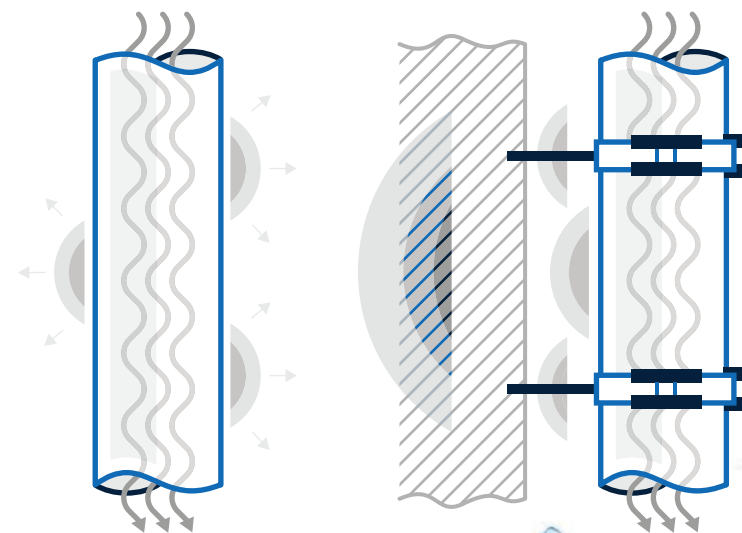
- Airborne noise
- Structure-borne noise

AIRBORNE NOISE

Is consequence of waste water flowing within piping system. With special design of Tahweel Silent pipes airborne sound is limited and kept inside pipes preventing annoying noise to leave the system.

STRUCTURE-BORNE NOISE

Are vibrations created by flowing waste water inside pipes. From pipes it is transmitted to pipe clamps and finally to walls of the buildings creating irritating sounds. With special pipe clamps and with correct installation of the pipes this type of noise can be reduced to minimum.



LEVEL OF SOUND ISOLATION AND CALSSIFICATION

According to VDI 4100, there are three levels of sound insulation, depending on the purpose of the facility in which the pipes are installed:

- **Level I** sound insulation - requirements according to DIN 4109 corresponding to 30 dB (A)
- **Level II** sound insulation - a higher level of sound insulation corresponds to 25 dB (A)
- **Level III** sound insulation - the highest level of sound insulation corresponds to 20 dB (A)

VDI sound insulation clasification:

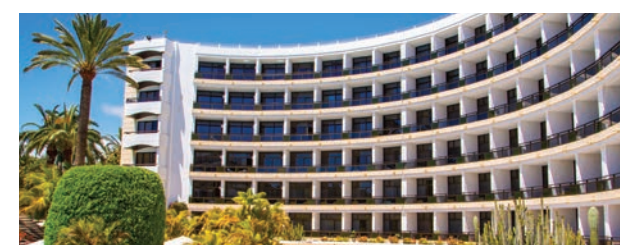
- **Level I** sound insulation - family houses
- **Level II** sound insulation - apartment buildings, residential and commercial buildings with few floors
- **Level III** sound insulation - hotels, hospitals, libraries, reading rooms, residential complexes...



On family houses
Sound insulation Level I or on agreement



Apartment bulidings, residential and office buildings, comfort apartments
Sound insulation Level II or higher



Hotels, hospitals, residential complexes
Sound insulation Level III enhanced agreements

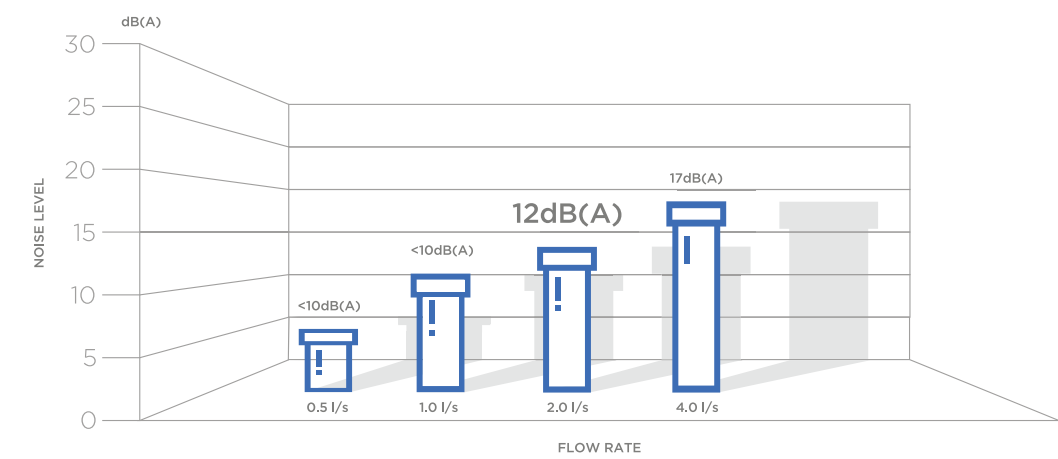
ACOUSTIC INSULATION

According to DIN 4109 noise generated from the pipeline, built-in sound-protected areas should not exceed 35 dB (A). At the same time, the norm VDI 4100 guideline shows that the noise should not exceed 30dB (A). From the above mentioned reasons, Tahweel and its Silent system were put on testing at the renowned Institute in Stuttgart, where is obtained confirmation of our quality.

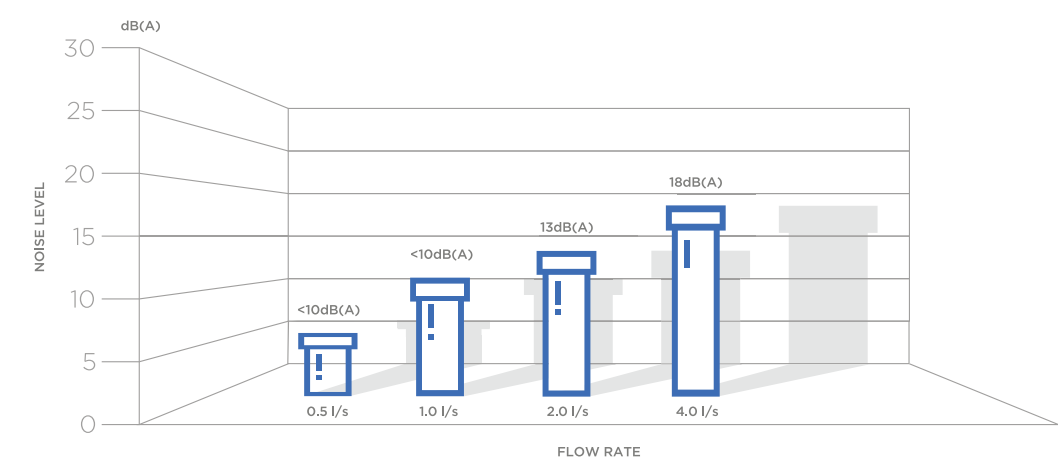
According to studies, Tahweel Silent pipes and related fittings can be classified into LEVEL III of sound insulation with results of 12dB(A)*, obtained in the tests**.

Confirmation of the effective elimination of mentioned problems is done in special acoustic laboratory for measuring noise from wastewater installation systems of Fraunhofer institute Stuttgart. The obtained value from testing of 12dB(A)* makes Tahweel Silent system suitable for installation on places where sound insulation is taken into account (hospitals, hotels, apartment buildings, universities, libraries, dormitories etc).

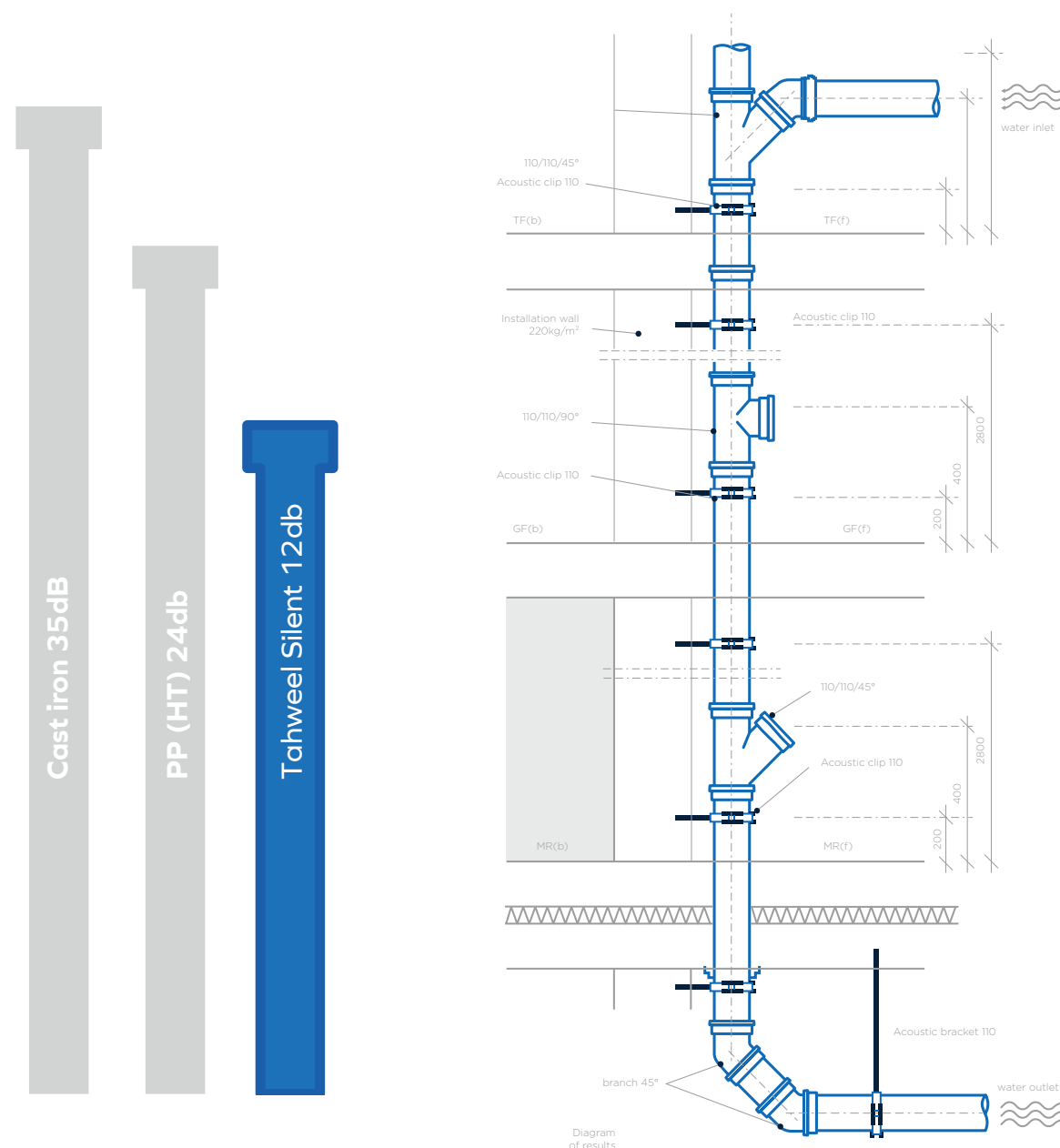
Noise level of the Tahweel Silent system in accordance with EN 14366



Noise level of the Tahweel Silent system in accordance with VDI 4100



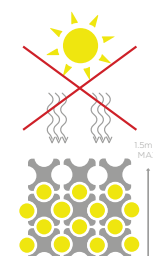
TESTING OF TAHWEEL SILENT PIPING SYSTEM



PACKING, STORAGE AND TRANSPORTATION



All the fittings are packed in cardboard boxes. All pipes are packed in bundles. In order to prevent damage during transport, all Tahweel Silent pipes and fittings must not be transported unpacked and in horizontal position.



During unloading they must be protected against damage, particularly at temperatures below freezing. Never throw, drag or bend pipes and fittings. Pipes should be stored horizontally on even surfaces up to 1.5m high, protected against sunlight.

SILENCE IS CLOSER THAN EVER

Tahweel Silent system provides reduction in noise and acoustic vibrations up to level of 12dB. Silence and piece in your home is closer than ever



TAHWEEL
SILENT PIPES
AND FITTINGS
PRODUCT
RANGE



SILENT PIPE WITH SOCKET-S-16			
Dia (mm)	Length (mm)	Thick (mm)	Packing Type
50	250	1.8	Cartonbox
50	500	1.8	Cartonbox
50	1000	1.8	Bundle
50	2000	1.8	Bundle
50	3000	1.8	Bundle
75	250	2.3	Cartonbox
75	500	2.3	Cartonbox
75	1000	2.3	Bundle
75	2000	2.3	Bundle
75	3000	2.3	Bundle
110	250	3.4	Cartonbox
110	500	3.4	Cartonbox
110	1000	3.4	Bundle
110	2000	3.4	Bundle
110	3000	3.4	Bundle
160	250	4.9	Cartonbox
160	500	4.9	Cartonbox
160	1000	4.9	Bundle
160	2000	4.9	Bundle
160	3000	4.9	Bundle

SILENT PIPE WITHOUT SOCKET-S-16			
Dia (mm)	Length (mm)	Thick (mm)	Packing Type
50	250	1.8	Cartonbox
50	500	1.8	Cartonbox
50	1000	1.8	Bundle
50	2000	1.8	Bundle
50	3000	1.8	Bundle
75	250	2.3	Cartonbox
75	500	2.3	Cartonbox
75	1000	2.3	Bundle
75	2000	2.3	Bundle
75	3000	2.3	Bundle
110	250	3.4	Cartonbox
110	500	3.4	Cartonbox
110	1000	3.4	Bundle
110	2000	3.4	Bundle
110	3000	3.4	Bundle
160	250	4.9	Cartonbox
160	500	4.9	Cartonbox
160	1000	4.9	Bundle
160	2000	4.9	Bundle
160	3000	4.9	Bundle

SILENT PIPE WITH SOCKET-S-14			
Dia (mm)	Length (mm)	Thick (mm)	Packing Type
50	250	4	Cartonbox
50	500	4	Cartonbox
50	1000	4	Bundle
50	2000	4	Bundle
50	3000	4	Bundle
75	250	4.5	Cartonbox
75	500	4.5	Cartonbox
75	1000	4.5	Bundle
75	2000	4.5	Bundle
75	3000	4.5	Bundle
110	250	5.3	Cartonbox
110	500	5.3	Cartonbox
110	1000	5.3	Bundle
110	2000	5.3	Bundle
110	3000	5.3	Bundle
160	250	5.3	Cartonbox
160	500	5.3	Cartonbox
160	1000	5.3	Bundle
160	2000	5.3	Bundle
160	3000	5.3	Bundle

SILENT PIPE WITHOUT SOCKET-S-14			
Dia (mm)	Length (mm)	Thick (mm)	Packing Type
50	250	4	Cartonbox
50	500	4	Cartonbox
50	1000	4	Bundle
50	2000	4	Bundle
50	3000	4	Bundle
75	250	4.5	Cartonbox
75	500	4.5	Cartonbox
75	1000	4.5	Bundle
75	2000	4.5	Bundle
75	3000	4.5	Bundle
110	250	5.3	Cartonbox
110	500	5.3	Cartonbox
110	1000	5.3	Bundle
110	2000	5.3	Bundle
110	3000	5.3	Bundle
160	250	5.3	Cartonbox
160	500	5.3	Cartonbox
160	1000	5.3	Bundle
160	2000	5.3	Bundle
160	3000	5.3	Bundle

PRODUCT RANGE

SILENT ELBOW 45°			
Dia (mm)	Code	Packing Type	Pcs/box
50	SPE3-50	Cartonbox	36
75	SPE3-75	Cartonbox	10
110	SPE3-110	Cartonbox	24
160	SPE3-160	Cartonbox	10



SILENT ELBOW 87,5°			
Dia (mm)	Code	Packing Type	Pcs/box
50	SPE8-50	Cartonbox	24
75	SPE8-75	Cartonbox	20
110	SPE8110	Cartonbox	10
160	SPE8-160	Cartonbox	9



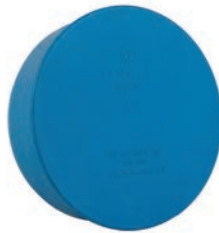
SILENT SOCKET WITH CENTRAL REGISTER			
Dia (mm)	Code	Packing Type	Pcs/box
50	SPS1-50	Cartonbox	39
75	SPS1-75	Cartonbox	16
110	SPS1-110	Cartonbox	40
160	SPS1-160	Cartonbox	12



SILENT SLIDING SOCKET			
Dia (mm)	Code	Packing Type	Pcs/box
50	SPRS1-50	Cartonbox	39
75	SPRS1-75	Cartonbox	16
110	SPRS1-110	Cartonbox	40
160	SPRS1-160	Cartonbox	12



SILENT END CAP			
Dia (mm)	Code	Packing Type	Pcs/box
50	SPC-50	Cartonbox	
75	SPC-75	Cartonbox	
110	SPC-110	Cartonbox	21
160	SPC-160	Cartonbox	47



SILENT BRANCH TEE 45°			
Dia (mm)	Code	Packing Type	Pcs/box
50	SPYBT-50	Cartonbox	14
75	SPYBT-75	Cartonbox	5
110	SPYBT-110	Cartonbox	14
160	SPYBT-160	Cartonbox	4



PRODUCT RANGE

SILENT BRANCH TEE 87,5°			
Dia (mm)	Code	Packing Type	Pcs/box
50	SPT8-50	Cartonbox	15
75	SPT8-75	Cartonbox	7
110	SPT8-110	Cartonbox	14
160	SPT8-160	Cartonbox	4



SILENT REDUCER SOCKET			
Dia (mm)	Code	Packing Type	Pcs/box
75x50	SPR-75x50	Cartonbox	18
110x75	SPR-110x75	Cartonbox	8
160x110	SPR-160x110	Cartonbox	25



SILENT MULTI FLOOR TRAP			
Dia (mm)	Code	Packing Type	Pcs/box
110X75X50X50	SPMT-110x75x50x50	Cartonbox	27



SILENT CLEAN OUT (ROUND COVER)			
Dia (mm)	Code	Packing Type	Pcs/box
110	SPCLR-110	Cartonbox	14



SILENT REDUCER TEE			
Dia (mm)	Code	Packing Type	Pcs/box
110x75	SPT2-110x75	Cartonbox	16
160x110	SPT2-160x110	Cartonbox	6



Tahweel Building Trading Company
Anas Ibn Malik Rd, Al Malqa
Riyadh, Saudi Arabia
920008332
+966 11 20082651

www.tahweelpipe.com