

iPLeX
Pipelines

K1™

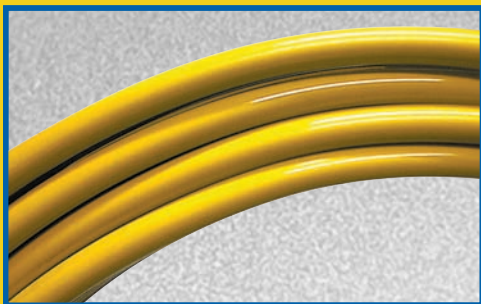
Composite Gas Pipe System Installation Guidelines



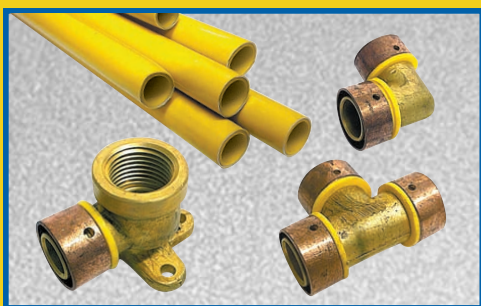
iPLeX
Pipelines

The future of gas piping...

Iplex K1™ gas pipe system



- Flexible composite pipe.
- 16mm, 20mm and 25mm in 50m coils, and 32mm in 25m coils.
- 16mm, 20mm, 25mm, 32mm, 40mm and 50mm in 5m lengths.



- IPLEX K1™ high integrity brass fittings.



- Crimping & rounding tools.

That's all – no brazing, soldering, gases, silver oxides or fluxes. No lugging heaps of gear around or going back for forgotten bits and pieces. That means substantial savings on equipment and time.

INTRODUCTION

This manual contains information on the installation of the IPLEX K1™ composite gas pipe and fittings system. The IPLEX K1™ system should be installed as per the requirement of AS/NZS 5601.1. The system is intended for use by licensed gas fitters, trained and accredited by Iplex in the IPLEX K1™ system.

IPLEX K1™ offers an integrated system that is flexible enough to be bent by hand, is extremely light weight and corrosion resistant. In particular, no brazing or soldering is necessary. When installed by a trained and licensed tradesman, the system is of high quality and economical to use.



Pipe

Composite PE/Al/PE pipe

The multi layer composite pipe consists of 5 layers;

- Inner layer: PE-HD, colour is yellow.
- Coupling agent
- Aluminium
- Coupling Agent
- Outer layer: PE-HD, colour is yellow.

Both the inner and outer layers comprise of high density polyethylene (PE-HD) which provides excellent impact strength.

The composite plastic aluminium pipe offers a lot of advantages besides the diffusion density: the pipe is dimensionally stable and still flexible. Fittings can be minimised due to the flexible nature of the pipe. The pipe is also corrosion resistant.

Table 1.1 Dimensions of IPLEX K1™ composite pipe

Nom. outside diameter	Mean bore
DN16 – 16 mm	12.0 mm
DN20 – 20 mm	15.5 mm
DN25 – 25 mm	20.0 mm
DN32 – 32 mm	25.9 mm
DN40 – 40 mm	32.0 mm
DN50 – 50 mm	41.0 mm

Fittings

IPLEX K1™ gas fittings are specially designed and engineered to complement the IPLEX K1™ aluminium plastic composite pipe for gas use. The IPLEX K1™ system has a comprehensive range of fittings that are suitable for general gas use. Each box contains an informative installation instruction leaflet.

DR brass fittings

IPLEX K1™ brass fittings are fully dezincification resistant to Australian Standards and are precision CNC machined. DR brass is brass that has been heat treated and chemically enhanced to make it resistant to the loss of zinc i.e. dezincification resistant. Brass that is not dezincification resistant can be subject to corrosion.

Copper crimp sleeves.

All IPLEX K1™ fittings have a copper crimp sleeve with a pipe depth insertion window to provide visible assurance that the pipe has been pushed fully home.

The copper crimp sleeves are held on the fitting by a distinctive “**gas yellow**” crimp sleeve retainer.

Table 1.2 Dimensions of IPLEX K1™ composite pipe fittings

Nom. outside diameter	Mean bore
DN16 – 16 mm	8.6 mm
DN20 – 20 mm	12.1 mm
DN25 – 25 mm	16.7 mm
DN32 – 32 mm	20.3 mm
DN40 – 40 mm	26.0 mm
DN50 – 50mm	34.7 mm



Crimping tools

The crimping tools are precision instruments engineered to ensure a simple, effective joint. The principle of this jointing method has been well proven in many engineering applications in Australia. It is extensively used around the world for gas, hot and cold water plumbing and in-floor heating.

With crimping tools care should be taken to ensure that moving parts are not damaged. Please refer to individual tool instructions for maintenance and correct use. Calliper gauges are supplied with all tools to check that the copper ring has been properly crimped. Only use the correct Iplex tools to crimp the IPLEX K1™ system.

Approvals

IPLEX K1™ pipe has been tested and performs to AS4176-8.

IPLEX K1™ fittings and joints have been tested to AS4176-8.

GENERAL INSTRUCTIONS

Installation of IPLEX K1™ should be carried out by a qualified, licensed gasfitter. A licensed gasfitter must also have successfully completed the IPLEX K1™ gas system-training course and have been accredited by Iplex Pipelines.

Installation of the IPLEX K1™ gas system must be in accordance with Iplex Pipelines' training course and the guidelines. The installer should also ensure the requirements of the Gas Installation Code (AS/NZS 5601.1) are adhered to.

The Local Authority codes and by-laws relevant to gas installation may take precedence where they are at variance.

JOINTING PROCEDURES – Crimped connections

Step 1 Cut pipe squarely with the IPLEX K1™ pipe cutter, Iplex Part No. REMSPIECUTTER, FK203064700 or REMSPIECUTTER63. Do not use a hack saw.



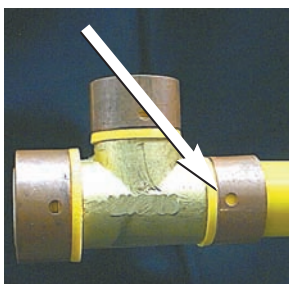
Step 2 Calibrate pipe with the IPLEX rounding tool. Part No. FK1RNDTOOL.



Step 3 Slide the pipe onto the fitting until it stops. If fitted correctly, the pipe should be visible through both crimp sleeve windows (arrowed below).

The fitting must be assembled with the copper ring attached to the yellow plastic retainer to ensure the brass does not come into contact with the aluminium in the pipe and to ensure a secure joint.

Ensure that the copper ring is firmly attached to the plastic retainer ring. If the copper ring has moved away from the plastic retainer ring, push it back onto the plastic retainer ring by hand before crimping.



JOINTING PROCEDURES *continued*

Step 4 Open crimp jaws all the way apart. Position crimp jaws squarely over the copper crimp ring, i.e. at 90° to the pipeline. For hand tools ensure that the full jaw width of the tool makes contact with the copper ring when crimping. For power tools crimp the jaws over the full width of the copper ring. Avoid crimping the plastic retainer ring. Close the crimp tool jaws fully over the copper crimp ring. Open the crimp tool jaws and remove the crimp tool from the crimped fitting.



JOINTING PROCEDURES Continued

Step 5 Use the IPLEX calliper gauge supplied with the tool to check each and every joint. Gauge tips must fit over the crimped copper ring at 90° to the tool jaw split line. Permanently tight connections can only be guaranteed with Iplex approved tools. The tools have to be protected against dirt and damage and cleaned regularly.



Under-crimping

Under-crimping (i.e. when the gauge will not pass over copper ring) can occur when:

1. The crimping tool has not been completely closed.
2. The crimping tool is out of adjustment (readjustment should be made in accordance with the instructions supplied with the tool).

How to avoid a faulty connection

The IPLEX K1™ gas pipe jointing system is simple and effective to use when executed in accordance with the jointing procedures. However, if sufficient care is not taken, the consequences can be improper sealing, and a potential for leaks.

The most likely faulty connections occur when:

1. The crimp sleeve has moved away from the body of the fitting.
2. The crimping tool has not been centred over the crimp sleeve, and thus the sleeve has only been partially crimped.

JOINTING PROCEDURES Continued

3. The pipe has not been pushed fully home on to the fitting when the crimp has been made.
4. Pipe has not been cut squarely.
5. Tools are poorly maintained or damaged.

If an incorrect joint is detected :

- Cut out the defective joint and replace with new IPLEX K1™ gas pipe fitting.

If the pipe is kinked or damaged:

- The faulty section of the pipe should be replaced.

IPLEX K1™ gas to other composite pipe, copper pipe, steel pipe systems or appliances

Threaded fittings – brass or copper threaded fittings should not be used to connect with other non-metallic threaded fittings. Use an approved gas thread sealant to seal all threaded fittings.

When using brazing tails to connect copper pipe or metal fittings to IPLEX K1™ pipe, always braze the brazing tail to the copper pipe or metal fittings first and allow it to cool before assembling the IPLEX K1™ pipe.

At least four ribs should be shown on the brazing tails to allow for an effective joint to be made.

It is recommended that silver brazing alloys are used and that all flux deposits are removed once the joint has been made.

Excessive heat can damage IPLEX K1™ gas composite pipe. When brazing copper pipes or fittings near IPLEX K1™ pipe it is recommended a damp rag be used to protect the pipe from potential damage.

JOINTING PROCEDURES Continued

Future extension

To allow for future extension to the system the following configurations are suggested.

1. Tee piece joined to a small length of pipe, then joined to a male iron adaptor and sealed with a threaded cap.



2. Male threaded off-take tee sealed with a threaded cap.



Testing and inspection procedures.

Testing procedures should be as per the requirements of AS/NZS 5601.1 – the Australian Standard for Gas Installations – and/or any Local Authority requirements.

While the system is under test, all joints and fittings should be inspected for leaks and to ensure that the pipe has been fitted correctly and crimped in accordance with IPLEX K1™ gas installation instructions.

INSTALLATION PROCEDURES

Pipe bending

Due to the pipe's inherent flexibility IPLEX K1™ gas pipe can be bent easily around obstructions or through studs and plates with minimum use of fittings. Care should be taken not to kink or damage the pipe. Never apply bending forces to a crimped fitting. Pipe must always be bent prior to crimping the fitting.

It is recommended that the minimum **hand-bending** radius be 5 times the outside diameter of the pipe for 16mm and 20mm pipe and 8 times the outside diameter for 25mm pipe. If this is not possible an IPLEX K1™ gas elbow should be used. If for any reason the pipe is kinked or damaged, the faulty section should be replaced.

It is recommended that the minimum **spring-bending** radius be 3 times the outside diameter of the pipe for 16mm and 20mm pipe and 4 times the outside diameter for 25mm and 32mm pipe. If this is not possible an IPLEX K1™ gas elbow should be used. If for any reason the pipe is kinked or damaged, the faulty section should be replaced.

Table 1.3 Minimum hand-bending radius

16mm pipe	80mm min. radius
20mm pipe	100mm min. radius
25mm pipe	200mm min. radius

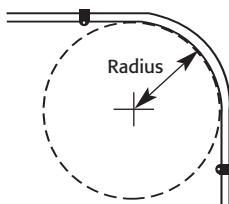
Table 1.4 Minimum spring-bending radius

16mm pipe	48mm min. radius
20mm pipe	60mm min. radius
25mm pipe	100mm min. radius
32mm pipe	128mm min. radius

Minimum mechanical-bending radius

40mm pipe	400mm min. radius
50mm pipe	500mm min. radius

Fig 1.1 Minimum bending radius



INSTALLATION PROCEDURES Continued

Clipping

In accordance with AS/NZS 5601·1, IPLEX K1™ composite pipe installed above ground shall be retained in position by clips at intervals complying with the table below:

Table 1.5 The use of pipe clips

Nom. pipe diameter	Horizontal or graded pipes	Vertical pipes
16mm	1,000mm	1,000mm
20mm	1,250mm	1,250mm
25mm	1,500mm	1,500mm
32mm	2,000mm	2,000mm
40mm	2,000mm	2,000mm
50mm	2,000mm	2,000mm

Timber and metal framework

Holes drilled in studs or plate's etc shall be accurately sized to allow for longitudinal movement, thermal expansion and contraction of the pipe.

In metal framework suitable grommets or a sleeve must be installed to minimize abrasion and physical damage to the pipe.

Note: Use of silicone and other such materials is not required and could be detrimental to the pipe.

Corrosive environment

As per the requirements of AS/NZS 5601·1 and/or Local Authority requirements, pipes and fittings installed in a potentially corrosive environment must be protected, i.e. marine environments.

Protection from physical damage

As per the requirements of AS/NZS 5601·1 and/or Local Authority requirements, pipes and fittings must be protected against physical damage. This includes, but is not limited to, physical damage caused by exposure to direct sunlight, human activity, mechanical equipment, rodents or other animals. Installation is not permitted in caravans or marine crafts, as per AS/NZS 5601·1.

INSTALLATION PROCEDURES Continued

When IPLEX K1™ pipe is installed above the ground, it must be protected against degradation from exposure to ultraviolet light. IPLEX recommends that the pipe be lagged or sleeved, (refer to Local Authority Codes and By-laws).

Pipe buried underground must be at least 450mm deep and covered with marker tape, approximately 150mm above the pipe. If the pipe is buried under a building, there must be no joints in the pipe.

Chases, ducts or conduits

Pipes embedded in walls or floors must comply with the requirement of the appropriate building authority or local regulations.

Thermal expansion

As the lineal thermal expansion rate of IPLEX K1™ pipe is approximately 2.5mm for every 10°C temperature change for each 10 metres of pipe, care must be taken with the installation to allow for this potential movement of the pipe. IPLEX K1™ pipe should not be pulled tight between fixed points as this will prohibit movement if the pipe contracts, and result in excessive tensile forces on joints and fittings.

Note:

Manufacturer's label must be displayed near the meter or LPG cylinder. The label needs to indicate the brand of composite pipe, the location of the future extension tee and contact details. The label must not be attached to the meter or LPG cylinder as these may be exchanged.

SIZING TABLES FOR CRIMP FITTINGS (Natural Gas)

Flow through PE-HD/AL/PE-HD Composite Pipe Crimped Fittings (MJ/h)

Low Pressure

Pressure Drop 0.075kPa (Meter Pressure 1.1kPa) K1									
Nom. Size	Length of straight pipe in metres								
	2	4	6	8	10	12	14	16	18
16mm	84	58	46	40	35	32	29	26	23
20mm	168	116	93	80	70	64	59	55	51
25mm	328	226	181	155	138	125	115	107	100
32mm	660	454	364	312	276	250	230	214	201
40mm	1620	1064	838	700	615	553	503	467	434
50mm	2973	1942	1518	1273	1114	997	906	838	779

	20	25	30	35	40	45	50	55	60
16mm	21	17	14	12	11	9	8	8	7
20mm	48	43	39	35	30	27	24	22	20
25mm	95	84	76	70	65	61	58	55	52
32mm	190	168	153	140	131	123	116	110	105
40mm	408	355	320	290	270	253	236	223	211
50mm	731	637	570	519	478	447	419	395	375

Low Pressure

Pressure Drop 0.12kPa (Meter Pressure 1.25kPa) K1									
Nom. Size	Length of straight pipe in metres								
	2	4	6	8	10	12	14	16	18
16mm	109	75	60	51	45	41	38	35	33
20mm	217	149	120	103	91	82	76	70	66
25mm	424	291	234	200	177	161	148	138	129
32mm	851	585	470	402	356	323	297	276	259
40mm	2090	1372	1080	903	794	713	649	602	560
50mm	3835	2505	1959	1642	1438	1286	1169	1081	1005

	20	25	30	35	40	45	50	55	60
16mm	31	27	22	19	17	15	13	12	11
20mm	62	55	50	46	43	40	38	35	32
25mm	122	108	98	90	84	79	74	71	67
32mm	245	217	197	181	168	158	149	142	135
40mm	527	458	413	374	349	327	305	287	272
50mm	943	822	735	670	617	577	540	510	484

High Pressure

Pressure Drop 0.25kPa (Meter Pressure 2.75kPa) K1									
Nom. Size	Length of straight pipe in metres								
	2	4	6	8	10	12	14	16	18
16mm	161	111	89	76	68	61	56	52	49
20mm	323	222	178	153	135	122	113	105	98
25mm	629	433	348	298	264	239	220	205	192
32mm	1267	871	699	598	530	480	442	411	386
40mm	2930	1899	1474	1232	1058	948	865	799	730
50mm	5299	3573	2837	2417	2103	1899	1741	1624	1492

Note: **Every** fitting used within IPLEX K1™ system, including tees, elbows, reducers, meter connections, and appliance connections has an equivalence equal to **2.5 metres** of pipe.

SIZING TABLES FOR CRIMP FITTINGS (Natural Gas)

Flow through PE-HD/AL/PE-HD Composite Pipe Crimped Fittings (MJ/h)

High Pressure

Pressure Drop 0.25kPa (Meter Pressure 2.75kPa) K1									
Nom. Size	Length of straight pipe in metres								
	20	25	30	35	40	45	50	55	60
16mm	46	41	37	34	32	30	28	26	23
20mm	93	82	75	69	64	60	57	54	51
25mm	181	161	146	134	125	117	110	105	100
32mm	364	323	293	269	250	235	222	211	201
40mm	689	598	537	479	442	411	386	359	343
50mm	1417	1248	1132	1013	950	891	846	787	752

High Pressure (Vic, SA, Qld, Tas and NT).

Pressure Drop 0.75kPa (Meter Pressure 2.75kPa) K1									
Nom. Size	Length of straight pipe in metres								
	2	4	6	8	10	12	14	16	18
16mm	292	201	161	138	122	111	102	95	89
20mm	585	402	323	276	245	222	204	190	178
25mm	1142	785	630	539	478	433	398	371	348
32mm	2295	1577	1267	1084	961	871	801	745	699
40mm	5303	3438	2668	2229	1915	1717	1565	1446	1321
50mm	9591	6467	5135	4375	3806	3437	3151	2940	2701

	20	25	30	35	40	45	50	55	60
16mm	84	75	68	62	58	54	51	49	46
20mm	168	149	135	124	116	109	103	97	93
25mm	328	291	264	243	226	212	200	190	181
32mm	660	585	530	488	454	426	402	382	364
40mm	1247	1082	972	867	800	745	699	649	620
50mm	2564	2260	2049	1833	1720	1612	1531	1424	1362

High Pressure (NSW, WA)

Pressure Drop 1.50kPa (Meter Pressure 2.75kPa) K1									
Nom. Size	Length of straight pipe in metres								
	2	4	6	8	10	12	14	16	18
16mm	426	292	235	201	178	161	148	138	130
20mm	851	585	470	402	356	323	297	276	259
25mm	1661	1142	917	785	695	630	580	539	506
32mm	3339	2295	1843	1577	1398	1267	1165	1084	1017
40mm	7742	5019	3896	3255	2795	2506	2285	2112	1928
50mm	14003	9442	7497	6388	5557	5018	4600	4293	3944

	20	25	30	35	40	45	50	55	60
16mm	122	109	98	90	84	79	75	71	68
20mm	245	217	197	181	168	158	149	142	135
25mm	478	424	384	353	328	308	291	276	264
32mm	961	851	772	710	660	620	585	556	530
40mm	1820	1579	1418	1266	1168	1087	1021	948	905
50mm	3743	3299	2992	2676	2511	2354	2235	2079	1988

Note: **Every** fitting used within IPLEX K1™ system, including tees, elbows, reducers, meter connections, and appliance connections has an equivalence equal to **2.5 metres** of pipe.

SIZING TABLES FOR CRIMP FITTINGS (LPG)

Flow through PE-HD/AL/PE-HD Composite Pipe Crimped Fittings (MJ/h)

LPG

Pressure Drop 0.25kPa (Meter Pressure 2.75kPa) K1									
Nom. Size	Length of straight pipe in metres								
	2	4	6	8	10	12	14	16	18
16mm	277	190	153	131	116	105	97	90	84
20mm	554	381	306	262	232	210	193	180	169
25mm	1081	743	597	511	453	410	377	351	329
32mm	2173	1494	1199	1027	910	824	758	706	662
40mm	4570	2963	2300	1921	1650	1479	1349	1247	1138
50mm	8266	5574	4426	3771	3281	2962	2716	2534	2328

	20	25	30	35	40	45	50	55	60
16mm	80	71	64	59	55	51	49	46	44
20mm	159	141	128	118	110	103	97	92	88
25mm	311	276	250	230	214	201	189	180	172
32mm	625	554	502	462	430	403	381	362	345
40mm	1075	932	837	747	690	642	603	560	535
50mm	2210	1948	1766	1580	1482	1389	1320	1227	1174

LPG

Pressure Drop 10.0kPa (Meter Pressure 70.0kPa) K1									
Nom. Size	Length of straight pipe in metres								
	2	4	6	8	10	12	14	16	18
16mm	2648	1820	1462	1251	1109	1005	924	860	807
20mm	5297	3640	2923	2502	2218	2009	1848	1720	1614
25mm	10337	7104	5705	4883	4327	3921	3607	3356	3149
32mm	20779	14281	11468	9815	8699	7882	7251	6746	6330
40mm	43691	28325	21987	18368	15775	14144	12897	11919	10881
50mm	79025	53284	42309	36052	31363	28318	25960	24225	22257

	20	25	30	35	40	45	50	55	60
16mm	762	675	612	563	524	491	464	441	421
20mm	1524	1351	1224	1126	1048	983	928	882	841
25mm	2974	2636	2388	2197	2044	1918	1812	1721	1642
32mm	5979	5299	4801	4417	4109	3856	3642	3459	3300
40mm	10273	8912	8005	7146	6594	6134	5761	5351	5110
50mm	21125	18619	16885	15101	14170	13283	12614	11732	11222

Note: **Every** fitting used within IPLEX K1™ system, including tees, elbows, reducers, meter connections, and appliance connections has an equivalence equal to **2.5 metres** of pipe.

PIPE SIZING EXAMPLE

The following example uses Natural Gas with a Meter Pressure of 2.75kPa with a Pressure Drop of 0.75kPa. (Refer page 17).

Step 1 – Add the mega joule rating of all the appliances
 $(190 + 30 + 70) = 290 \text{ MJ/h}$

- Refer to IPLEX Gas Sizing Tables to calculate the pipe size of the longest run:

$$\text{A-B} + \text{B-C} + \text{C-D} \quad (13 + 10 + 8) = 31\text{m}$$

(No fitting allowance required)

- Look up the table at the next highest length value = 35m
- Look for mega joule rating of the appliance (290 MJ/h)
- Calculate pipe size = 32mm
- Apply this pipe size to (A-B) = 32mm

Step 2 – Calculate the length of each run:

For the hot water service the calculations are:

$$\text{A-B} + \text{B-F} \quad (13 + 4) = 17\text{m}$$

- Multiply the number of fittings (3) x the fitting equivalence (refer IPLEX Pipe Sizing Tables) $3 \times 2.5 = 7.5\text{m}$
- Add the run length to the fitting allowance:
 $17\text{m} + 7.5\text{m} = 24.5\text{m}$
- Look up the table at the next highest length value = 25m
- Look for mega joule rating of the appliance (190 MJ/h)
- Calculate pipe size = 25mm
- Apply this pipe size to (B-F) = 25mm

Step 3 – Repeat the above for each run:

For the run B-C, the calculations are:

$$\text{A-B} + \text{B-C} = (13 + 10) = 23\text{m}$$

- Multiply the number of fittings (3) x the fitting equivalence (refer IPLEX Pipe Sizing Tables) $3 \times 2.5 = 7.5\text{m}$
- Add the run length to the fitting allowance:
 $23\text{m} + 7.5\text{m} = 30.5\text{m}$
- Look up the table at the next highest length value = 35m
- Add the mega joule value of the remaining 2 appliances (cooktop and space heater) = (100 MJ/h),
- Calculate pipe size = 20mm
- Apply this pipe size to (B-C) = 20mm

PIPE SIZING EXAMPLE (continued)

For the cooktop the calculations are:

$$A-B + B-C + C-E \ (13 + 10 + 6) = 29\text{m}$$

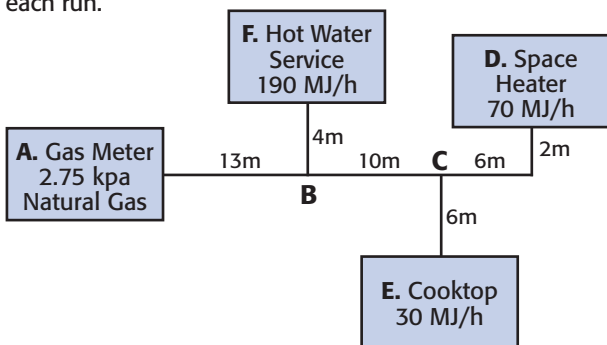
- Multiply the number of fittings (4) x the fitting equivalence (refer Iplex Pipe Sizing Tables) $4 \times 2.5 = 10\text{m}$
- Add the run length to the fitting allowance:
 $29\text{m} + 10\text{m} = 39\text{m}$
- Look up the table at the next highest length value = 40m
- Look for mega joule rating of the appliance (30 MJ/h)
- Calculate pipe size = 16mm
- Apply this pipe size to (C-E) = 16mm

For the space heater the calculations are:

$$A-B + B-C + C-D \ (13 + 10 + 8) = 31\text{m}$$

- Multiply the number of fittings (4) x the fitting equivalence (refer Iplex Pipe Sizing Tables) $4 \times 2.5 = 10\text{m}$
- Add the run length to the fitting allowance:
 $31\text{m} + 10\text{m} = 41\text{m}$
- Look up the table at the next highest length value = 45m
- Look for mega joule rating of the appliance (70 MJ/h)
- Calculate pipe size = 20mm
- Apply this pipe size to (C-D) = 20mm

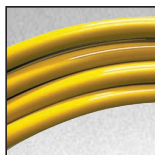
Table below indicates what pipe size should be used for each run.



Pipe Section	Gas Flow MJ/h	Nominal Size (DN)	No. of Fittings Used	Length of Run (m)
A-B	290	32 mm	na	31 m
B-C	100	20 mm	3	30.5 m
C-D	70	20 mm	4	41 m
C-E	30	16 mm	4	39 m
B-F	190	25 mm	3	24.5 m

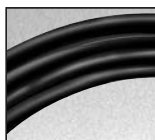
PRODUCT RANGE

Product	Iplex Code	Minimum Order Quantity	Description
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K1™ COMPOSITE PIPE

FK11650	1	16mm x 50 metre coil K1
FK12050	1	20mm x 50 metre coil K1
FK12550	1	25mm x 50 metre coil K1
FK13225	1	32mm x 25 metre coil K1
FK116E	25	16mm x 5 metre length K1
FK120E	15	20mm x 5 metre length K1
FK125E	10	25mm x 5 metre length K1
FK132E	5	32mm x 5 metre length K1
FK140E	5	40mm x 5 metre length K1
FK150E	4	50mm x 5 metre length K1



DUCTING PIPE

FK29300022	1	50m coil to suit 16mm and 20mm Pipe
FK29300024	1	50m coil to suit 25mm Pipe
P500FC3210	1	10m coil to suit 32mm Pipe
184005020	1	20m coil to suit 40mm and smaller pipe
184006520	1	20m coil to suit 50mm and smaller pipe



STRAIGHT JOINER

FK1501616	10	16mm K1
FK1502020	5	20mm K1
FK1502525	5	25mm K1
FK1503232	5	32mm K1
FK1504040	1	40mm K1
FK1505050	1	50mm K1



REDUCING JOINER

FK1512016	5	20mm-16mm K1
FK1512516	5	25mm-16mm K1
FK1512520	5	25mm-20mm K1
FK1513220	5	32mm-20mm K1
FK1513225	5	32mm-25mm K1
FK1514032	1	40mm-32mm K1
FK1515032	1	50mm-32mm K1
FK1515040	1	50mm-40mm K1



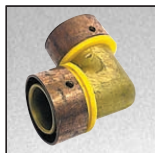
MALE ADAPTOR

FK1521615	10	16mm K1 x 15mm BSP
FK1522015	10	20mm K1 x 15mm BSP
FK1522020	5	20mm K1 x 20mm BSP
FK1522520	5	25mm K1 x 20mm BSP
FK1522525	5	25mm K1 x 25mm BSP
FK1523220	5	32mm K1 x 20mm BSP
FK1523225	5	32mm K1 x 25mm BSP
FK1523232	5	32mm K1 x 32mm BSP
FK1524032	1	40mm K1 x 32mm BSP
FK1525040	1	50mm K1 x 40mm BSP



FEMALE ADAPTOR

FK1531615	10	16mm K1 x 15mm BSP
FK1531620	10	16mm K1 x 20mm BSP
FK1532020	5	20mm K1 x 20mm BSP
FK1532520	5	25mm K1 x 20mm BSP
FK1533225	5	32mm K1 x 25mm BSP
FK1533232	5	32mm K1 x 32mm BSP
FK1534040	5	40mm K1 x 40mm BSP
FK1535050	5	50mm K1 x 50mm BSP



EQUAL BENDS – 90°

FK1579016	10	16mm bend K1
FK1579020	5	20mm bend K1
FK1579025	5	25mm bend K1
FK1579032	5	32mm bend K1
FK1579040	1	40mm bend K1
FK1579050	1	50mm bend K1

PRODUCT RANGE Continued

Product	Iplex Code	Minimum Order Quantity	Description
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MALE BEND – 90°

FK1581615	10	16mm K1 x 15mm BSP
FK1582020	5	20mm K1 x 20mm BSP
FK1582025	5	20mm K1 x 25mm BSP
FK1582525	5	25mm K1 x 25mm BSP
FK1583225	5	32mm K1 x 25mm BSP



WINGBACK ELBOW (MALE Lugged)

FK1601615P	5	16mm K1 x 15mm BSP
FK1601615	5	16mm K1 x 15mm BSP
FK1601615100	5	16mm K1 x 15mm BSP x 100mm
FK1602015	5	20mm K1 x 15mm BSP
FK1602015100	5	20mm K1 x 15mm BSP x 100mm
FK1602015180	1	20mm K1 x 15mm BSP x 180mm
FK1602015200	5	20mm K1 x 15mm BSP x 200mm
FK1602020	5	20mm K1 x 20mm BSP
FK1602020200	5	20mm K1 x 20mm BSP x 200mm



WINGBACK ELBOW (FEMALE)

FK1591615L	10	16mm K1 x 15mm BSP Lugged
FK1592015L	5	20mm K1 x 15mm BSP Lugged
FK1592020L	5	20mm K1 x 20mm BSP Lugged
FK1592520L	5	25mm K1 x 20mm BSP Lugged



EQUAL TEES

FK155161616	10	16mm x 16mm x 16mm K1
FK155202020	5	20mm x 20mm x 20mm K1
FK155252525	5	25mm x 25mm x 25mm K1
FK155323232	5	32mm x 32mm x 32mm K1
FK155404040	1	40mm x 40mm x 40mm K1
FK155505050	1	50mm x 50mm x 50mm K1



REDUCING TEES

FK156162016	5	16mm x (20mm) x 16mm K1
FK156201616	5	20mm x (16mm) x 16mm K1
FK156201620	5	20mm x (16mm) x 20mm K1
FK156202016	5	20mm x (20mm) x 16mm K1
FK156252020	5	25mm x (20mm) x 20mm K1
FK156252025	5	25mm x (20mm) x 25mm K1
FK156252520	5	25mm x (25mm) x 20mm K1
FK156322032	5	32mm x (20mm) x 32mm K1
FK156322525	5	32mm x (25mm) x 25mm K1
FK156322532	5	32mm x (25mm) x 32mm K1
FK156402540	1	40mm x (25mm) x 40mm K1
FK156403232	1	40mm x (32mm) x 32mm K1
FK156404032	1	40mm x (40mm) x 32mm K1
FK156502550	1	50mm x (25mm) x 50mm K1
FK156504040	1	50mm x (40mm) x 40mm K1
FK156505032	1	50mm x (50mm) x 32mm K1
FK156505040	1	50mm x (50mm) x 40mm K1

(denotes branch size)



FUTURE EXTENSION TEE

FK18016	10	16mm Male Threaded Tee
FK18020	5	20mm Male Threaded Tee
FK18025	5	25mm Male Threaded Tee
FK18032	1	32mm Male Threaded Tee
FK18040	1	40mm Male Threaded Tee
FK18050	1	50mm Male Threaded Tee

PRODUCT RANGE Continued

Product	Iplex Code	Minimum Order Quantity	Description
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GAS METER CONNECTOR (330mm long)

FK1892025	1	20mm K1 x 25mm BSPFI
FK1892525	1	25mm K1 x 25mm BSPFI
FK1893225	1	32mm K1 x 25mm BSPFI
FK1892020	1	20mm K1 x 20mm BSPFI
FK1892520	1	25mm K1 x 20mm BSPFI
FK1893220	1	32mm K1 x 20mm BSPFI



BRAZING TAILS

FK1731615	30	16mm K1 x 15mm CU FI
FK1732015	20	20mm K1 x 15mm CU FI
FK1732020	20	20mm K1 x 20mm CU FI
FK1732520	5	25mm K1 x 20mm CU FI
FK1732525	10	25mm K1 x 25mm CU FI
FK1733232	10	32mm K1 x 32mm CU FI
FK1734040	1	40mm K1 x 40mm CU FI
FK1735050	1	50mm K1 x 50mm CU FI



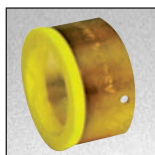
K1™ TO FLARED COPPER CONNECTOR

FK1541615	10	16mm K1 x 15mm BSP
FK1542015	5	20mm K1 x 15mm BSP
FK1542020	5	20mm K1 x 20mm BSP
FK1542025	5	20mm K1 x 25mm BSP
FK1542525	5	25mm K1 x 25mm BSP



TEST PLUGS

FK1TP16	50	16mm K1
FK1TP20	20	20mm K1
FK1TP25	20	25mm K1
FK1TP32	10	32mm K1
FK1TP40	1	40mm K1
FK1TP50	1	50mm K1



CRIMP RINGS

FK1CRING16	50	16mm Crimp Ring K1
FK1CRING20	50	20mm Crimp Ring K1
FK1CRING25	25	25mm Crimp Ring K1
FK1CRING32	25	32mm Crimp Ring K1
FK1CRING40	1	40mm Crimp Ring K1
FK1CRING50	1	50mm Crimp Ring K1



16mm CLIPS

FK29016TK	100	16mm with TEK Screw
FK29016TS	100	16mm with Twist Shank Nail
FK29016M	100	16mm with Masonry Nail
FK29016ACM2	100	16mm with Masonry Anchor



20mm CLIPS

FK29020TK	100	20mm with TEK Screw
FK29020TS	100	20mm with Twist Shank Nail
FK29020M	100	20mm with Masonry Nail
FK29020ACM4	100	20mm with Masonry Anchor



25mm CLIPS

FK29025TK	100	25mm with TEK Screw
FK29025TS	100	25mm with Twist Shank Nail
FK29025M	100	25mm with Masonry Nail

TOOLS

Product	Iplex Code	Description
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REMS AKKU TOOL & ACCESSORIES

REMSAKKUTOOL	REMS AKKU Crimping Tool with Li-ion Battery
REMSAKKUTOOLKIT	REMS AKKU Crimping Tool with Li-ion Battery (c/w K40 & K50 heads)
REMSBATTERY	REMS Battery NI-CD (for old-style tool)
REMSCRIMP16	16mm REMS K1/K2/P18 Crimp Jaw
REMSCRIMP20	20mm REMS K1/K2 Crimp Jaw
REMSCRIMP25	25mm REMS K1/K2 Crimp Jaw
REMSCRIMP32	32mm REMS K1/K2 Crimp Jaw
REMSCRIMP40	40mm REMS K1/K2 Crimp Jaw
REMSCRIMP50	50mm REMS K1/K2 Crimp Jaw



REMS MINI TOOL & ACCESSORIES

REMMINITOOL	REMS Mini Press Crimping Tool with Li-ion Battery
REMMINITOOLKIT	REMS Mini Press Crimping Tool with Li-ion Battery (c/w K16 & K20 heads)
REMSMINIBATTERY	REMS Mini Battery Li-ion 1.3AH
REMSMINICHARGER	REMS Mini Li-ion/Ni-CD Rapid Charger
REMSMINICRIMP16	16mm REMS K1/K2/P18 Crimp Jaw
REMSMINICRIMP20	20mm REMS K1/K2 Crimp Jaw
REMSMINICRIMP25	25mm REMS K1/K2 Crimp Jaw
REMSMINICRIMP32	32mm REMS K1/K2 Crimp Jaw
REMSMINICRIMP40	40mm REMS K1/K2 Crimp Jaw



I-PRESS MINI TOOL & ACCESSORIES

IPRESSTOOL	I-Press Mini Press Crimp Tool with Li-ion Battery
IPRESSTOOLKIT	I-Press Mini Press Crimp Tool with Li-ion Battery (c/w K16 & K20 heads)
IPRESSBATTERY	I-Press Mini Battery Li-ion 18V
IPRESSCHARGER	I-Press Mini Charger
IPRESSCRIMP16	16mm I-Press K1/K2/P18 Crimp Jaw
IPRESSCRIMP20	20mm I-Press K1/K2 Crimp Jaw
IPRESSCRIMP25	25mm I-Press K1/K2 Crimp Jaw
IPRESSCRIMP32	32mm I-Press K1/K2 Crimp Jaw



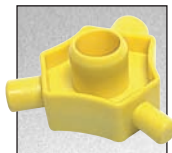
ALBA HAND TOOL

PCR18	Hand Crimping Tool
FKPCR20	Hand Crimping Tool 20mm
FKCR25	Hand Crimping Tool 25mm
FKCR32	Hand Crimping Tool 30mm



CRIMPING TOOL REPLACEMENT PARTS

ALBAPARTS916 Contains:
Cam bolt x/w M10 nyloc nut
Handle pin c/w starlock washer
Oversize roller
Pivot pin c/w E type clips



ROUNDING TOOL

FK1RNDTOOL
Pipe Rounding Tool
16mm, 20mm, 25mm and 32mm



PIPE CUTTERS

REMSCUTTER63
REMS Universal Pipe Cutting Tool
for pipe up to 63mm



REMSPIPECUTTER
Pipe Cutting Tool for
16mm–32mm

K203064700
Pipe Cutting Tool
for 16mm, 20mm
and 25mm



CRIMPING ACCESSORIES

Product	Iplex Code	Minimum Order Quantity	Description
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CRIMP GAUGE

FKP64	1	K1 Crimp Gauge to suit 16mm, 20mm, 25mm and 32mm pipe.
FK4050	1	K1 Crimp Gauge to suit 40mm and 50mm pipe.



K1 FIRE COLLAR

FK1COLLARF32	To suit 16-32mm Pipe
FK1COLLARF50	To suit 40-50mm Pipe



STICKER / METAL TAG

FK1METALSTICKER	50	Meter Box Metal Tag
FK1STICKER	1 Pad (48)	Meter Box Vinyl Sticker

CUSTOMER'S NEEDS CHANGE... PIPE MATERIALS CHANGE

Along with the evolution of plastics pipe for hot and cold water plumbing IPLEX has developed a gas piping system that can be installed with the same ease as the very popular Pro-fit™ and IPLEX K2™ systems.



FREQUENTLY ASKED QUESTIONS

- Q. Can IPLEX K1™ composite gas pipe and fittings be used in ground?**
- A. Yes, as fittings are DR (dezincification resistant) brass.
- Q. Can IPLEX K1™ composite gas pipe be used to connect directly to the gas meter?**
- A. Yes, providing any exposed pipe is lagged or sleeved as the pipe is not UV resistant. Iplex has a number of fittings available for such use.
- Q. Can IPLEX K1™ composite gas pipe be chased in masonry walls and floors?**
- A. Yes, the pipe can be chased into masonry walls with no protection necessary.
- Q. Can IPLEX K1™ composite gas pipe be embedded in concrete?**
- A. Yes, the pipe can be embedded in concrete but cannot contain any joints. Iplex recommends the pipe should be sleeved for best practice.
- Q. What warranty do I receive when I install IPLEX K1™ composite gas systems?**
- A. When installed and used correctly for its intended purpose, as specified in AS/NZS 5601.1, National Gas Installation Code and the Iplex Pipelines Installation Guide, Iplex Pipelines warrants K1™ against manufacturing defects for a period of 25 years from the date of manufacture. Refer to the IPLEX K1™ Warranty Card for specific details (a copy can be downloaded from the Iplex website www.iplex.com.au).
- Q. How close can IPLEX K1™ composite pipe be to high heat sources such as heating appliances and flues from heating appliances?**
- A. IPLEX K1™ composite gas pipe should be kept at least 500mm from such heat sources.
- Q. What distance should pipe be from slow combustion type stoves?**
- A. IPLEX K1™ composite gas pipe should be kept at least 1500mm from such heat sources.
- Q. What distance should IPLEX K1™ composite pipe be kept from recessed electric light fittings?**
- A. IPLEX K1™ composite gas pipe should be kept at least 300mm from such light fittings.
- Q. How close can IPLEX K1™ composite pipe be to gas or central heating vents or flues?**
- A. No closer than 150mm.
- Q. Can IPLEX K1™ composite pipe be used for the final connection?**
- A. No, however, with the use of transition fittings IPLEX K1™ composite pipe can be used to connect to copper or steel pipe.
- Q. What is the maximum pressure IPLEX K1™ composite pipe can be operated at for Natural Gas and LPG?**
- A. 70kPa.

DISCLAIMER

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WARRANTY

WARRANTY CERTIFICATE



A circular seal with a sunburst border. Inside the circle, it says "TWENTY FIVE YEAR" at the top, "25" in large numbers in the center, and "WARRANTY" at the bottom. A ribbon is tied around the bottom of the seal.

iplex
Pipelines

K1™
COMPOSITE PIPE SYSTEM
FOR GAS

Iplex Pipelines Composite Pipe System for Gas is intended for use by licensed gasfitters trained and accredited by Iplex Pipelines. When installed and used correctly for its intended purpose, as specified in the current edition of AS/NZS 5601.1 Standard Gas Installation and Iplex Pipelines Installation Guide, Iplex Pipelines warrants K1™ against manufacturing defects for a period of 25 years from the date of manufacture (conditions apply).



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