

KEMBLA GAS

Flow Safety Synergy



Flow Safety Synergy 

Certified Product

Australian Standard

KEMBLA GAS

- Kembla Gas is a multilayer piping system, incorporating a layer of aluminum between an inner layer of PE-X and an outer layer of HDPE, creating a flexible solution with the advantages of both plastic and metal pipes with a service life of 50+ years.
- Solid DZR Brass fittings with robust copper rings with depth inspection windows and the longest joining barb on the market ensures a gas tight joint every time.
- Kembla Gas has no O'Rings, this results in increased bore size and better flow and removes the risk of installer error due to dirty, damaged or dislodged O'Rings.
- A simple "Press" jointing system results in quick and simple installation.
- The Kembla Gas system complies with Australian Standards AS4176 and is backed by Kembla's ISO 9001 quality system and approved by SAI Global.
- Kembla Gas DZR fittings are forged brass resulting in superior mechanical properties with greater fatigue resistance.
- Kembla Gas carries a 25 year warranty and is covered by Kembla's comprehensive insurance cover.

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Quality Piping Systems Since 1916

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SIMPLE INSTALLATION



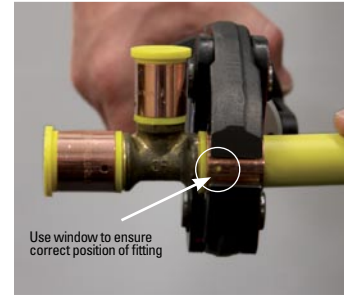
1. Cut pipe at right angle



2. Round end of pipe



3. Insert fitting

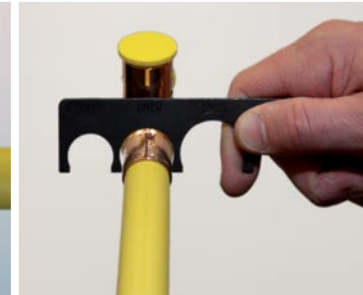


Use window to ensure correct position of fitting

4. Observe window, position tool and crimp



5. Crimped fitting



6. Test with Kembla Gas gauge



Romax Battery Crimping Tool



Manual Crimping Tool



Battery Tool Heads

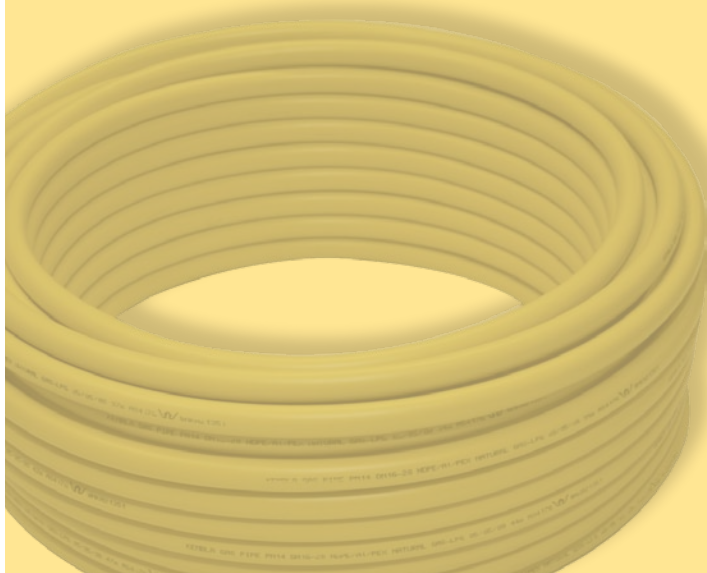
Tooling • Kembla Gas requires a crimp type tool to press the joints. Kembla Gas has available 3 types of tooling including a battery tool. Other brands of press tooling may be suitable for Kembla Gas, please consult your Kembla representative.



MM Kembla NZ Ltd warrants Kembla Gas pipes and fittings for a period of 25 years against faulty materials or workmanship.
*Please refer to the Kembla Pex technical manual for conditions.

PIPE TECHNICAL DATA

	EXTERNAL DIAMETER			
	16mm	20mm	25mm	32mm
Wall thickness (mm)	2	2.25	2.5	3
Material	HDPE/AL/PEX	HDPE/AL/PEX	HDPE/AL/PEX	HDPE/AL/PEX
Operating pressure (max)	70kPa	70kPa	70kPa	70kPa
Linear Expansion	2.5mm for every 10°C temp change per 10 metres	2.5mm for every 10°C temp change per 10 metres	2.5mm for every 10°C temp change per 10 metres	2.5mm for every 10°C temp change per 10 metres
Pipe internal roughness	0.007	0.007	0.007	0.007
Oxygen diffusion	Impervious	Impervious	Impervious	Impervious
Service Life	50+ years	50+ years	50+ years	50+ years
Bending radius (min with bender mm)	50	60	100	130
Bending radius (by hand mm)	80	100	200	-
Support and Clipping Clip spacing	1000	1250	1500	2000



APPLICATIONS AND LIMITATIONS

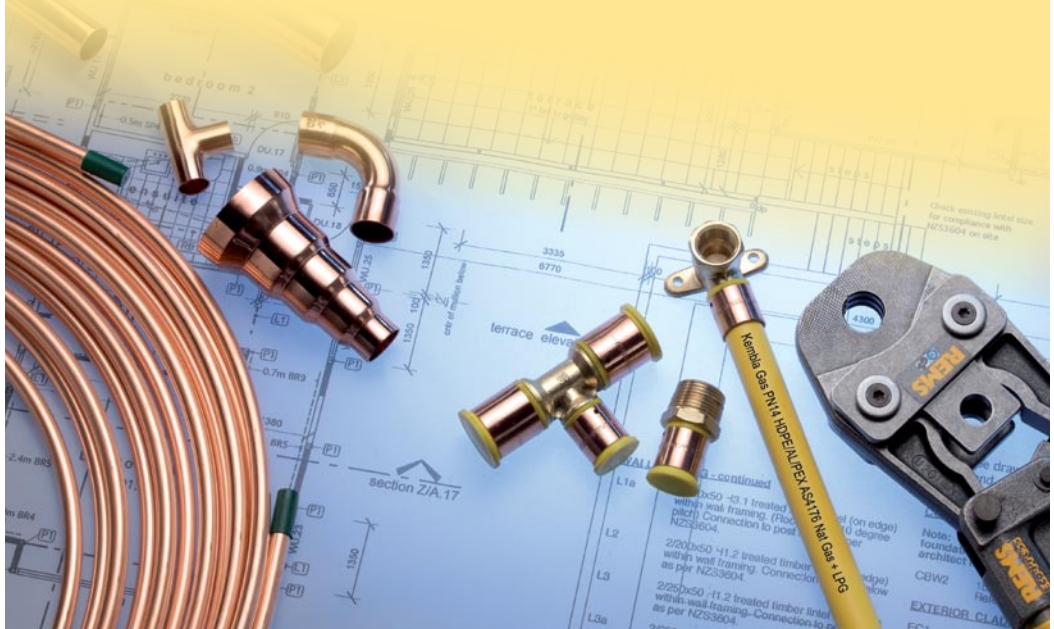
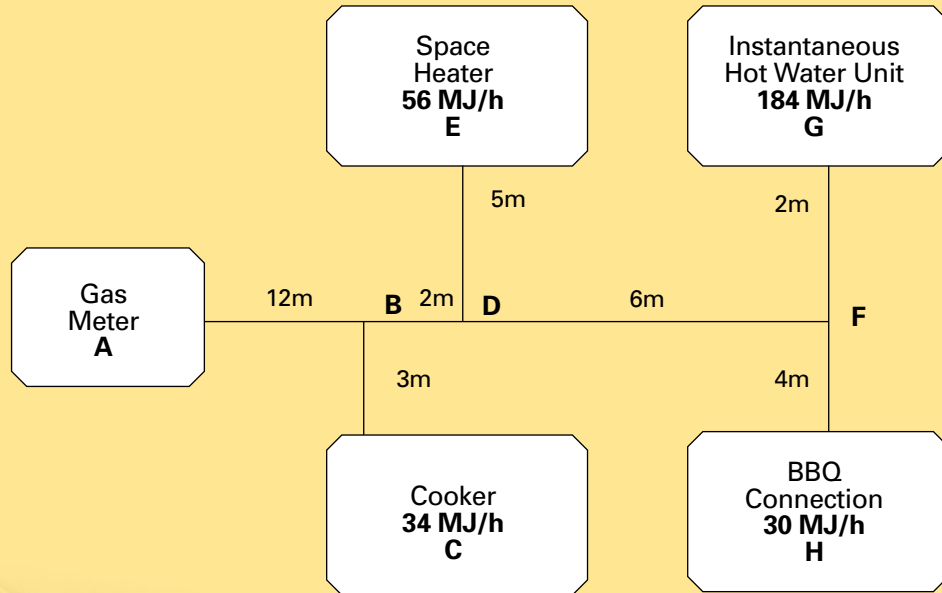
- Kembla Gas must only be installed by or under the supervision of a registered Craftsman Gasfitter.
- Kembla Gas is designed for transporting Natural Gas and LPG within a commercial or residential building application for the purpose of supplying gas appliances.
- Kembla Gas pipe and fittings are rated for a maximum temperature of 40°C and a maximum operating pressure of 70kPa.
- Kembla Gas pipe must be protected from UV exposure. If UV exposure is likely, Kembla Gas must be lagged or sleeved.
- Kembla Gas pipe in a continuous length without joints may be installed underground external to or under the building, or in concrete in accordance with NZS 5261.
- Allowance must be made for expansion and contraction caused by external temperature changes by way of off set or U bends.
- Damage to pipe and fittings by dragging on rough surfaces, the ingress of foreign materials or liquids must be avoided. All components must be deemed damage free before installation. Protect fittings from corrosive substances at all time. Other physical damage including human, mechanical or rodents must be protected against.
- Only Kembla Gas approved tooling should be used on Kembla Gas pipe and fittings.

KEMBLA GAS PIPE SIZING CHARTS

1. Natural Gas 1.1kPa (Pressure Drop .1kPa) or 10%	Od(mm) / metres	4	6	8	10	12	14	16	18	20	22	25	28	30	35	40	45	50	55	60	Fittings
	16mm	80	64	55	48	43	40	37	35	33	29	27	27	26	24	23	21	20	19	18	1.2
	20mm	172	138	117	104	83	85	80	75	70	67	62	59	57	52	48	45	42	34	38	1.1
	25mm	313	249	213	187	170	156	145	136	128	122	113	106	102	94	87	75	77	73	69	0.4
	32mm	629	503	428	378	342	314	291	273	258	244	228	213	206	188	175	164	155	146	140	0.5
2. Natural Gas 1.5kPa (Pressure Drop .15kPa) or 10%	Od(mm) / metres	4	6	8	10	12	14	16	18	20	22	25	28	30	35	40	45	50	55	60	Fittings
	16mm	96	76	65	58	52	47	44	41	39	37	34	32	31	29	27	25	24	23	22	1.2
	20mm	205	158	140	124	111	102	95	89	84	79	74	70	67	62	57	54	50	47	45	1.1
	25mm	372	298	253	224	202	185	172	162	152	144	135	127	122	111	104	97	85	87	82	0.4
	32mm	750	598	510	450	407	374	347	325	410	290	271	254	245	225	208	196	184	175	167	0.5
3. Natural Gas 2.75kPa (Pressure Drop .275kPa) or 10%	Od(mm) / metres	4	6	8	10	12	14	16	18	20	22	25	28	30	35	40	45	50	55	60	Fittings
	16mm	135	107	92	80	73	67	62	59	55	53	48	45	44	40	37	35	33	31	30	1.4
	20mm	289	231	197	174	158	144	134	126	118	112	105	98	95	87	80	75	65	68	64	1.3
	25mm	525	419	357	315	285	262	243	228	214	204	190	178	171	158	146	137	129	123	116	0.75
	32mm	1057	844	657	636	574	527	489	458	433	410	382	358	345	316	294	275	260	246	235	0.5
4. Natural Gas 2.75kPa (Pressure Drop .55kPa) or 20%	Od(mm) / metres	4	6	8	10	12	14	16	18	20	22	25	28	30	35	40	45	50	55	60	Fittings
	16mm	198	158	135	118	107	99	92	85	80	76	71	67	65	59	55	52	48	46	44	1.2
	20mm	425	340	289	255	231	212	197	184	174	165	153	144	139	128	118	111	105	99	95	1.1
	25mm	771	616	525	464	419	384	357	335	315	300	279	262	252	231	214	201	190	180	171	0.4
	32mm	1553	1240	1057	933	844	775	719	674	636	603	561	527	507	466	433	405	382	363	345	0.5
5. Natural Gas 7.0kPa (Pressure Drop .7kPa) or 10%	Od(mm) / metres	4	6	8	10	12	14	16	18	20	22	25	28	30	35	40	45	50	55	60	Fittings
	16mm	231	184	158	139	126	115	107	100	95	90	83	78	75	69	64	60	57	54	52	2
	20mm	497	398	339	299	270	248	231	215	204	193	179	169	163	149	138	130	123	116	110	1.2
	25mm	902	720	614	542	490	450	417	391	369	350	325	306	295	270	251	235	221	210	201	1
	32mm	1816	1449	1235	1092	986	905	840	787	743	705	656	616	592	544	505	473	446	423	404	0.8
6. LPG Gas 2.75kPa (Pressure Drop .275kPa) or 10%	Od(mm) / metres	4	6	8	10	12	14	16	18	20	22	25	28	30	35	40	45	50	55	60	Fittings
	16mm	217	173	147	131	118	108	101	94	89	84	78	74	71	65	61	57	54	50	48	1.4
	20mm	468	374	318	281	254	233	216	203	192	181	169	159	152	140	130	122	115	109	104	1.3
	25mm	848	677	577	510	460	423	392	368	247	329	306	287	277	254	236	221	208	198	188	0.8
	32mm	1707	1363	1162	1026	927	851	790	741	698	662	617	579	557	512	475	445	419	398	379	0.5

GAS PIPE SIZING

Gas pipe sizing is crucial to the correct performance of the connected gas appliances, pipe must be sized correctly to provide enough gas to each appliance under all conditions.



GAS PIPE SIZING

Step 1:

Sketch pipe layout and add total appliance MJ/h ratings together for a total installation load. ($56 + 184 + 34 + 30 = 304$ MJ/h).

Step 2:

Identify the pipe path with the biggest load. (A-G) and calculate the length of the path in metres ($12 + 2 + 6 + 2 = 22$ m).

Step 3:

Consult the appropriate Kembla Gas Pressure loss chart (this example uses chart #3 - 2.75 kPa with .275kPa or 10% pressure drop) and find the equal or greater metres value for step 2 along top of chart (22 metres). Take the total rating from step 1 which was 304 MJ/h and look down the chart until you locate the equal or next highest MJ/h rating (410 MJ/h). The far right hand column indicates the fittings allowance factor (0.5).

Step 4:

Calculate the number of fittings on the (A-G) pipe run, in this case 5 fittings were used. Now multiply the fittings factor in step 3 by the number of fittings used ($5 \times .5 = 2.5$ metres). Add 2.5 metres to your original pipe run length, ($22 + 2.5 = 24.5$ m).

* note: every fitting in the pipe run should be included except straight joiners.

Step 5:

Now using the new pipe length of 24.5 metres, find the equal or next highest metres value on chart #3 as in step 3 (25m) and look down the chart until you locate the equal or next highest MJ/h rating (382 MJ/h). Look at the left hand column to determine the correct pipe size for this run (32mm). You have just sized run (A-G).

Step 6:

Using the same 25 metre portion of the chart #3, match the MJ/h ratings flowing through each section of pipe work to the equal or next highest MJ/h rating in the chart to determine the individual pipe size for each section

Answers:

- A-B = 304 MJ/h = 32mm
- B-D = 270 MJ/h = 32mm
- B-C = 34 MJ/h = 16mm
- D-E = 56 MJ/h = 20mm
- D-F = 214 MJ/h = 32mm
- F-G = 184 MJ/h = 25mm
- F-H = 30 MJ/h = 16mm

KEMBLA GAS RANGE

Kembla Gas Pipe

Diameter	Wall	Length & Code	
16mm	2.0mm	50m PEX016C50GAS	5m PEX016L5GAS
20mm	2.25mm	50m PEX020C50GAS	5m PEX020L5GAS
25mm	2.5mm	50m PEX025C50GAS	5m PEX025L5GAS
32mm	3.0mm	25m PEX032C25GAS	5m PEX032L5GAS



KEMBLA GAS FITTINGS

Connectors			
PCB016GAS	16mm connecting barb	10 pack	
PCB020GAS	20mm connecting barb	10 pack	
PCB025GAS	25mm connecting barb	10 pack	
PCB032GAS	32mm connecting barb	5 pack	

PCC016GAS	16mm connector	10 pack	
PCC020GAS	20mm connector	10 pack	
PCC025GAS	25mm connector	10 pack	
PCC032GAS	32mm connector	5 pack	

PRR02016GAS	20mm x 16mm reducing connector	10 pack	
PRR02516GAS	25mm x 16mm reducing connector	10 pack	
PRR02520GAS	25mm x 20mm reducing connector	10 pack	
PRR03225GAS	32mm x 25mm reducing connector	5 pack	

PCC016FTGAS	16mm straight connector x 1/2" female thread	10 pack	
PCC016FT20GAS	16mm straight connector x 3/4" female thread	10 pack	
PCC020FT15GAS	20mm straight connector x 1/2" female thread	10 pack	
PCC020FTGAS	20mm straight connector x 3/4" female thread	10 pack	
PCC025FT20GAS	25mm straight connector x 3/4" female thread	10 pack	
PCC025FTGAS	25mm straight connector x 1" female thread	5 pack	
PCC032FT25GAS	32mm straight connector x 1" female thread	5 pack	

PCC016MTGAS	16mm straight connector x 1/2" male thread	10 pack	
PCC016MT20GAS	16mm straight connector x 3/4" male thread	10 pack	
PCC020MT15GAS	20mm straight connector x 1/2" male thread	10 pack	
PCC020MTGAS	20mm straight connector x 3/4" male thread	10 pack	
PCC025MT20GAS	25mm straight connector x 3/4" male thread	10 pack	
PCC025MTGAS	25mm straight connector x 1" male thread	10 pack	
PCC032MT25GAS	32mm straight connector x 1" male thread	10 pack	
PCC032MTGAS	32mm straight connector x 1-1/4" male thread	10 pack	

Elbows 90°	PEN016GAS	16mm 90° elbow	10 pack	
	PEN020GAS	20mm 90° elbow	10 pack	
	PEN025GAS	25mm 90° elbow	5 pack	
	PEN032GAS	32mm 90° elbow	5 pack	

KEMBLA GAS FITTINGS

PEN016MTGAS	16mm 90° elbow x 1/2" male thread	10 pack	
PEN020MT15GAS	20mm 90° elbow x 1/2" male thread	10 pack	
PEN020MTGAS	20mm 90° elbow x 3/4" male thread	10 pack	
PEN025MTGAS	25mm 90° elbow x 1" male thread	10 pack	

PEN016FTGAS	16mm 90° elbow x 1/2" female thread	10 pack	
PEN020FT15GAS	20mm 90° elbow x 1/2" female thread	10 pack	
PEN020FTGAS	20mm 90° elbow x 3/4" female thread	10 pack	

PCT01615GAS	16mm x 15mm plumbing copper tail x 330mm	1 pack	
PCT01613GAS	16mm x 13mm refrigeration copper tail x 330mm	1 pack	
PCT01610GAS	16mm x 10mm refrigeration copper tail x 330mm	1 pack	
PCT02020GAS	20mm x 20mm plumbing copper tail x 330mm	1 pack	

PCC016FL13RGAS	16mm x 13mm refrigeration copper flare fitting	10 pack	
PCC020FL19RGAS	20mm x 19mm refrigeration copper flare fitting	10 pack	

PWB016FTGAS	16mm wingback x 1/2" female thread	10 pack	
PWB020FT15GAS	20mm wingback x 1/2" female thread	5 pack	
PWB020FTGAS	20mm wingback x 3/4" female thread	5 pack	

PWB016MT65GAS	16mm wingback x 1/2" male thread x 65mm	5 pack	
PWB016MT90GAS	16mm wingback x 1/2" male thread x 90mm	5 pack	
PWB016MT150GAS	16mm wingback x 1/2" male thread x 150mm	5 pack	
PWB016MT200GAS	16mm wingback x 1/2" male thread x 200mm	5 pack	

Tees			
PTE016GAS	16mm equal tee	10 pack	
PTE020GAS	20mm equal tee	10 pack	
PTE025GAS	25mm equal tee	5 pack	
PTE032GAS	32mm equal tee	3 pack	

PTR0201620GAS	20 x 16 x 20 reducing tee	10 pack	
PTR0252025GAS	25 x 20 x 25 reducing tee	5 pack	
PTR0201616GAS	20 x 16 x 16 reducing tee	10 pack	
PTR0322532GAS	32 x 25 x 32 reducing tee	3 pack	
PTR0202016GAS	20 x 20 x 16 reducing tee	10 pack	
PTR0252520GAS	25 x 25 x 20 reducing tee	5 pack	

PRING016GAS	16mm gas crimp ring assembly	10 pack	
PRING020GAS	20mm gas crimp ring assembly	10 pack	
PRING025GAS	25mm gas crimp ring assembly	10 pack	
PRING032GAS	32mm gas crimp ring assembly	10 pack	

Accessories			
PEP016GAS	16mm end plug	20 pack	
PEP020GAS	20mm end plug	20 pack	
PEP025GAS	25mm end plug	10 pack	
PEP032GAS	32mm end plug	10 pack	

PCLIP016	16mm black open clip	100 pack	
PCLIP020	20mm black open clip	100 pack	
PCLIP025	25mm black open clip	100 pack	



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