

Expansion Joint Specialist—Part 1/Non-metallic Expansion Joints

Web:www.kumtek.com.tw

KUMTEK has been involved in the design, manufacturing, and installation of high quality, non-metallic expansion joints

kumtek offers a complete range of single and multiple layers, fabric and fluoro-elastomer (Viton® or Fluorel®) type constructed from best and world-wide recognized materials to overcome varied combination of duct movement, corrosion and particles. Up to year 2009, close to 5000 joints have been installed in power plant, petroleum, petro-chemical, paper, steel, incineration, semi-conductor, and Chemical industries and gained reputation For high quality, durability and economy.

工德公司自 1985 年起即专业从事于高质量非金属膨胀接头，挠性接头之设计，制作，及安装工作。

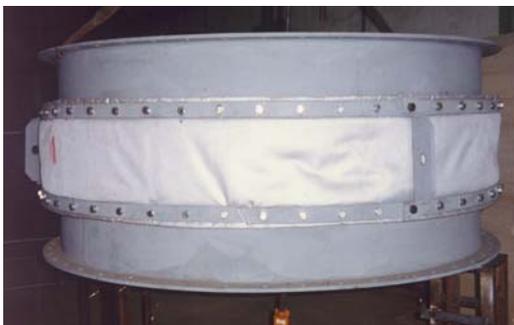
所提供之接头不论是单层或多层结构，布类或氟化橡胶类(Viton®, Fluorel®)均采用最高质量之材料，以克服高温或废气管路所遭遇之，变位，高温，腐蚀性，粉尘颗粒，及震动等问题。

自 1985 年起迄今(2009)，本公司已提供近 5000 个接头供发电厂，炼油厂，石化厂，钢铁厂，焚化炉，造纸厂，半导体厂，水泥厂等并为客户认同在质量上绝不亚于任何国际知名大厂，且为最符合经济效益之膨胀接头。

Product Applications Range

Temperature:	ambient to 1000°C
Flow medium:	air to corrosive gas
Pressure:	-30000 to 30000 Pa
Axial movement:	(% of active length)
	Compression --50%
	Extension -10 to 20%
	Lateral -5 to 15%

Above movement capabilities are standards with us. The joints can be designed to meet specific demands.



▲ Hot Air Duct Expansion Joint



▲ Base fabrics used 采用之基材

产品适用范围

温度:	常温至 1000°C
流体:	一般空气或强腐蚀性气体
压力:	-0.3kg/cm ² 至 0.3kg/cm ²
变位吸收量: (面间距离之%)	
	压缩—50%
	伸长—10 至 20%
	侧移—5 至 15%

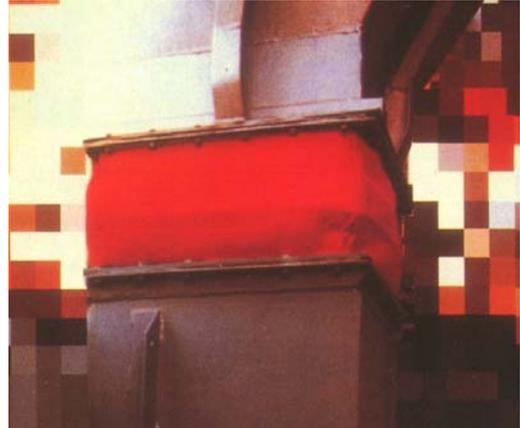
以上变位吸收量为本公司之一般标准设计可应需求作特殊设计。

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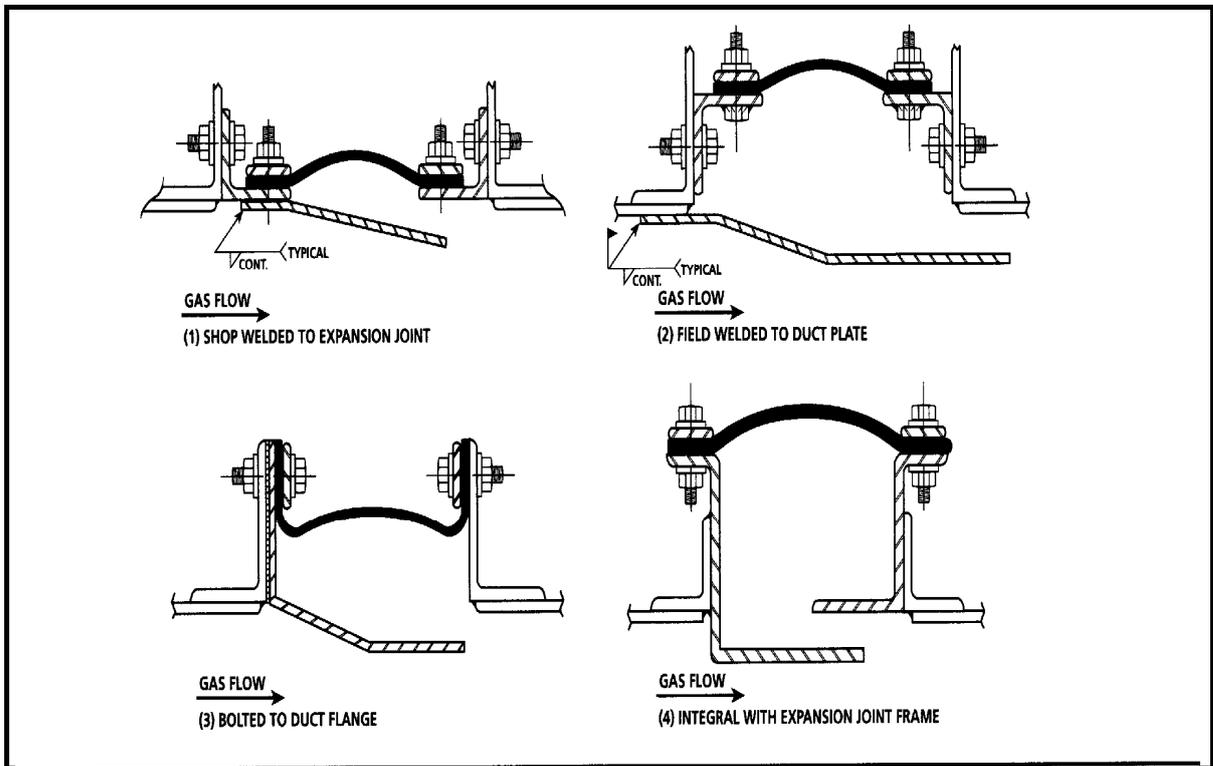
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Basic Configuration of Connection

There are basically 4 types of connection between Kumtek Expansion joints and the duct/pipe line. The choice of the connection are usually depends on the pipe/duct designs and on the operation conditions. Kumtek can accommodate all connection requirements and recommend the most suitable method for best cost justified selection. **Kumtek supply scope covers not only the joints but also the gasketing materials and metal parts including, back-up bars, sleeve liners, bolts nuts, duct flanges as well as the fabrication and installation.**



▲ Flue Gas Duct Joint 烟道接头



与管线/烟道连接方式

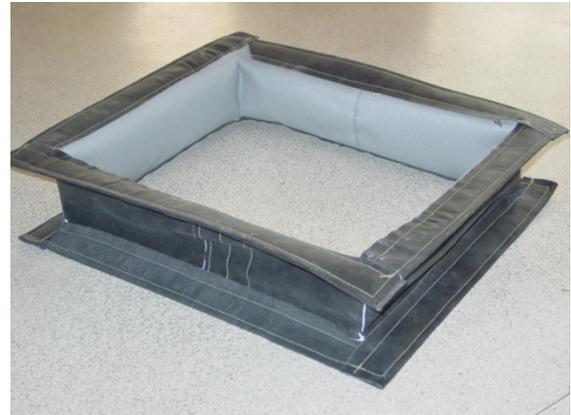
分为以上图示之 4 种基本方式. 各方式之选用, 取决于管路之设计及操作环境, 本公司可依需求提出最适当最经济之建议. (图标中之内套管为选项). 除接头本身外, 本公司亦提供密封垫片, 压板, 内套管, 螺栓, 管路法兰及相关之组立安装服务.

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Expansion Joint Styles

Based on application conditions, Kumtek offer 2 categories of Fabrics-type joints. **The F series are for corrosive flow medium and the A series for clean air.** Each series consists of 5 different styles for different service temperature up to 1000°C. Kumtek also fabricates highest quality fluoro-elastomer joints made of Viton® B or Fluorel®, C-cure system and 100% to FSA Standards.



膨胀接头型式

布类接头分成 2 大类, F 系列供具腐蚀性管路流体, A 系列供一般管路. 另依每大类操作温度, F 及 A 系列均各有 5 种设计. 最高至 1000°C.

除布类接头外, Kumtek 亦生产氟化橡胶接头 (Viton® B 或 Fluorel®, C-cure system). 质量 100% 符合 FSA 规范.

F Series/F 系列	A Series/A 系列	Service Temperature/使用温度 °C
F200 (Fluoro-elastomer)		200
F250	A250	250
F350	A350	350
F500	A500	500
F800	A800	800
F1000	A1000	1000

In addition to above standard types, Kumtek can also design, fabricate to specific demands for various different application conditions.

Kumtek has the access to as well as long term relationship with most of world-wide recognized industrial fabrics and insulation materials manufacturers. All joints supplied have all been proven by track records to be high-quality and most cost effective.

除上述标准设计外, Kumtek 亦可依不同使用条件设计制造特殊型式之接头, 以满足各不同之需求

Kumtek 与世界各知名之原料供货商均建立长期良好之合作关系, 所采用之各布类及保温类产品, 均系经严格之品管并经多数客户长时间使用实绩证实为高质量且最符经济效益产品.

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The Corrosion Barrier Layer

For duct/pipe with aggressive corrosion flow medium and most severe applications, Kumtek adopts the CBF as the corrosion barrier layer.

The CBF film laminated on CBF-Flex had been awarded both “DuPont Plunkett” and “Chemical Process’s Vaaler Award” for its outstanding structural strength and stress cracking resistance among PTFE materials.

CBF has been considered by the industries as the best corrosion resistance liner for expansion Joints. With CBF film built in Kumtek expansion Joints, you can expect:

- 100% impermeability to corrosive gas
- much longer service life
- resist virtually all corrosive chemicals (PH 0-14)

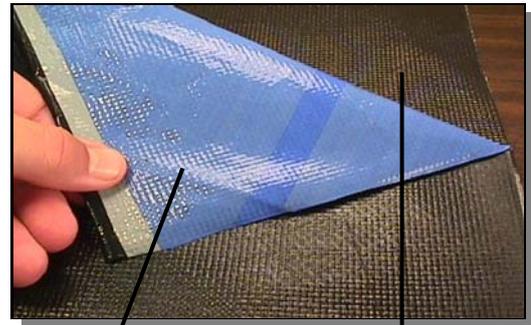
耐酸碱腐蚀层

针对使用条件严苛且具腐蚀性流体管道之接头, Kumtek 采用 CBF-Flex 当作耐腐蚀层.

CBF-Flex 系将 CBF 薄膜以热熔接方式贴合于 PTFE 涂覆之玻纤布上. CBF 为业界公认为结构强度及耐折曲强度最好之 PTFE 系列产品, 并得到杜邦公司之”DuPont Plunkett”及美国 “Chemical Processing’s Vaaler Award”奖项.

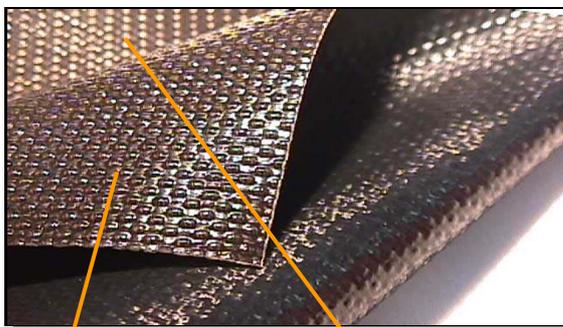
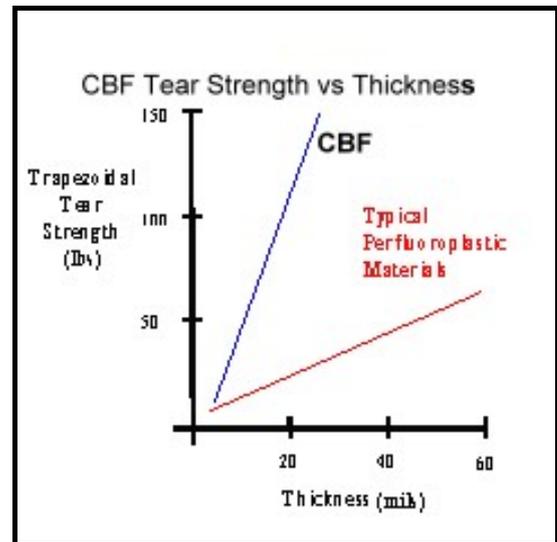
采用 CBF-Flex 之接头将带给您:

- 100%气密无渗漏
- 耐几乎所有之化学品(PH 0-14)
- 更长之接头使用寿命



▲ CBF-Flex

CBF film PTFE coated fiberglass cloth
CBF 薄膜 PTFE 涂覆玻纤布



▲ Fluo-Flex

PTFE film PTFE coated fiberglass cloth
PTFE 薄膜 PTFE 涂覆玻纤布

For normal corrosive applications, Fluo-Flex fabrics are recommended as the corrosion barrier for economic reasons. The Fluo-Flex series are the standard fabrics applied by many expansion joints makers and will also Offer you the desired impermeability and chemical resistance as CBF-Flex.

针对一般腐蚀性流体管道之接头, Kumtek 建议采用 Fluo-Flex 当作耐腐蚀层.

Fluo-Flex 系列为目前业界所采用之标准材料, 且亦与 CBF-Flex 相同之 100%气密.

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Insulation Layer and Fly Ash Pillow

The purpose of the Insulation and Fly Ash Pillow are :

- Protect the joint from being damaged by fly Ash
- Protect joint layer vulnerable to high temp.
- Reduce heat loss through joint
- Noise reduction

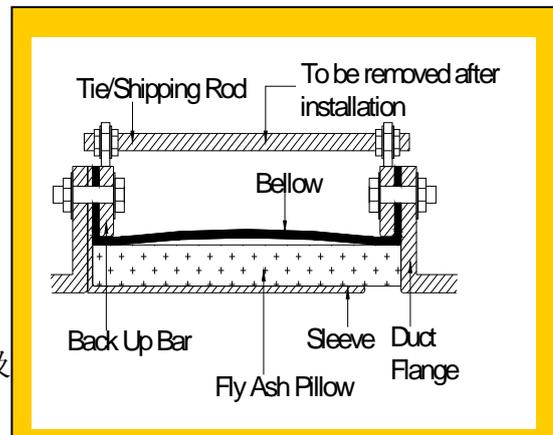
In Kumtek, the insulation and fly ash pillow are designed and manufactured to meet above requirements. All materials used including the outer jacketing (ie. Glass cloth or steel mesh) are all proven to be with good resistance to the flow medium and to the high temperature through computer thermal analysis and simulation tests to ensure their fulfillment of above objectives.

保温层及飞灰颗粒挡包

保温层及飞灰颗粒挡包之主要功能为:

1. 保护接头中之气密层或抗酸碱层不致为管路中之高温所损坏
2. 阻挡飞灰颗粒, 确保其不会沉积于接头上而损坏接头
3. 减少经由接头之热量耗损
4. 降低经由接头外传之噪音

本公司之设计均系经计算机热稳定状态分析及实际模拟测试以确保达到上述之目地.



▲ ePTFE Joint Sealant

ePTFE Joint Sealant for Corrosive Duct

Made of Expanded PTFE, Texseal Joint Sealant are soft, pliable, and compressible offering you the best sealing effects for corrosive gas duct. The adhesive backing make the installation very easy.

ePTFE 接头密封垫片

采用膨胀 PTFE 原料, 使 ePTFE 具柔软, 可弯曲, 可压缩等特性, 为腐蚀性流体管道之最佳密封材. ePTFE 均附背胶, 故安装十分简易.

Thermotech

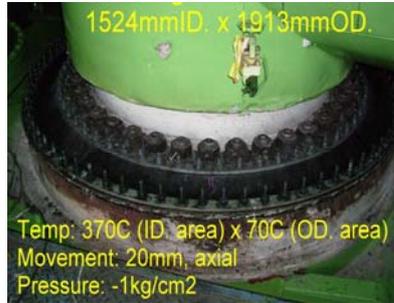


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Composite 600°C



-1kg/cm2, 370°C



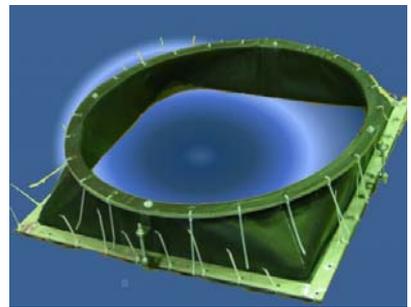
Furnace Outlet, 850°C



FGD Joint



Flexible Joint



Round-to-Square Joint



Pressure Testing



Pillow Installation



Rectangular Duct



300°C 98% H₂SO₄



Waste Incineration 1000°C



Solvent Incineration 1000°C

Your Solution for Expansion Since 1985