

# GB-Gas: Copper Pipe Installation Volume, Leakage Rate Tables 2026



Volume Table For (Copper tube) +10% for fittings

M	15mm	22mm	28mm	35mm
	0.00014 (m <sup>3</sup> )	0.00032 (m <sup>3</sup> )	0.00054 (m <sup>3</sup> )	0.00084 (m <sup>3</sup> )
0.25	0.0000385	0.000088	0.0001485	0.000231
0.5	0.000077	0.000176	0.000297	0.000462
0.75	0.0001155	0.000264	0.0004455	0.000693
1	0.000154	0.000352	0.000594	0.000924
2	0.000308	0.000704	0.001188	0.001848
3	0.000462	0.001056	0.001782	0.002772
4	0.000616	0.001408	0.002376	0.003696
5	0.00077	0.00176	0.00297	0.00462
6	0.000924	0.002112	0.003564	0.005544
7	0.001078	0.002464	0.004158	0.006468
8	0.001232	0.002816	0.004752	0.007392
9	0.001386	0.003168	0.005346	0.008316
10	0.00154	0.00352	0.00594	0.00924
11	0.001694	0.003872	0.006534	0.010164
12	0.001848	0.004224	0.007128	0.011088
13	0.002002	0.004576	0.007722	0.012012
14	0.002156	0.004928	0.008316	0.012936
15	0.00231	0.00528	0.00891	0.01386
16	0.002464	0.005632	0.009504	0.014784
17	0.002618	0.005984	0.010098	0.015708
18	0.002772	0.006336	0.010692	0.016632
19	0.002926	0.006688	0.011286	0.017556
20	0.00308	0.00704	0.01188	0.01848
21	0.003234	0.007392	0.012474	0.019404
22	0.003388	0.007744	0.013068	0.020328
23	0.003542	0.008096	0.013662	0.021252
24	0.003696	0.008448	0.014256	0.022176
25	0.00385	0.0088	0.01485	0.0231
26	0.004004	0.009152	0.015444	0.024024
27	0.004158	0.009504	0.016038	0.024948
28	0.004312	0.009856	0.016632	0.025872
29	0.004466	0.010208	0.017226	0.026796
30	0.00462	0.01056	0.01782	0.02772
31	0.004774	0.010912	0.018414	0.028644
32	0.004928	0.011264	0.019008	0.029568
33	0.005082	0.011616	0.019602	0.030492
34	0.005236	0.011968	0.020196	0.031416
35	0.00539	0.01232	0.02079	0.03234
36	0.005544	0.012672	0.021384	0.033264
37	0.005698	0.013024	0.021978	0.034188
38	0.005852	0.013376	0.022572	
39	0.006006	0.013728	0.023166	
40	0.00616	0.01408	0.02376	
41	0.006314	0.014432	0.024354	
42	0.006468	0.014784	0.024948	
43	0.006622	0.015136	0.025542	
44	0.006776	0.015488	0.026136	
45	0.00693	0.01584	0.02673	
46	0.007084	0.016192	0.027324	
47	0.007238	0.016544	0.027918	
48	0.007392	0.016896	0.028512	
49	0.007546	0.017248	0.029106	
50	0.0077	0.0176	0.0297	

Domestic Natural Gas Onsite Guides

## Meter Volume

U6 / G4	E6 / E6s	U16 / G10	
<b>0.008</b>	<b>0.0024</b>	<b>0.025</b>	m3

1 Add up the volume for the pipe and fittings for each diameter pipe. Add on the Meter volume to get the installation volume.

Example: 7m of 15mm pipe, 6m of 22mm pipe and a G4 meter

7m	15mm	0.001078	m3
6m	22mm	0.002112	m3
	28mm		m3
	35mm		m3

Total Pipe Volume 0.00319 m3

Note: the 10% for fittings is already added in the

2 Now Add the Meter Volume

G4	<b>0.008</b>	m3
Total Installation Volume	<u>0.01119</u>	m3

3 NG Leakage allowance

Installation Volume m3	Allowable Drop
≤0.005	<b>8mb</b>
>0.005 ≤0.010	<b>4mb</b>
>0.010 ≤0.015	<b>2.5mb</b>
>0.015 ≤0.035	<b>1mb</b>

3 LPG Gas Leakage allowance

Installation Volume m3	Allowable Drop
≤0.0025	<b>2mb</b>
>0.0025 ≤0.005	<b>1mb</b>
>0.005 ≤0.010	<b>0.5mb</b>
>0.010 ≤0.035	<b>NPM</b>

Example: the leakage rate would be a maximum of 2.5mb NG, or No Perceptible movement for LPG the leak must not be in the pipework, there must be no smell of gas. See the tightness testing flow chart.

4 Purge Volume, Take the installation volume and multiply by 1.5.

Example the Purge Volume is  $0.01119 \times 1.5 = 0.0168$  m3

For imperial meters the metric value x 35.5 =  $0.0168 \text{m}^3 \times 35.5 = 0.596$  ft3

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# GB-Gas: Low Carbon Steel / Trac Pipe Installation

## Volume, Leakage Rate , PV Tables 2026



Volume Table For (MI & TRAC tube) +10% for fittings

M	15mm ½"	20mm ¾"	25mm 1"	32mm 1¼"
	0.00024 (m³)	0.00046 (m³)	0.00064 (m³)	0.0011 (m³)
0.25	0.000066	0.0001265	0.000176	0.0003025
0.5	0.000132	0.000253	0.000352	0.000605
0.75	0.000198	0.0003795	0.000528	0.0009075
1	0.000264	0.000506	0.000704	0.00121
2	0.000528	0.001012	0.001408	0.00242
3	0.000792	0.001518	0.002112	0.00363
4	0.001056	0.002024	0.002816	0.00484
5	0.00132	0.00253	0.00352	0.00605
6	0.001584	0.003036	0.004224	0.00726
7	0.001848	0.003542	0.004928	0.00847
8	0.002112	0.004048	0.005632	0.00968
9	0.002376	0.004554	0.006336	0.01089
10	0.00264	0.00506	0.00704	0.0121
11	0.002904	0.005566	0.007744	0.01331
12	0.003168	0.006072	0.008448	0.01452
13	0.003432	0.006578	0.009152	0.01573
14	0.003696	0.007084	0.009856	0.01694
15	0.00396	0.00759	0.01056	0.01815
16	0.004224	0.008096	0.011264	0.01936
17	0.004488	0.008602	0.011968	0.02057
18	0.004752	0.009108	0.012672	0.02178
19	0.005016	0.009614	0.013376	0.02299
20	0.00528	0.01012	0.01408	0.0242
21	0.005544	0.010626	0.014784	0.02541
22	0.005808	0.011132	0.015488	0.02662
23	0.006072	0.011638	0.016192	0.02783
24	0.006336	0.012144	0.016896	0.02904
25	0.0066	0.01265	0.0176	0.03025
26	0.006864	0.013156	0.018304	0.03146
27	0.007128	0.013662	0.019008	0.03267
28	0.007392	0.014168	0.019712	0.03388
29	0.007656	0.014674	0.020416	
30	0.00792	0.01518	0.02112	
31	0.008184	0.015686	0.021824	
32	0.008448	0.016192	0.022528	
33	0.008712	0.016698	0.023232	
34	0.008976	0.017204	0.023936	
35	0.00924	0.01771	0.02464	
36	0.009504	0.018216	0.025344	
37	0.009768	0.018722	0.026048	
38	0.010032	0.019228	0.026752	
39	0.010296	0.019734	0.027456	
40	0.01056	0.02024	0.02816	
41	0.010824	0.020746	0.028864	
42	0.011088	0.021252	0.029568	
43	0.011352	0.021758	0.030272	
44	0.011616	0.022264	0.030976	
45	0.01188	0.02277	0.03168	
46	0.012144	0.023276	0.032384	
47	0.012408	0.023782	0.033088	
48	0.012672	0.024288	0.033792	
49	0.012936	0.024794	0.034496	
50	0.0132	0.0253		

Meter Volume

U6 / G4	E6 / E6s	U16 / G10	
0.008	0.0024	0.025	m3

1 Add up the volume for the pipe and fittings for each diameter pipe. Add on the Meter volume to get the installation volume.

Example: 7m of 15mm pipe, 6m of 20mm pipe and a G4 meter

7m	15mm ½"	0.001848	m3
6m	20mm ¾"	0.003036	m3
	25mm 1"		m3
	32mm 1¼"		m3
Total Pipe Volume		0.004884	m3

Note: the 10% for fittings is already added in the table

2 Now Add the Meter Volume

G4	0.008	m3
Total Installation Volume	0.012884	m3

3 NG Leakage

Installation Volume m3	Allowable Drop
≤0.005	8mb
>0.005 ≤0.010	4mb
>0.010 ≤0.015	2.5mb
>0.015 ≤0.035	1mb

3 LPG Gas

Installation Volume m3	Allowable Drop
≤0.0025	2mb
>0.0025 ≤0.005	1mb
>0.005 ≤0.010	0.5mb
>0.010 ≤0.035	NPM

Example: the leakage rate would be a maximum of 2.5mb NG, No Perceptible movement for LPG the leak must not be in the pipework, there must be no smell of gas. See the tightness testing flow chart.

4 Purge Volume, Take the installation volume and multiply by 1.5.

For the example: The Purge Volume is 0.012884 x 1.5 = 0.0193 m3 Metric

For imperial meters the metric value x 35.5 = 0.0193m3 x 35.5 = 0.686 ft3