

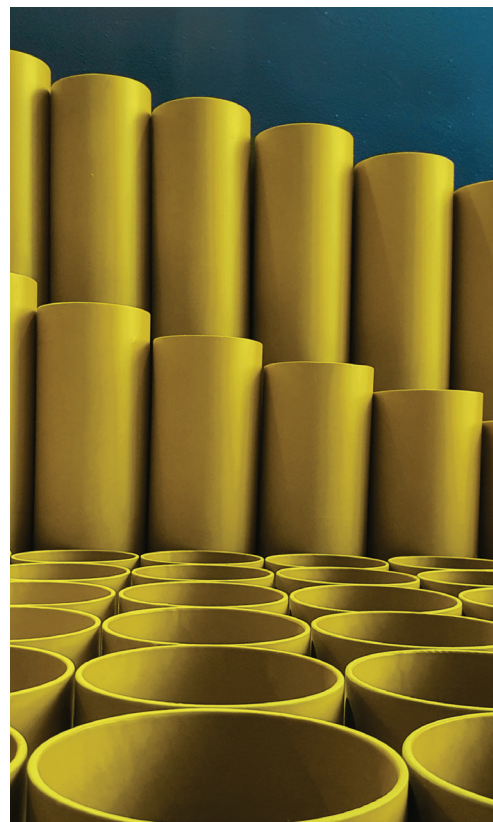


## PA-12 Gas Pipe

UPS's polyamide 12 (PA-12) gas pipe is made from Evonik Vestamid polyamide material that meets or exceeds regulatory, performance and cell classification standards for gas applications up to 250 psi. It is compliant with PHMSA requirements for regulated gas distribution operations and is compliant with all standard joining techniques designed for use with polyamide.

PA-12 is part of United Poly System's Stream-Line suite for applications in the oil and gas industry. The flexibility and light weight of HDPE make it easy to deliver, install and customize at the wellsite and allow gas lines to be deployed where necessary. The fusion-joint properties of HDPE mean that the joint is stronger than the pipe itself. UPS manufacturers PA-12 in  $\frac{3}{4}$ - to 6-in. diameter sizes in SDR 11 and SDR 13.5. PA-12 is shipped in 40- or 50-ft sticks and is also available on reels and coils.

HDPE enjoys more than 95% market share of the natural gas market. The light weight, flexibility and easy installation make it ideal for natural gas transmission for cities and municipalities, well site applications and cross-country transmission lines.



## ASTM Driven Quality Assurance

PA 12 meets or exceeds the applicable test standards listed in ASTM F2785-18a. These standards include:

### Initial Validation

- Resistance to Crack Propagation
- Short- and Long-Term Properties; D6779 and D2837
- Slow Crack Growth; F1473
- Outdoor Storage Stability; F2785-18a
- Chemical Resistance; D543
- Elevated Temperature Service; D2837

### Semi-Annual Testing

- Sustained Pressure; D1598

### Production Testing

- Dimensional Requirements; D2122
- Minimum Hydrostatic Burst Pressure; D1599



## Innovative Polyamide 12 Material Compared to Alternatives

### PA to PE

- Higher operating pressures, up to 250 psig
- No chemical deration
- Higher temperature performance
- Lower gas permeation
- Squeeze-off compatible
- Works with electrofusion and butt fusion
- More scratch and abrasion resistant for rocky soil

### PA to Steel

- Much faster install rate, no welding
- No need for 100% inspection of joints
- Spoolable up to 4-in.
- Can be hot-tapped
- Can be plowed and installed by Horizontal Directional Drilling (HDD)
- No reaction to sour or wet gas
- No cathodic protection required

## Available Sizes

IPS SIZE	AVG. OD	Min. Wall	Weight (lb/ft)
¾ in. SDR 11	1.050	0.095	0.087
1 in. SDR 11	1.315	0.120	0.154
1¼ in. SDR 11	1.660	0.151	0.240
1½ in. SDR 11	1.900	0.173	0.346
2 in. SDR 11	2.375	0.216	0.616
3 in. SDR 11	3.500	0.318	1.385
4 in. SDR 11	4.500	0.409	2.462
6 in. SDR 11	6.625	0.602	5.539
¾ in. SDR 13.5	1.050	0.078	0.072
1 in. SDR 13.5	1.315	0.097	0.128
1¼ in. SDR 13.5	1.660	0.123	0.199
1½ in. SDR 13.5	1.900	0.141	0.287
2 in. SDR 13.5	2.375	0.176	0.511
3 in. SDR 13.5	3.500	0.259	1.149
4 in. SDR 13.5	4.500	0.333	2.043
6 in. SDR 13.5	6.625	0.491	4.597

*These are nominal values and used as guidelines only.*

*This is not a product specification and does not indicate minimum or maximum operating values.*