

Product Catalog

PVC-U Drainage Piping System

Standard Compliance: ISO 3633:2002 (Second Edition) & EN 1329-1 (Code B)

Plastics piping systems for soil and waste discharge (low and high temperature) inside buildings – Unplasticized poly(vinyl chloride) (PVC-U)

Table of Contents

1. Standard Overview & Application Scope
2. General Material & Appearance Technical Requirements
3. PVC-U Pipe Dimensional Specifications (Metric + Inch Series)
4. Complete Range of Supporting PVC-U Drainage Fittings
5. Fitting Wall Thickness Technical Standards
6. Mandatory Permanent Marking Specifications
7. Mechanical & Physical Performance Parameters
8. Client Acceptance & Installation Guidelines
9. Catalog Disclaimer

1. Standard Overview & Application Scope

1.1 Standard Basis

This product catalog is fully compiled in accordance with international standard **ISO 3633:2002 (Second Edition)**, which supersedes the older ISO 3633:1991. All dimensional, wall thickness and tolerance data are extracted from official standard tables, covering Metric Series DN32~DN315 and special inch series DN36, DN43, DN56 to meet global construction project demands.

All dimensions, wall thicknesses and performance indicators specified herein conform to both ISO 3633:2002 and **EN 1329-1 (Application Code B, indoor above-ground installation)**. Products manufactured to this standard set satisfy all technical prerequisites for EU CE certification.

1.2 Application Scope

Suitable for **indoor overhead gravity drainage systems** of buildings only. **Buried underground**

Official Website: skywisepipe.com



installation is strictly prohibited:

- ① Discharge of domestic low and high-temperature sewage and wastewater
- ② Supporting ventilation pipelines for building drainage systems
- ③ Indoor rainwater drainage pipelines

1.3 Standard Connection Systems

All product specifications support two standard connection methods for optional selection:

- ① Solvent Cement Bonded Joints (Mark: S.C.)
- ② Elastomeric Rubber Ring Socket Joints (Type: S I / S II / M)

2. General Material & Appearance Technical Requirements

2.1 Raw Material Standards

- ① Base Material: Unplasticized PVC-U raw material. The PVC mass fraction of extruded pipes is $\geq 80\%$, and that of injection-molded fittings is $\geq 85\%$.
- ② Auxiliary Materials: Sealing rings comply with EN 681-1 (vulcanized rubber) and EN 681-2 (thermoplastic elastomer); special supporting solvent cement meets ISO 3633 system matching standards.
- ③ Standard Color: Grey is the recommended standard solid colour; other full-through colours (white, custom colours) are acceptable upon client request, provided the pipe is fully pigmented through the entire wall (surface painting is not permitted).

2.2 Appearance Quality Requirements

The inner and outer surfaces of pipes and fittings are smooth, flat and clean, without bubbles, cracks, pits, impurities, grooves and other defects. The cutting end is flat and perpendicular to the pipe central axis.

2.3 Universal Dimensional Tolerance Rules

- ① Pipe out-of-roundness after extrusion $\leq 0.024 \times$ nominal outer diameter (dn)
- ② Pipe end chamfer angle: $15^\circ \sim 45^\circ$ relative to the pipe axis; the residual wall thickness at the pipe end is not less than $1/3$ of the minimum wall thickness
- ③ Standard factory fixed length: 4m / 6m; customized lengths are available on request
- ④ Standard detection temperature for all dimensions: $(23 \pm 2)^\circ\text{C}$, implemented in accordance with ISO 3126 measurement specifications

3. PVC-U Pipe Dimensional Specifications

Official Website: skywisepipe.com



Unit: mm

3.1 Metric Series (DN32 ~ DN315)

No.	DN/OD Nominal Size	dn Nominal OD	dem Min	dem Max	e Min Wall Thicknes s	em Max Mean Wall	Application Scenarios
1	32	32	32.0	32.2	3.0	3.5	Small sanitary branch, ventilation pipe

2	40	40	40.0	40.2	3.0	3.5	Wash basin, bidet drainage branch
3	50	50	50.0	50.2	3.0	3.5	Kitchen sink, floor drain branch pipe
4	63	63	63.0	63.2	3.0	3.5	Balcony drainage, multi-basin combined branch
5	75	75	75.0	75.3	3.0	3.5	Bathroom horizontal branch, shower drainage
6	80	80	80.0	80.3	3.0	3.5	Medium commercial building branch pipeline
7	82	82	82.0	82.3	3.0	3.5	Custom commercial drainage branch
8	90	90	90.0	90.3	3.0	3.5	Large public restroom branch pipe
9	100	100	100.0	100.3	3.0	3.5	Public toilet horizontal branch drainage
10	110	110	110.0	110.3	3.2	3.8	Toilet riser, floor main drainage pipe
11	125	125	125.0	125.3	3.2	3.8	Hotel & large apartment main branch
12	140	140	140.0	140.4	3.2	3.8	Multi-family shared horizontal main pipe
13	160	160	160.0	160.4	3.2	3.8	Residential main riser, indoor rainwater main pipe
14	180	180	180.0	180.4	3.6	4.2	Medium commercial building main trunk pipe
15	200	200	200.0	200.5	3.9	4.5	Office & shopping mall floor main drainage

16	250	250	250.0	250.5	4.9	5.6	Large shopping mall & hotel vertical main riser
17	315	315	315.0	315.6	6.2	7.1	Large public building main drainage trunk

3.2 Special Inch Series (DN36 / DN43 / DN56)

No.	DN/OD Nomina l Size	dn Nomina l OD	dem Min	dem Max	e Min Wall Thickness	em Max Mean Wall	Application Scenarios
A1	36	36	36.2	36.5	3.0	3.5	Overseas small sanitary ware branch, vent pipe
A2	43	43	42.8	43.1	3.0	3.5	European standard hand basin & vanity drainage
A3	56	56	55.8	56.1	3.0	3.5	European standard kitchen sink & floor drain branch

Note: Negative wall thickness deviation is prohibited. The actual wall thickness at any section shall not exceed 1.2× minimum wall thickness, and the average wall thickness shall not exceed the maximum limit.

4. Complete Range of Supporting PVC-U Drainage Fittings

All fittings are compatible with ISO 3633 metric & inch series pipes, applicable to solvent cement bonding and rubber ring socket connection systems.



Fitting Name	Available DN Sizes	Functional Description
Straight Coupling	32,36,40,43,50,56,63,75,80,90,100,110,125,140,160,180,200,250,315	Straight connection of equal-diameter drainage pipes
Concentric / Eccentric Reducer	36×32,43×36,50×32,56×43,63×50,75×63,110×75,160×110,200×160,250×200,315×250	Diameter transition for different-size pipelines

45° Swept Bend	32,36,40,43,50,56,63,75,110,160,200,250,315	Smooth turning with low flow resistance, preferred for main pipes
87.5° / 90° Right-Angle Bend	32,36,40,43,50,56,63,75,80,110,125,160,200,250,315	Vertical and horizontal pipe conversion, branch turning
Equal Tee	32,36,40,43,50,56,75,110,160,200,250,315	Three-way diversion and confluence of equal-diameter pipes
Reducing Tee	36×32,43×36,50×32,56×43,110×50,110×75,160×110,200×160	Connect small branch pipes to large main pipelines
4-Way Cross Joint	50,56,75,110,160	Multi-directional connection for complex indoor piping systems
Inspection & Cleanout Tee	75,110,160,200,250,315	Reserved port for pipeline inspection, dredging and maintenance
End Cap / Pipe Plug	32,36,40,43,50,56,63,75,110,160,200,250,315	Seal reserved pipe openings for future expansion
Floor Drain Connector	50,56,75,110	Special fitting for matching floor drain outlet connection
Integrated Expansion Coupling	Full range DN32~DN315 (including 36/43/56)	Absorb thermal expansion and contraction to prevent joint leakage

5. Fitting Wall Thickness Standards (ISO 3633 Official Data)

5.1 Solvent Cement Bonded Fittings

5.1.1 Metric Series

DN/OD Range	dn	Min. Body Wall (e)	Min. Socket Wall (e ₂)
32~75	32~75	3.0	2.0
80~100	80~100	3.0	2.3

110~160	110~160	3.2	2.4
180	180	3.6	2.7
200	200	3.9	2.9
250	250	4.9	3.7
315	315	6.2	4.7

5.1.2 Inch Series (DN36/43/56)

DN/OD	dn	Min. Body Wall (e)	Min. Socket Wall (e ₂)
36/43/56	36/43/56	3.0	2.3

5.2 Rubber Ring Socket Fittings

5.2.1 Metric Series

DN/OD Range	dn	Min. Body Wall (e)	Min. Socket Wall (e ₂)	Min. Groove Wall (e ₃)
40~100	40~100	3.0	2.7	2.3
110~160	110~160	3.2	2.9	2.4
180	180	3.6	3.2	2.7
200	200	3.9	3.5	2.9
250	250	4.9	4.5	3.7
315	315	6.2	5.6	4.7

5.2.2 Inch Series (DN36/43/56)

DN/OD	dn	Min. Body Wall (e)	Min. Socket Wall (e ₂)	Min. Groove Wall (e ₃)
36/43/56	36/43/56	3.0	2.7	2.2

6. Mandatory Permanent Marking Specifications (ISO 3633 Clause 12)

6.1 Pipe Marking (Interval ≤ 1m)

Each pipe shall be permanently marked with: Standard No. (ISO 3633), Manufacturer Brand/Trademark, DN/OD Size, Minimum Wall Thickness, Material (PVC-U), Production Traceability Code (Year/Month/Factory Code). Optional cold-resistant logo for low-temperature resistant products.

6.2 Fitting Marking

Permanent marking on fitting body: Brand, DN size, bending angle, PVC-U. Package marking: ISO 3633 standard, joint type (S.C. / S I / S II / M).

7. Mechanical & Physical Performance Parameters

7.1 Mechanical Properties

- ① Round-the-clock impact test (EN 744): TIR ≤ 10% (0°C water medium)
- ② Low-temperature staircase impact test (EN 1411): H₅₀ ≥ 1.0m (for cold regions)

7.2 Physical Properties

- ① Vicat Softening Temperature (VST): ≥ 79°C (EN 727)
- ② Longitudinal reversion rate: ≤ 5%, no bubbles or cracks after heating (EN 743)
- ③ Dichloromethane corrosion resistance: No surface damage (15°C, 30min, EN 580)

7.3 System Joint Performance

- ① Watertightness: Zero leakage (EN 1053)
- ② Airtightness: Zero leakage (EN 1054)
- ③ High-temperature cycling test: No leakage & qualified deformation (EN 1055)

8. Client Acceptance & Installation Guidelines

- ① All dimensional inspections shall be performed at $(23\pm 2)^{\circ}\text{C}$ in accordance with ISO 3126.
- ② No negative wall thickness tolerance is allowed; unqualified products will be rejected.
- ③ Installation limit: Only for indoor overhead gravity drainage, **buried installation is forbidden.**
- ④ Construction tips: Use factory-matched solvent cement for bonded joints; use standard elastomer sealing rings for socket joints to avoid leakage.
- ⑤ Fire safety: Products shall comply with local national fire protection regulations.

9. Catalog Disclaimer

- ① All parameters are fully compliant with ISO 3633:2002 official standards without non-standard modification.
- ② This catalog covers full metric series and special inch series, suitable for global engineering projects.
- ③ Two joint systems are available with different wall thickness standards. Please confirm the joint type according to project drawings before ordering.
- ④ The products are only applicable to indoor gravity drainage, not for pressure fluid transportation.
- ⑤ Customized pipe lengths and special fittings are available under ISO 3633 standard limits.
- ⑥ Complete pipes and supporting fittings are supplied for one-stop project procurement.