GUCHEN® EXPANSION JOINTS SYSTEMS

Engineered for Movement. Built for Longevity.

Hebei Guchen Engineering Rubber Co., Ltd.

TABLE OF CONTENTS

COMPANY PROFILE

Guchen Bridge Systems is a premier manufacturer and global supplier of high-performance bridge expansion joint systems. Operating from our advanced production facilities in Hebei, China, we engineer durability and reliability into every product, ensuring the safety and longevity of critical infrastructure projects worldwide.

For over 15 years, we have combined precision engineering with rigorous quality control to deliver solutions that stand up to the most demanding conditions—from heavy traffic loads and extreme weather to seismic events. Our commitment is not just to meet expectations but to exceed them, providing unparalleled value and support at every stage of your project.

Why Partner With Guchen?

Engineering Excellence: Our in-house team of experienced engineers utilizes state-of-the-art design and finite element analysis (FEA) to create joints that perform flawlessly under specified movement ranges and dynamic loads. We offer custom-designed solutions tailored to your project's unique requirements.

Uncompromising Quality: From the selection of high-grade, corrosion-resistant steels and advanced, weather-proof elastomers to our meticulous manufacturing processes, every step is controlled to ensure superior product life. Our products comply with major international standards, including EN, AASHTO, and DIN.

Proven Global Performance: Our expansion joints have been successfully specified and installed in a variety of structures across 30 — including highway bridges, elevated expressways, railway viaducts, and airport runways. This global experience means we understand the diverse challenges faced by engineers and contractors.

Total Project Support: We are more than just a supplier; we are your partner. We provide comprehensive technical documentation, detailed installation guidance, and responsive after-sales support to ensure seamless integration and optimal performance of our systems.

Our Commitment

At Guchen Bridge Systems, our mission is to empower engineers and builders with reliable, innovative, and cost-effective expansion joint systems that ensure the structural integrity and safety of bridges for decades to come.

Let us help you build smarter, safer, and longer-lasting.

CERTIFICATIONS & COMPLIANCE


营业执照

统一社会信用代码 91131128398954890J

（副本）

名　称　河北古晨工程橡胶有限公司
类　型　有限责任公司(自然人独资)
法定代表人　连鹏飞
注册资本　壹亿元整
成立日期　2014年07月28日
住　所　河北省衡水市阜城县阜城镇甜水庄
经营范围　一般项目：橡胶制品制造；橡胶制品销售；塑料制品制造；塑料制品销售；砼结构构件制造；砼结构构件销售；密封件制造；密封件销售；建筑防水卷材产品制造；建筑防水卷材产品销售；密封用填料制造；密封用填料销售；金属结构制造；金属结构销售；技术服务、技术开发、技术咨询、技术交流、技术转让、技术推广；建筑材料销售；五金产品零售；电力电子元器件销售；智能机器人销售；汽车销售；化工产品销售（不含许可类化工产品）；货物进出口；技术进出口；（除依法须经批准的项目外，凭营业执照依法自主开展经营活动）许可项目：公路管理与养护；预应力混凝土铁路桥梁及支架产品生产；特种设备制造；建设工程施工；（依法须经批准的项目，经相关部门批准后方可开展经营活动，具体经营项目以相关部门批准文件或许可证件为准）

登记机关　2025年11月27日

国家企业信用信息公示系统网址：http://www.gsxt.gov.cn　市场主体应当于每年1月1日至6月30日通过国家企业信用信息公示系统报送公示年度报告。　国家市场监督管理总局监制


开户许可证

核准号：J1492000507302　编号：1210-03246613

经审核，河北古晨工程橡胶有限公司　符合开户条件，准予开立基本存款账户。

法定代表人（单位负责人）连鹏飞　开户银行　河北阜城农村商业银行股份有限公司营业部

账　号　216510122000204064

发证机关（盖章）　2018年01月29日


证书
CERTIFICATE

河北古晨工程橡胶有限公司

贵单位在全国3.15诚信企业推广活动中，产品质量、售后服务及企业形象，经审核入选为《国家3.15诚信企业》。

国家3.15诚信企业
STATE 3.15 GOOD FAITH ENTERPRISES

证书编号：CPGC-KX21539
有效日期：2020.06-2023.06
查询网址：www.mpcporg.cn

中国名牌产品培育委员会　中国品牌调查统计中心

企业信用等级证书
ENTERPRISE CREDIT RATING CERTIFICATE

河北古晨工程橡胶有限公司

针对企业的信用记录、管理制度、经营竞争能力、发展前景以及可能出现的风险，结合行业发展状况及行业政策对其信用状况进行客观、科学、公正的评估，确定信用等级为：

AAA级
AAA CERTIFICATE

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有效日期：2020.06-2023.06
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证书
CERTIFICATE

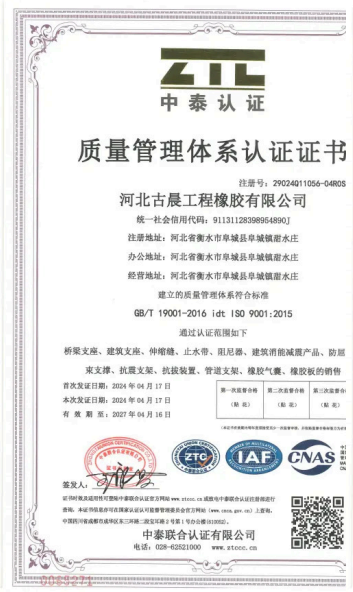
北古晨工程橡胶有限公司

贵企业在产品质量、企业诚信随机抽样总结活动产品质量及企业信誉度优良，经审核入选为《全国合同·守信用企业》。

国重合同·守信用企业
TIONAL HEAVY CONTRACT, KEEP PROMISE ENTERPRISE

编号：CPGC-ZS21538
日期：2020.06-2023.06
网址：www.mpcporg.cn

名牌产品培育委员会　中国品牌调查统计中心


中泰认证

质量管理体系认证证书

注册号：29024Q11056-04R0S

河北古晨工程橡胶有限公司

统一社会信用代码：91131128398954890J
注册地址：河北省衡水市阜城县阜城镇甜水庄
办公地址：河北省衡水市阜城县阜城镇甜水庄
经营地址：河北省衡水市阜城县阜城镇甜水庄

建立的质量管理体系符合标准
GB/T 19001-2016 idt ISO 9001:2015

通过认证范围如下
桥梁支座、建筑支座、伸缩缝、止水带、阻尼器、建筑消能减震产品、防屈束支撑、抗震支架、抗拔装置、管道支架、橡胶气囊、橡胶板的销售

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签发人：

中泰联合认证有限公司
电话：028-62821000　www.ztccc.cn


中泰认证

环境管理体系认证证书

注册号：29024E10753-04R0S

河北古晨工程橡胶有限公司

统一社会信用代码：91131128398954890J
注册地址：河北省衡水市阜城县阜城镇甜水庄
办公地址：河北省衡水市阜城县阜城镇甜水庄
经营地址：河北省衡水市阜城县阜城镇甜水庄

建立的环境管理体系符合标准
GB/T 24001-2016 idt ISO 14001:2015

通过认证范围如下
桥梁支座、建筑支座、伸缩缝、止水带、阻尼器、建筑消能减震产品、防屈束支撑、抗震支架、抗拔装置、管道支架、橡胶气囊、橡胶板的销售所涉及的环境管理活动

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签发人：

中泰联合认证有限公司
电话：028-62821000　www.ztccc.cn


中泰认证

职业健康安全管理体系认证证书

注册号：29024S10730-04R0S

河北古晨工程橡胶有限公司

统一社会信用代码：91131128398954890J
注册地址：河北省衡水市阜城县阜城镇甜水庄
办公地址：河北省衡水市阜城县阜城镇甜水庄
经营地址：河北省衡水市阜城县阜城镇甜水庄

建立的职业健康安全管理体系符合标准
GB/T 45001-2020 idt ISO 45001:2018

通过认证范围如下
桥梁支座、建筑支座、伸缩缝、止水带、阻尼器、建筑消能减震产品、防屈束支撑、抗震支架、抗拔装置、管道支架、橡胶气囊、橡胶板的销售所涉及的职业健康安全管理活动

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签发人：

中泰联合认证有限公司
电话：028-62821000　www.ztccc.cn


证书号第6746001号
外观设计
外观设计名称：螺丝（组合螺丝）
设 计 人：连鹏飞
专 利 号：ZL 2021 3 0055076.5
专利申请日：2021年01月26日
专利权人：河北古晨工程橡胶有限公司
地 址：053700 河北省衡水市阜城县
授权公告日：2021年07月30日
局长
申长雨
证书号第13055019号
实用新型专利
实用新型名称：管道封堵气囊
发 明 人：连鹏飞
专 利 号：ZL 2020 2 1893453.9
专利申请日：2020年09月02日
专利权人：河北古晨工程橡胶有限公司
地 址：053700 河北省衡水市阜城县阜城镇
授权公告日：2021年04月27日
局长
申长雨
证书号第6743453号
外观设计专
外观设计名称：螺丝
设 计 人：连鹏飞
专 利 号：ZL 2021 3 0055077.X
专利申请日：2021年01月26日
专利权人：河北古晨工程橡胶有限公司
地 址：053700 河北省衡水市阜城县阜城
授权公告日：2021年07月30日
局长
申长雨
证书号第13212940号
实用新型专利证书
实用新型名称：钢结构球铰支座
发 明 人：连鹏飞
专 利 号：ZL 2020 2 1893452.4
专利申请日：2020年09月02日
专利权人：河北古晨工程橡胶有限公司
地 址：053700 河北省衡水市阜城县阜城镇甜水庄
授权公告日：2021年05月18日
授权公告号：CN 213233817 U
局长
申长雨


181502001211
检验检
报告编号：BG-2023-ZSD-0
委托单位：河北古晨工程
样品名称：外贴式橡胶止
委托项目：物理性能
检验类型：委托检验
山东大学土建与水利
二〇二三年七月
213102120001
型式检验报
报告编号：2023-XJKZ171
委托单位：河北古晨工程橡胶有限公司
工程名称：VFD 黏滞阻尼器型式检验(VFD-
样品名称：VFD 黏滞阻尼器
检验类别：委托检测
报告日期：2023 年 11 月 14 日
新疆抗震工程检测有
230021349151
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报告编号：A34915F
产品名称：建筑摩
委托单位：北京辰
检验类别：委托检
国家工程橡胶产品质量检验
恒为检验检测认证（河北
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报告编号：A34915F202208020
产品名称：球型钢支座
委托单位：中冶天工集团有限公司
检验类别：委托检验
国家工程橡胶产品质量检验检测中心（河北）
恒为检验检测认证（河北）集团有限公司
防伪码：V0Z22F


210021349151
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委托单位：北京市政路
茂高速公路包
建工程BMTJ-
检验类别：委托检验
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委托单位：中国葛洲
汉江雅口
标项目部
检验类别：委托检验
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汉江雅口
标项目部
检验类别：委托检验
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NATIONAL ENGINEERING RUBBER PRODUCTS QU
ZH/B001-2021
211701060138
建筑摩擦摆隔震支座
检 测 报 告
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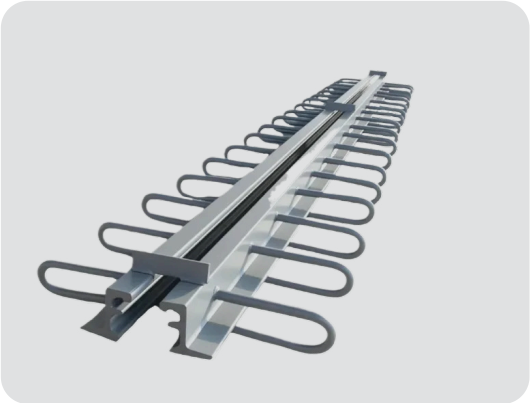
样品名称：建筑摩擦摆隔震支座
委托单位：河北古晨工程橡胶有限公司
检测日期：2024 年 01 月 15 日-2024 年 03 月 15 日
报告总页数：共 17 页
委托编号：ZHA2-F119-2024000050
报告编号：ZHA2-B119-2024000102
武汉中和工程技术有限公司
检测专用章
2024 年 03 月 29 日

MODULAR EXPANSION JOINTS

Modular Expansion Joints (GQF Series)

Engineered for Maximum Movement and Durability

Guchen Bridge Systems' Modular Expansion Joints are the premier solution for bridges and structures requiring large movement capabilities, typically from 0mm to beyond 1200mm. Designed to withstand the most challenging conditions, our GQF series ensures superior load transfer, longevity, and reliable performance under heavy traffic and dynamic loads.



Key Features & Benefits:

High Load-Bearing Capacity: Features robust center beams and structural components manufactured from high-grade, hot-dip galvanized steel to provide exceptional strength and resistance to fatigue, ensuring integrity under the heaviest of traffic.

Superior Sealing System: Utilizes multiple, independent silicone or EPDM rubber sealing profiles arranged in a parallel configuration. This advanced design guarantees excellent waterproofing, protecting bridge decks and substructures from corrosive de-icing agents and water ingress.

Multi-Directional Movement: Expertly engineered to accommodate not only longitudinal movements but also rotation, translation, and horizontal shear, making them ideal for complex structures and seismic zones.

Durable Wearing Surface: The integrated wearing surface is designed for smooth vehicle transition and outstanding abrasion resistance, significantly reducing noise and vibration for a quieter ride.

Typical Applications:

Large-scale highway and railway bridges

Suspension bridges and cable-stayed bridges

Bridge structures in regions with extreme temperature variations

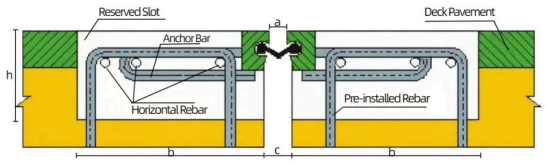
Airport runways and taxiways

Structures requiring seismic movement accommodation

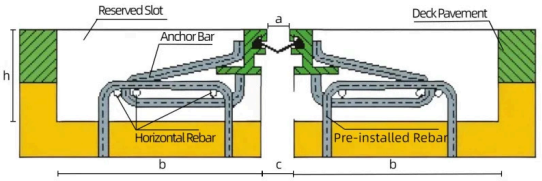
Typical Structural Layout for Expansion Joints with 0-80mm Movement Capacity:

Expansion joints for 0-80mm movement ranges are primarily categorized into four series: GQF-C, GQF-E, GQF-F, and GQF-L. Each series is constructed from hot-rolled special-shaped steel (C, E, F, and L types respectively) and integrated with a durable rubber sealing strip. These joints are recognized for their simple structure and ease of installation. For detailed structural information, please refer to the diagram below.

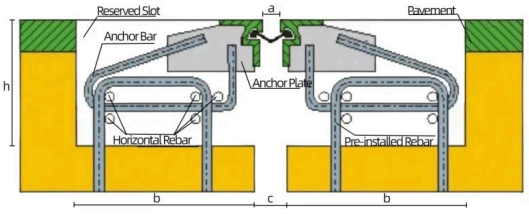
GQF-C Type Elevation



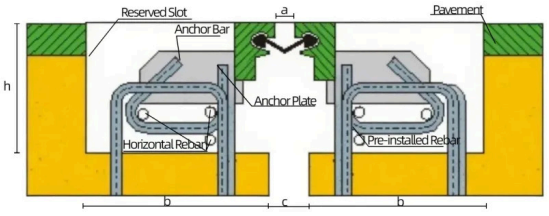
GQF-E Type Elevation



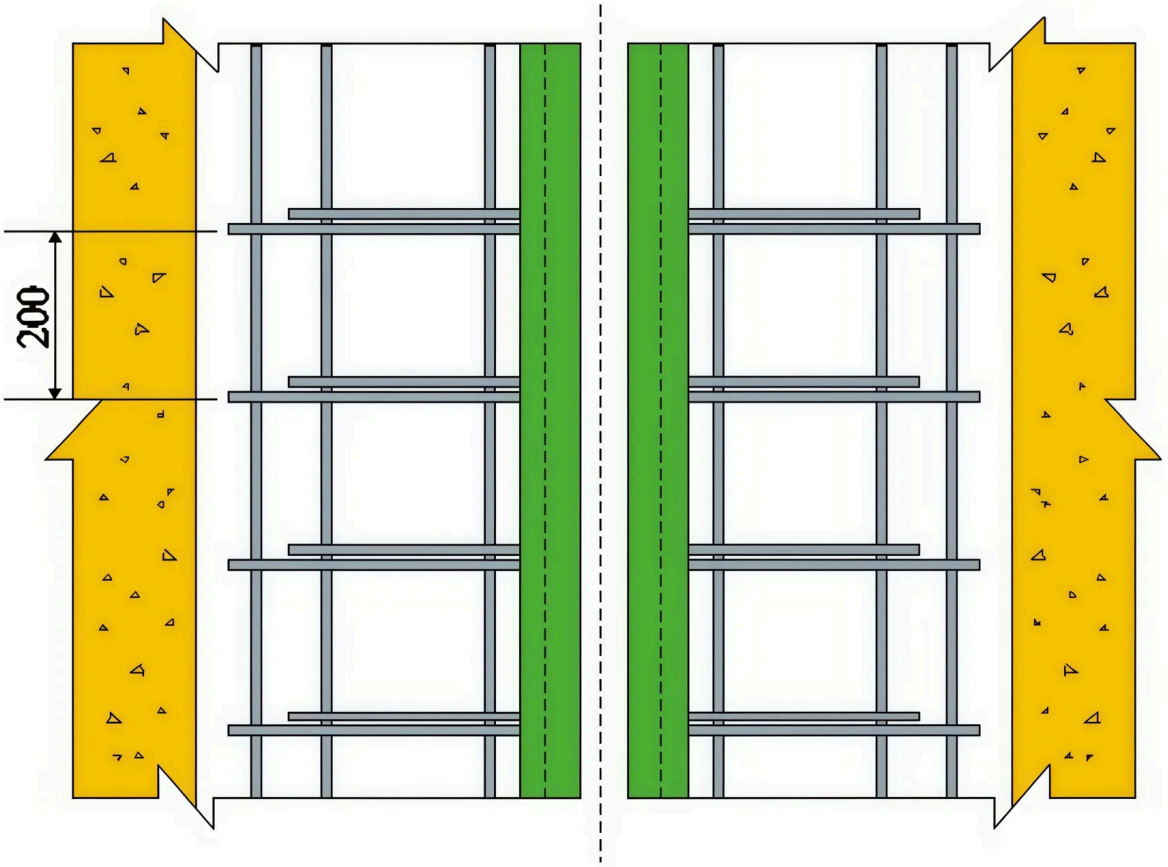
GQF-L Type Elevation



GQF-F Type Elevation



Plan of Expansion Joint Assembly (Anchor Bar Layout)



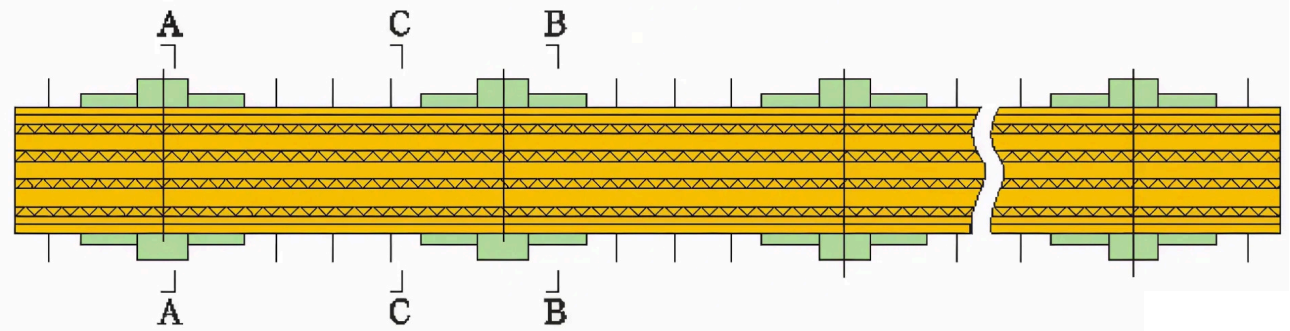
Schedule of Setting Parameters for GQF-C, E, F & L Type Expansion Joint Assemblies

Expansion Capacity	Width a of Expansion Joint Assembly		Gap C at Expansion Joint		Concrete Pocket Size	
	amin	amax	Cmin	Cmax	h	b
20	80	100	14	34	＞100	⩾250
40	80	120	14	54	＞100	⩾250
60	80	140	14	74	＞100	⩾250
80	80	160	14	94	＞100	⩾250

Typical Structural Layout of GQF-MZL Type (Modular) Expansion Joint

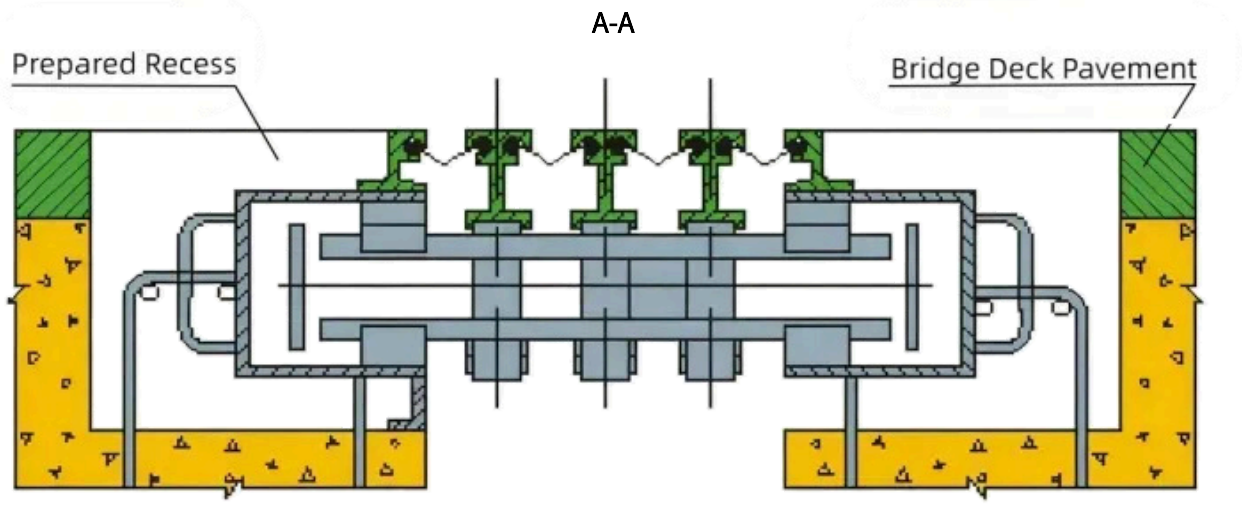
The GQF-MZL type expansion joint assembly consists of edge beams, center beams, cross beams, a movement control system, sealing rubber strips, and an anchoring system (anchor plates and anchor bars). Its distinctive feature lies in the separation of the load-bearing structure and the movement control system, which function independently without mutual interference. This clear division of roles ensures both structural safety and precise displacement control. The design comprehensively accounts for horizontal movement as well as deformations caused by transverse, vertical, and beam-end rotational displacements, making it highly adaptable for curved, sloped, skewed, and wide bridges. This series of expansion joints is suitable for use in bridges requiring displacement capacities ranging from 80mm to 2000mm.

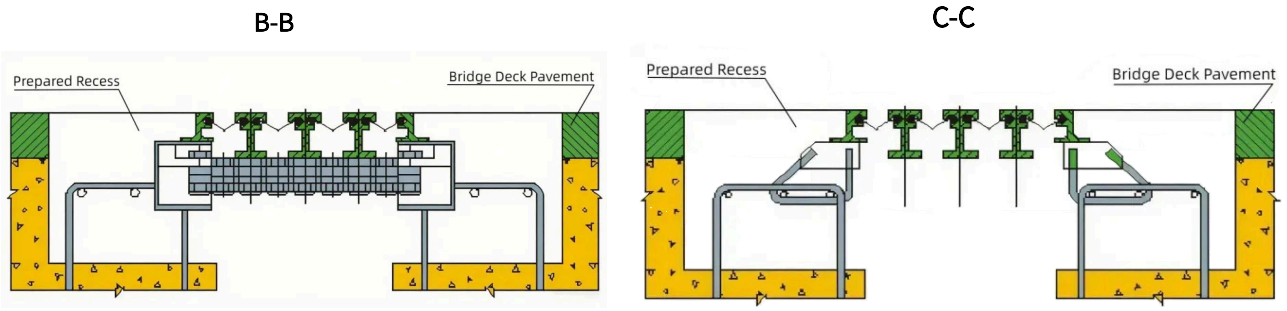
Plan of Expansion Joint Assembly



Expansion Joint Cross-Section

A-A



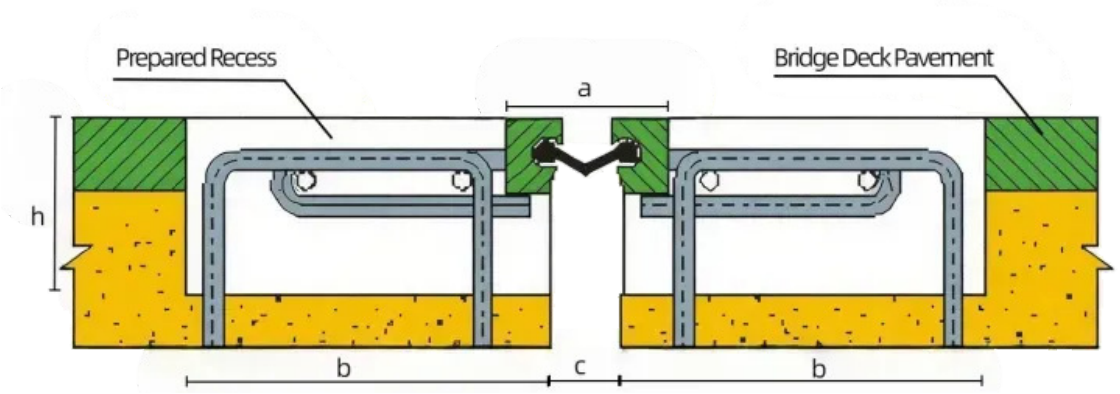


For specific dimensions, refer to the overall dimensions and installation diagrams for specifications ranging from 160mm to 1200mm.

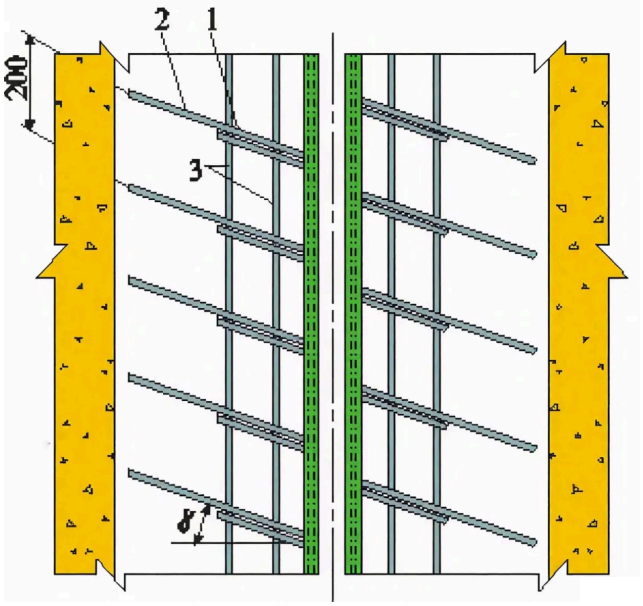
Skewed Layout of Expansion Joint Assembly

To accommodate bridges where the river direction is not perpendicular to the roadway, the anchor bars and movement control boxes can be arranged in a skewed layout. This involves welding the anchor bars and movement control boxes of expansion joint assemblies with movement capacities ranging from 0-80mm, as well as modular expansion joints (MZL 160-1200mm), at a horizontal angle to special-shaped edge beams. The angle between the anchor bars and the edge beams varies based on the direction and degree of the bridge's skew.

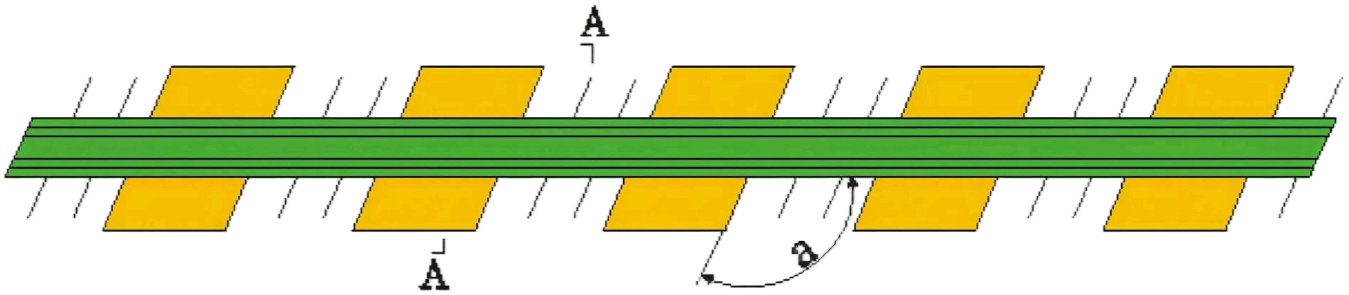
Cross-Sectional View of GQF-C Type Expansion Joint (Installation Schematic)



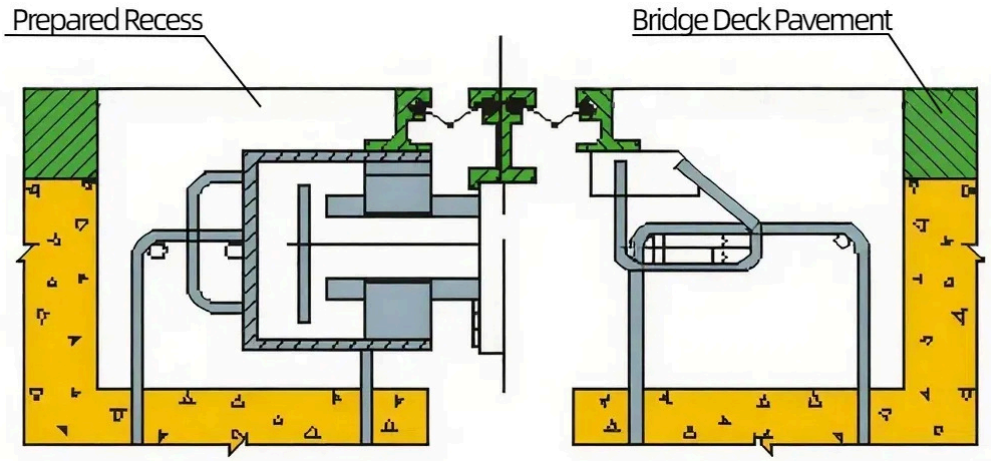
Plan of GQF-C Type Expansion Joint with Skewed Layout (Anchor Bar Arrangement)



Cross-Sectional View of 160-Type Expansion Joint(Skewed Arrangement of Box & Anchor Bars)



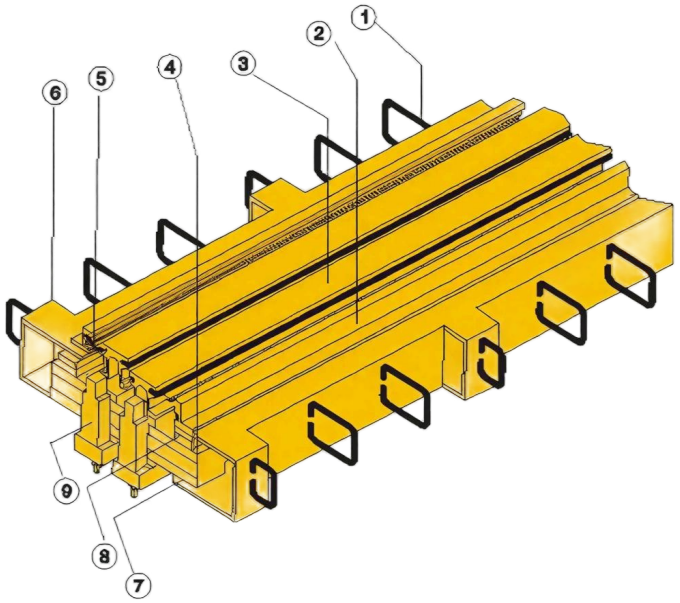
Cross-Sectional View of 160-Type Expansion Joint (Installation Schematic)



For specific dimensions, refer to the overall dimensions and installation diagrams for expansion joints with specifications ranging from 160mm to 1200mm.

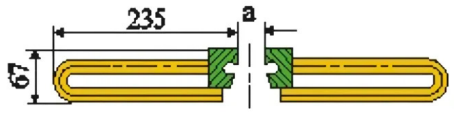
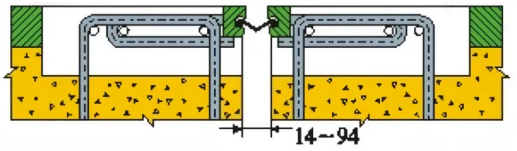
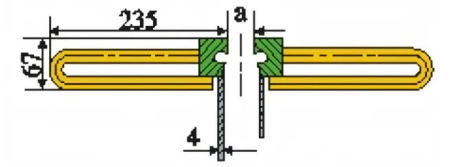
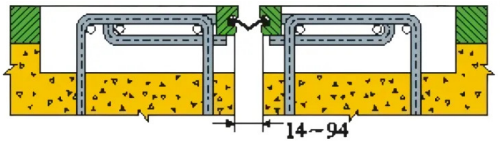
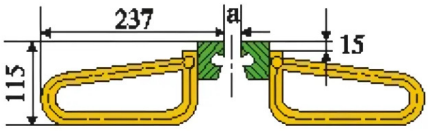
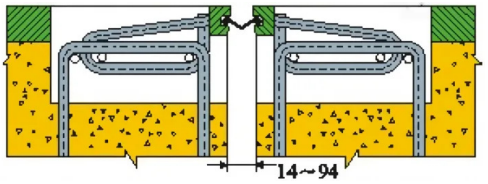
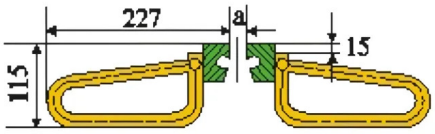
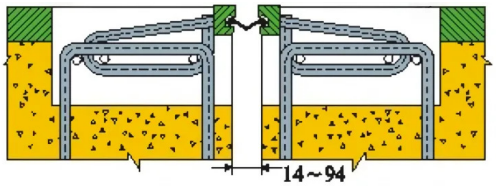
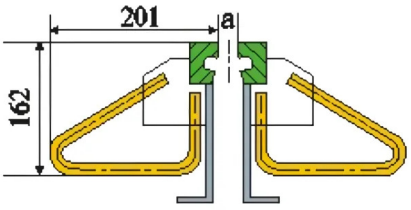
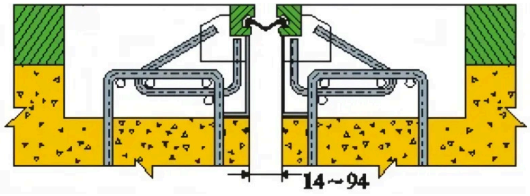
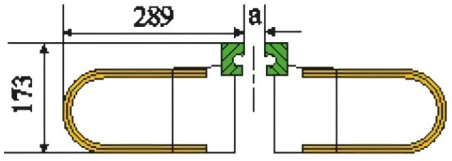
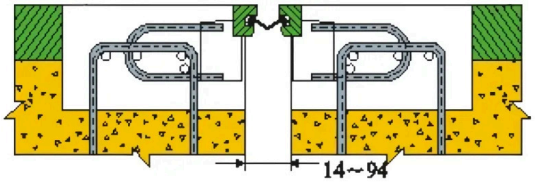
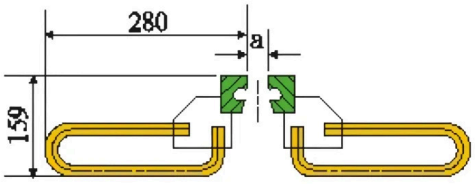
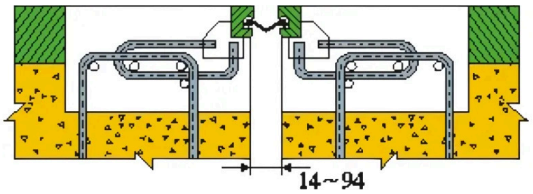
GQF-MZL-ZX Heavy-Duty Bridge Expansion Joint

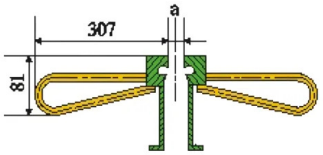
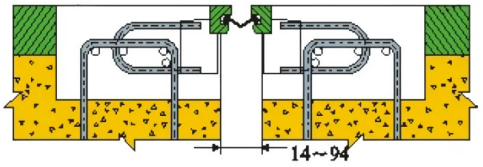
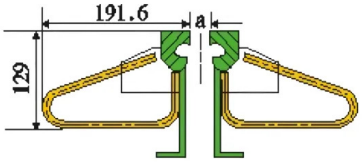
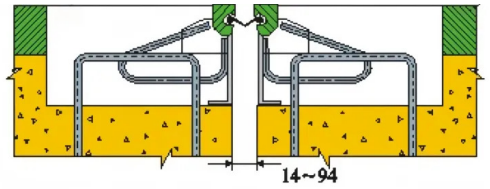
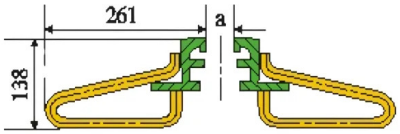
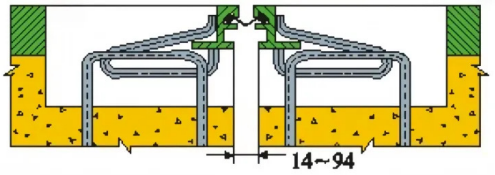
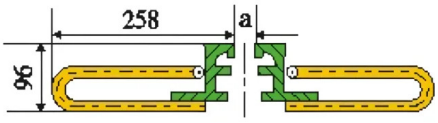
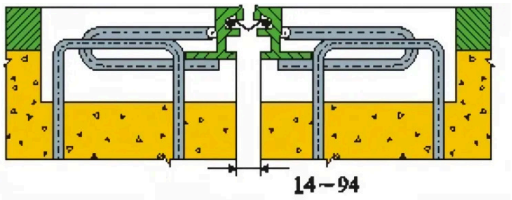
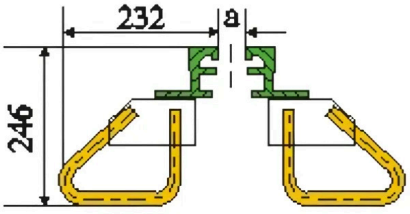
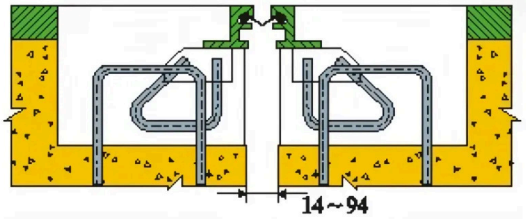
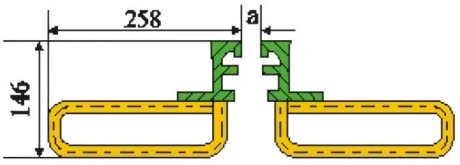
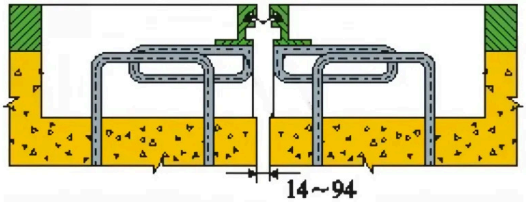
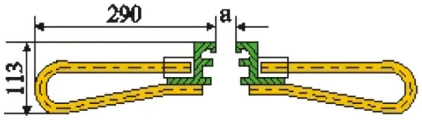
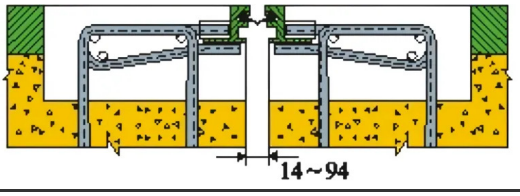
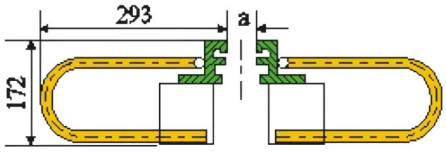
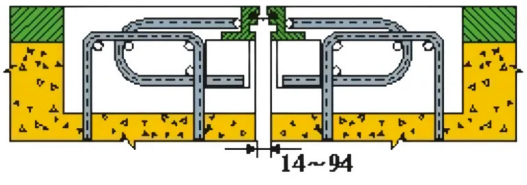
Heavy-duty bridge expansion joints are specifically designed for bridges carrying high volumes of heavy-load vehicles. The product's structural design fully complies with heavy-duty requirements, significantly enhancing load-bearing capacity and operational stability while effectively extending service life.

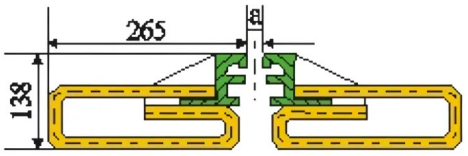
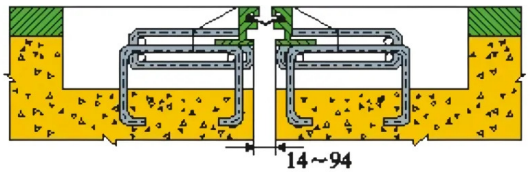
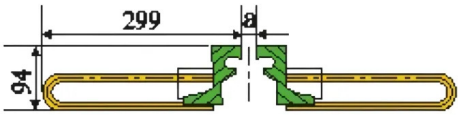
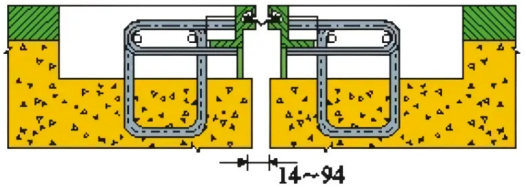
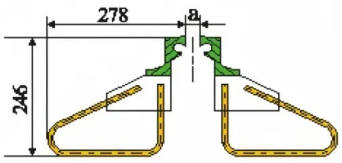
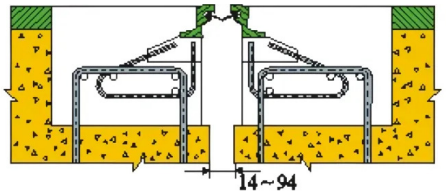
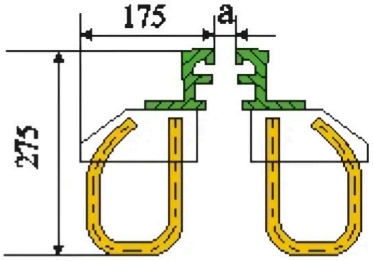
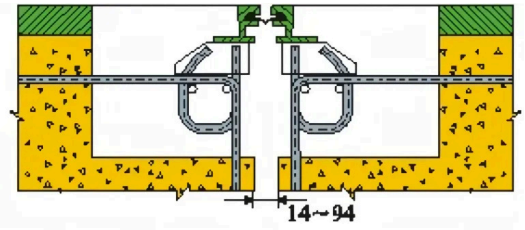
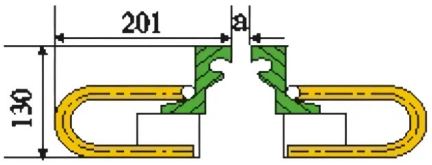
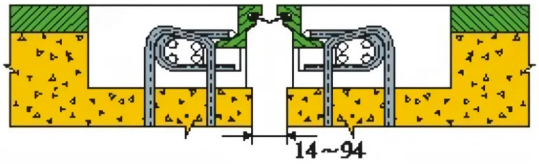
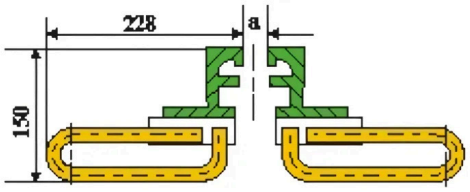
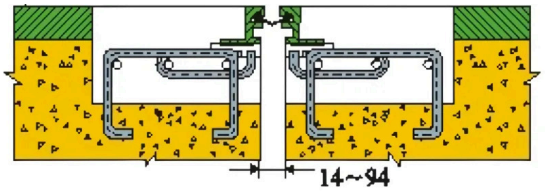
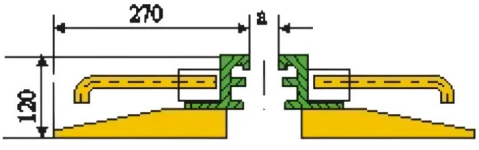
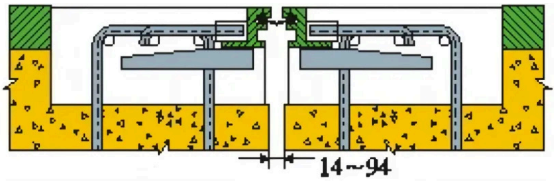
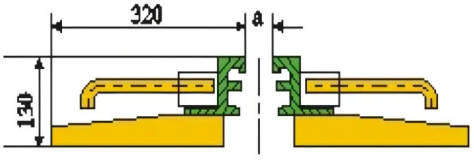
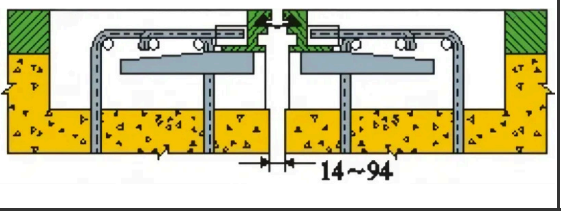


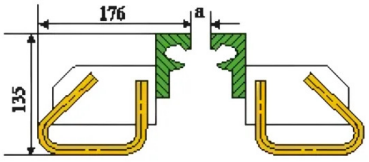
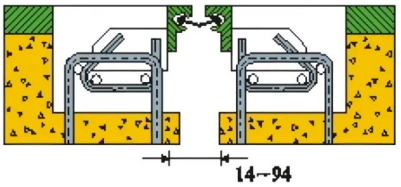
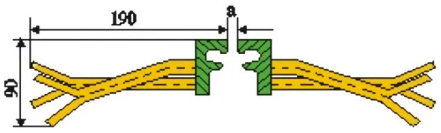
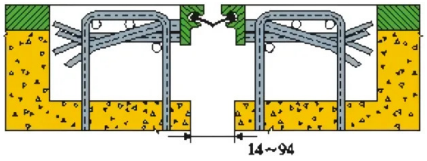
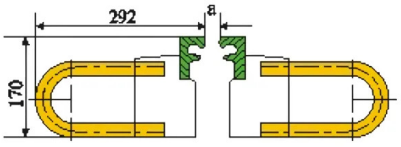
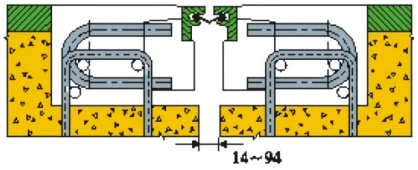
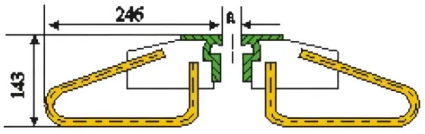
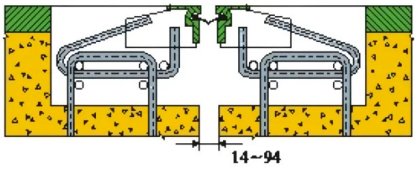
1、Anchor Bar 2、Edge Beam 3、Center Beam
4、Cross Beam 5、Waterproofing Rubber Strip
6、Control Box 7、Load-Bearing Support
8、Compression Support 9、Hanger
Note: A linkage mechanism is installed between cross beams to ensure synchronized movement of center beams.

Overall Dimensions and Installation Diagrams for 0-80mm Type Specifications

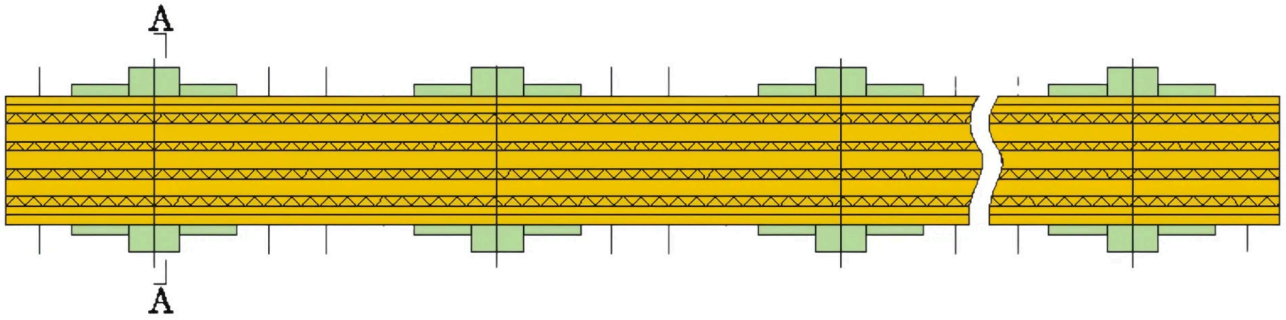
No.	Expansion Joint Cross-Sectional View	Typical Expansion Joint Installation Detail
GQF-C-1		
GQF-C-2		
GQF-C-3		
GQF-C-4		
GQF-C-5		
GQF-C-6		
GQF-C-7		

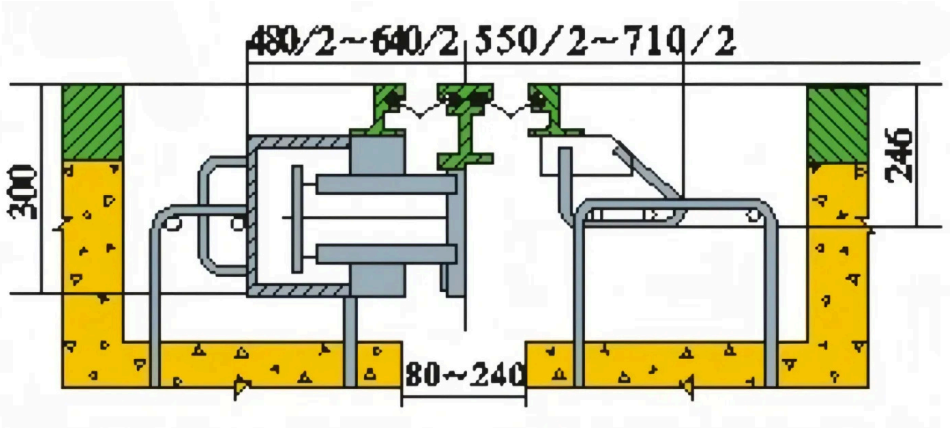
No.	Expansion Joint Cross-Sectional View	Typical Expansion Joint Installation Detail
GQF-C-8		
GQF-C-9		
GQF-E-1		
GQF-E-2		
GQF-E-3		
GQF-E-4		
GQF-E-5		
GQF-E-6		

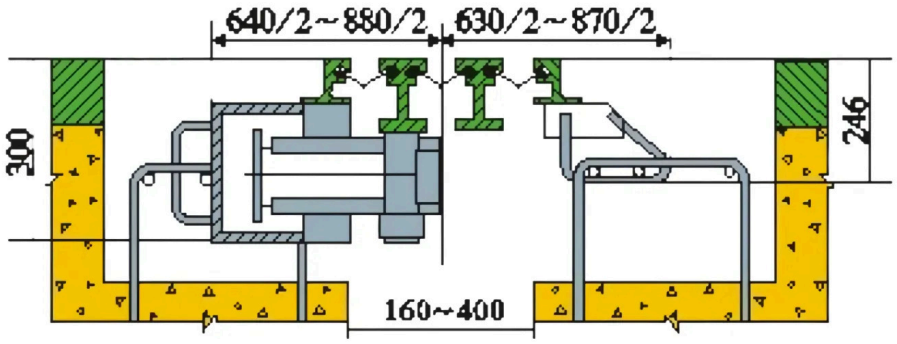
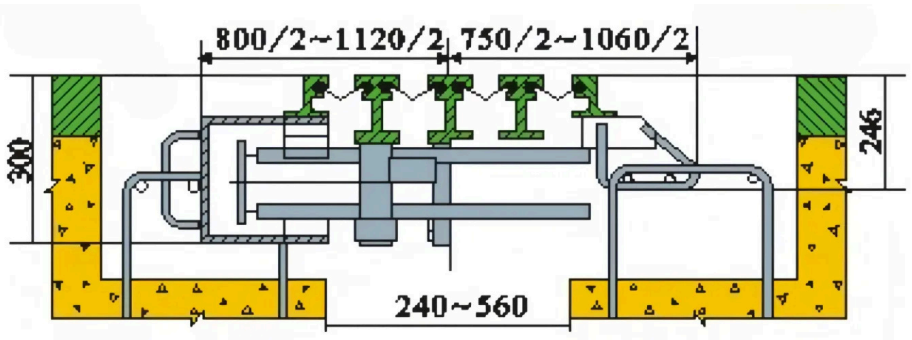
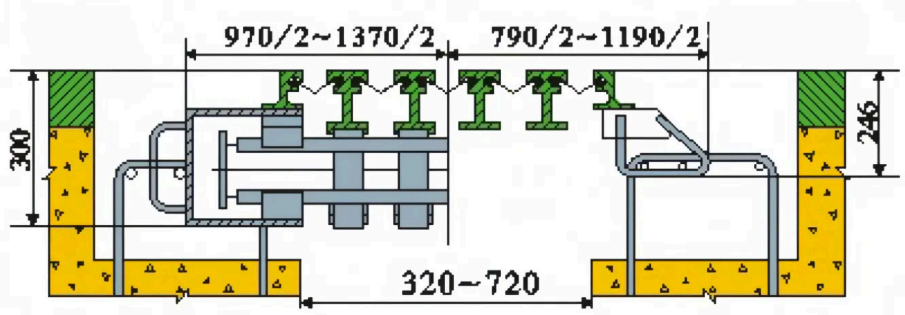
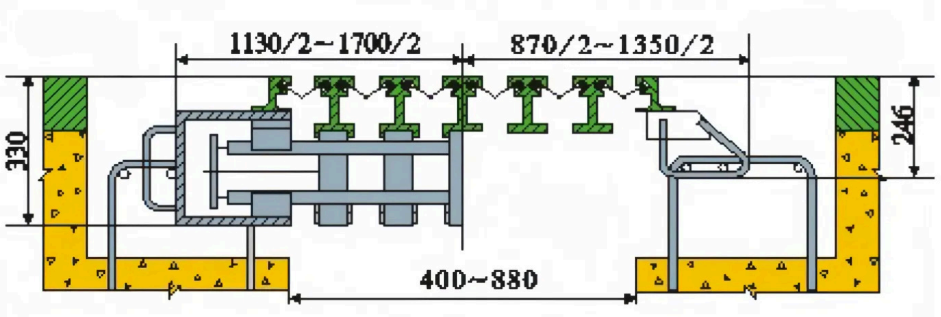
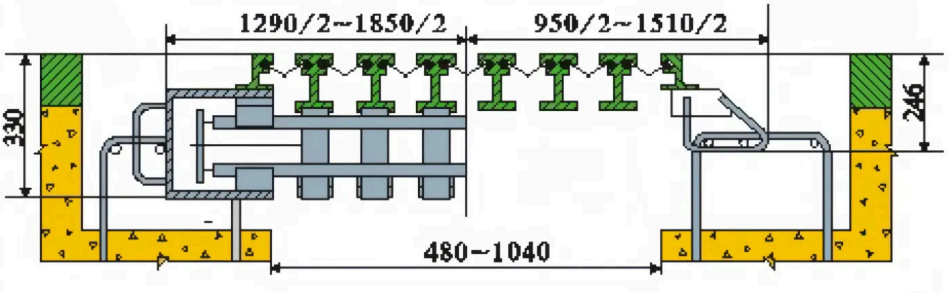
No.	Expansion Joint Cross-Sectional View	Typical Expansion Joint Installation Detail
GQF-E-7		
GQF-E-8		
GQF-E-9		
GQF-E-10		
GQF-E-11		
GQF-E-12		
GQF-E-13		
GQF-E-14		

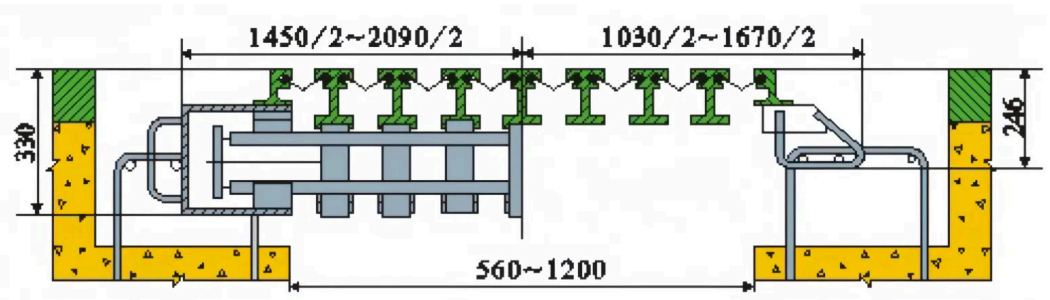
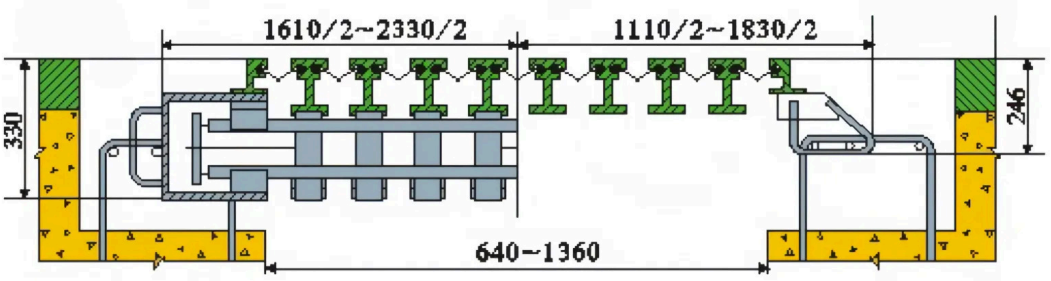
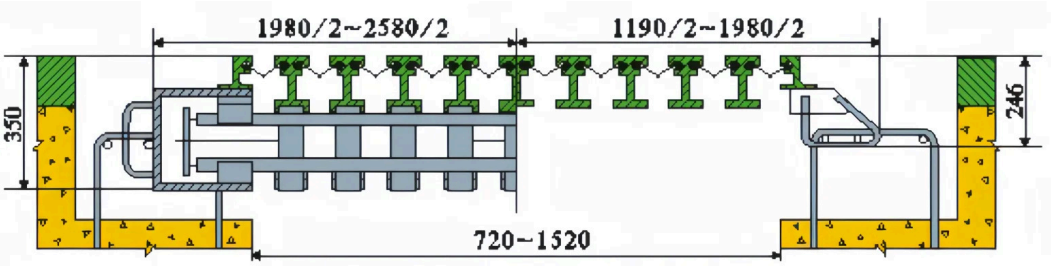
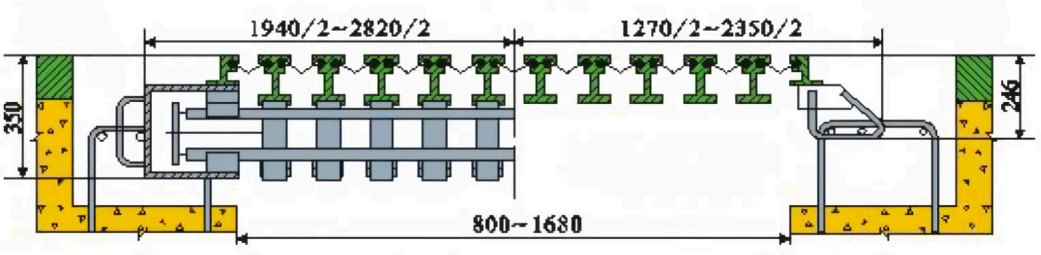
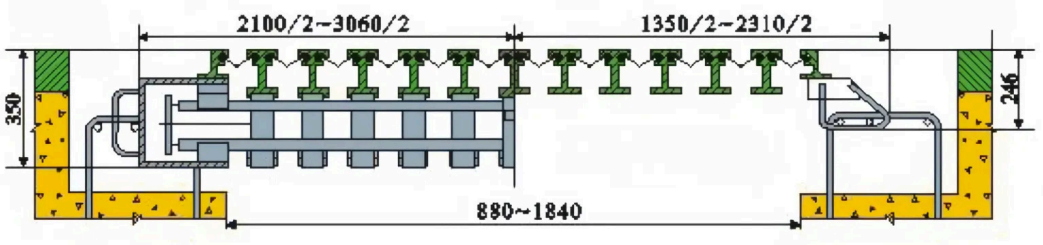
No.	Expansion Joint Cross-Sectional View	Typical Expansion Joint Installation Detail
GQF-F-1		
GQF-F-2		
GQF-F-3		
GQF-L-1		

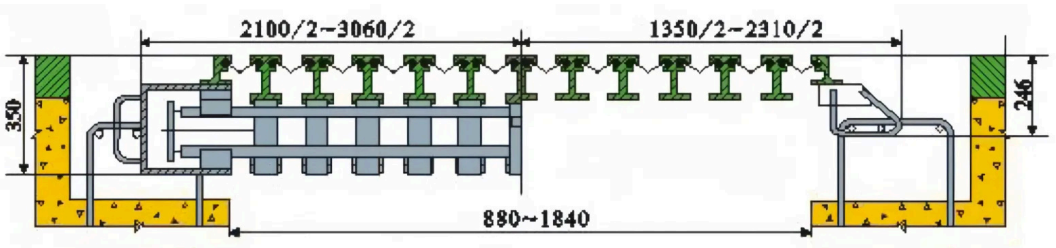
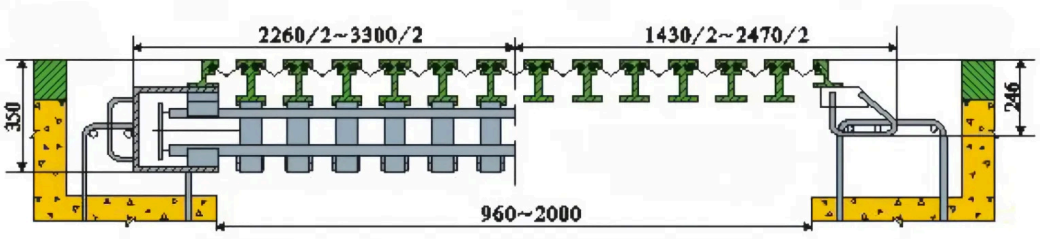
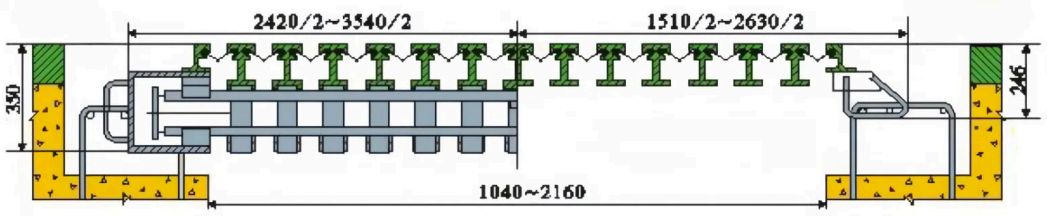
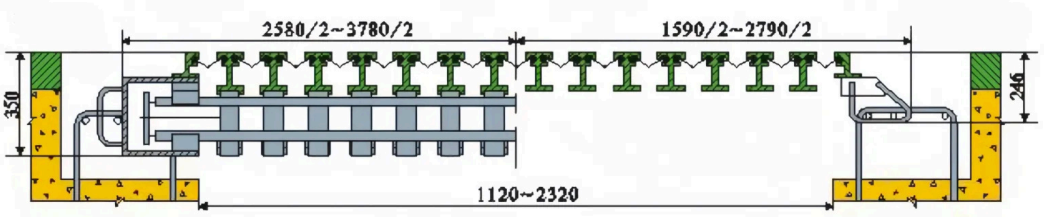
Overall Dimensions and Installation Diagrams for 160-1200mm Type Specifications

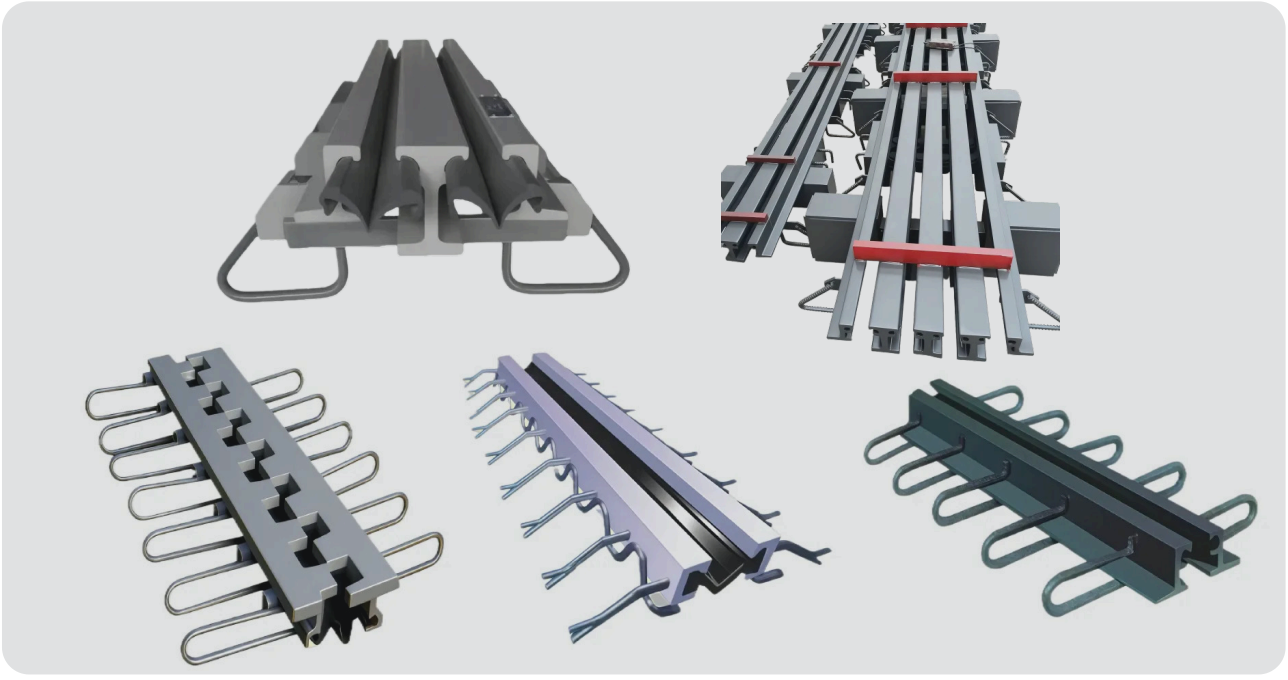


GQF-MZL160	

GQF-MZL240	
GQF-MZL320	
GQF-MZL400	
GQF-MZL480	
GQF-MZL560	

GQF-MZL640	
GQF-MZL720	
GQF-MZL800	
GQF-MZL880	
GQF-MZL960	

GQF-MZL960	
GQF-MZL1040	
GQF-MZL1120	
GQF-MZL1200	

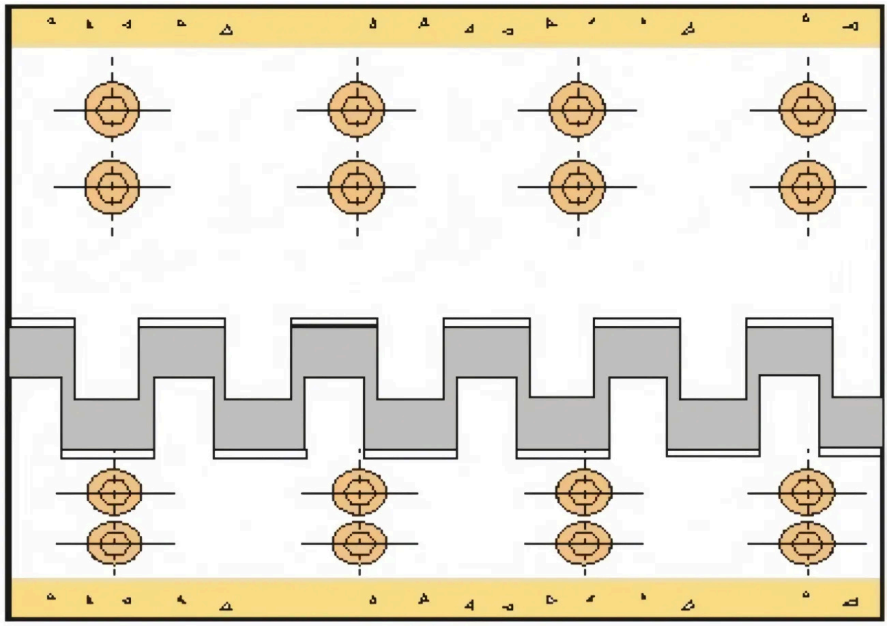


FINGER PLATE JOINTS

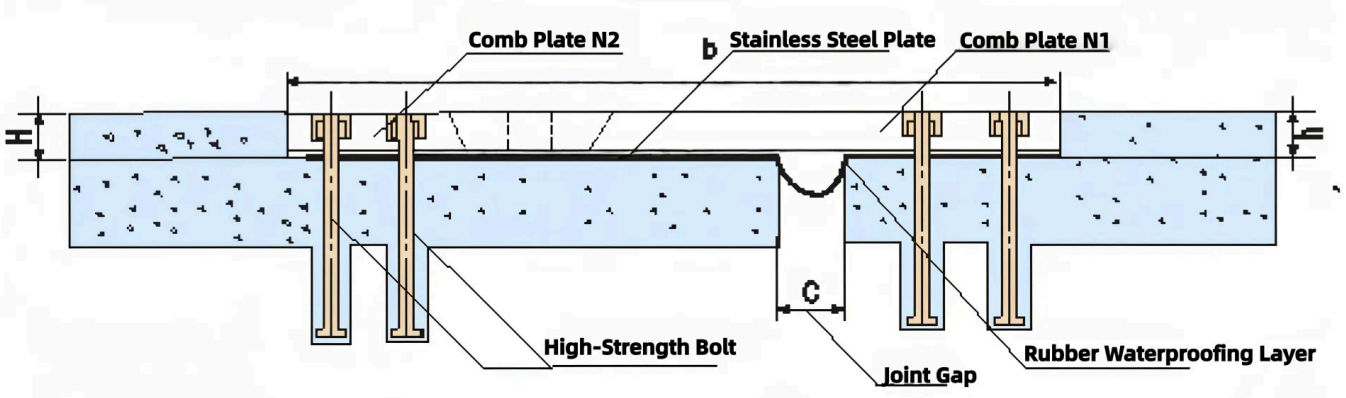
SF Comb Plate Bridge Expansion Joint

1.The SF expansion joint system is primarily constructed from a comb plate, a stainless steel sliding plate, a rubber waterproofing layer, and high-strength anchor bolts.

2.Key Features: Waterproof, dustproof, and shockproof; suitable for various bridge structures, offering a large expansion capacity and a wide range of applications.



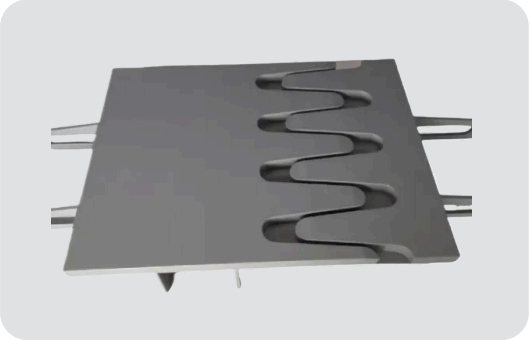
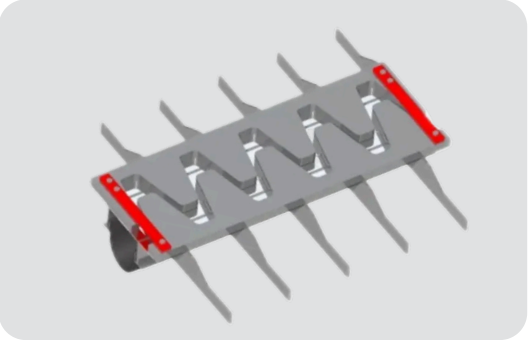
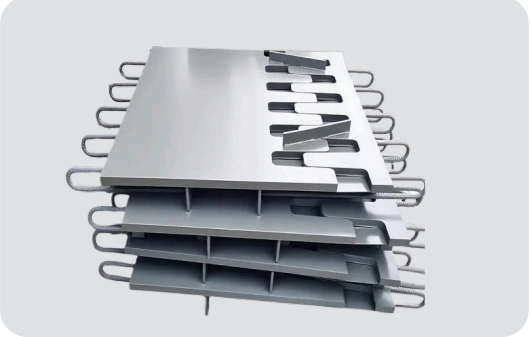
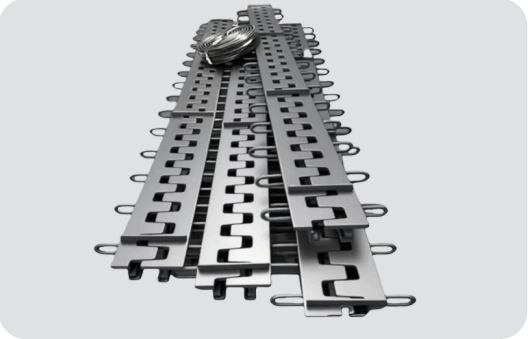
Plan View



Elevation View

Unit: mm

Model No.	C	h	Anchor Bolt	b	H	Setting of Wearing Surface Elevation
80	80	28	M18×180	740	33	120
100	100	28	M18×180	800	33	120
120	120	30	M18×180	860	35	120
140	140	30	M18×180	920	35	120
160	160	30	M18×180	980	35	120
180	180	32	M20×200	1080	37	120
200	200	32	M20×200	1140	37	150
220	220	32	M20×200	1200	37	150
240	240	34	M22×220	1260	39	150
260	260	34	M22×220	1320	39	150
280	280	34	M22×220	1380	39	150
300	300	36	M24×240	1480	41	150
320	320	36	M24×240	1540	41	150
340	340	38	M24×240	1600	43	150
360	360	38	M24×240	1660	43	150

Our comb plate expansion joints are available in a wide variety of styles and configurations. We can manufacture products based on your provided technical drawings, or we can offer custom design and production services tailored to your precise specifications.

ELASTOMERIC EXPANSION JOINT

Performance Features:

The Plate Rubber Expansion Joint is designed for installation at bridge expansion points to ensure smooth vehicle passage and accommodate superstructural movements. Constructed with a steel plate skeleton, it is assembled in segments and connected via high-strength bolts, ensuring structural safety and a seamless transition for comfortable driving. During installation, all bottom bolt holes and interfaces are filled with adhesive sealant, providing exceptional waterproofing. Manufactured from aging-resistant and abrasion-resistant rubber, it withstands repeated traffic loads, offering extended service life with minimal maintenance needs.

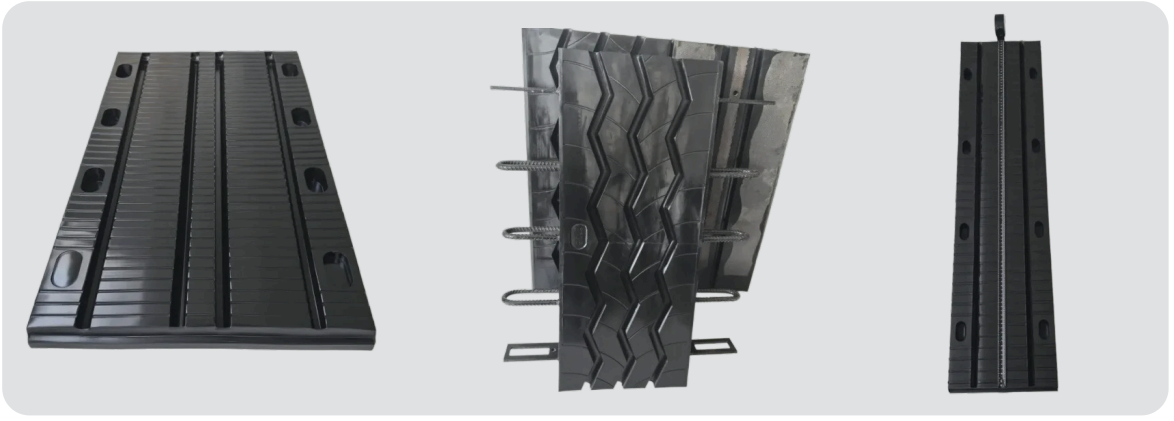
Technical Specifications:

Movement Capacity: 30–150mm

Temperature Range: Standard Type: -25°C to +60°C

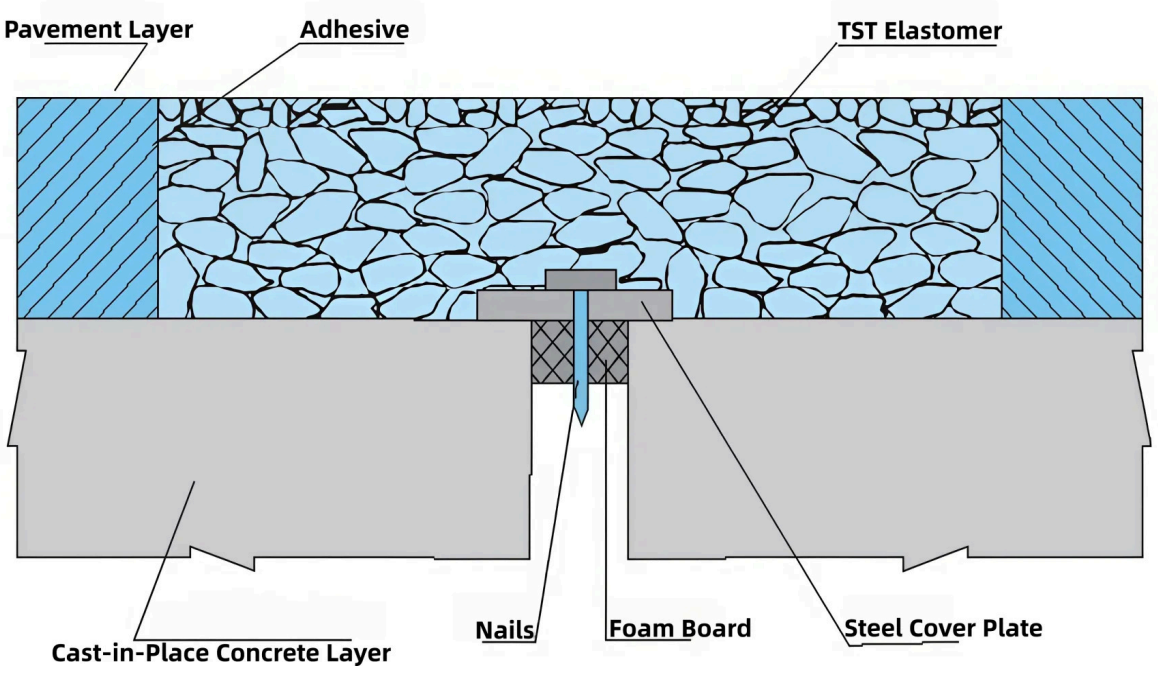
Frost-Resistant Type: -40°C to +60°C

Model	Specifications mm	Total Movement Capacity mm
B–30型	230×35×1000	≤30
B–45型	250×45×1000	≤45
B–60型	400×40×1000	≤60
B–100型	550×54×1000	≤100
B–150型	700×80×1000	≤150



ASPHALTIC PLUG JOINTS

The specially formulated elastic-plastic base material, RS rubber, is heated until molten and then poured into preheated gravel aggregate. This process forms the "TST Bridge Elastic-Plastic Joint System," where the gravel aggregate provides support for vehicle loads. The specialized TST-Z bonding agent ensures superior interfacial strength.



Key Features

1. The TST elastomer is laid directly over the bridge joint, forming a continuous surface with the adjacent deck or road pavement. This creates a seamless, smooth bridge deck that provides a smoother, more comfortable, and quieter ride with minimal vibration. It also offers advantages such as ease of maintenance, cleaning, and snow removal.
2. The system features a simple design, eliminating the need for complex expansion devices or pre-embedded anchor steel at beam ends. Installation is quick and straightforward, and traffic can resume immediately after the pavement cools.
3. This flexible joint effectively absorbs multi-directional deformations and vibrations. Its high damping capacity contributes to bridge shock absorption, accommodating movement in longitudinal, transverse, and vertical directions for curved, sloped, skewed, and wide bridges.
4. As the joint integrates seamlessly with the bridge deck pavement, it ensures excellent sealing and waterproofing properties, along with resistance to acid and alkali corrosion.
5. For expansion joint replacement on existing bridges, construction can be carried out on half of the road width, allowing traffic to continue uninterrupted even on busy roads.
6. The system offers low cost, long-term durability, and minimal maintenance, delivering significant economic and social benefits.

Scope of Application & Structural Dimensions

Scope of Application

Suitable for highway bridges, urban overpasses, viaducts, and other bridge expansion joints in regions with temperatures ranging from -25°C to +60°C, accommodating movements up to 50mm.

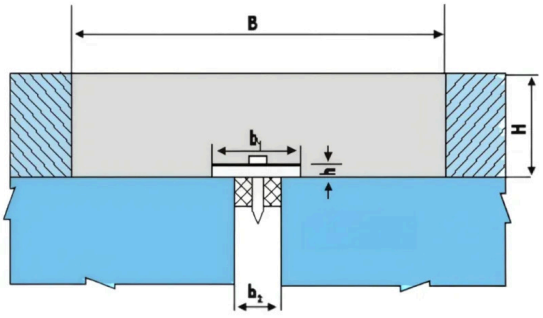
Structural Types & Dimensions

Based on the longitudinal gradient of the bridge, two structural types are available:

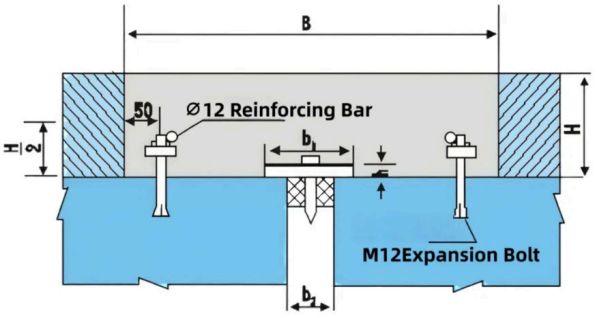
Type I: For expansion joints with a longitudinal gradient less than 2%.

Type II: For joints with a longitudinal gradient equal to or greater than 2%.

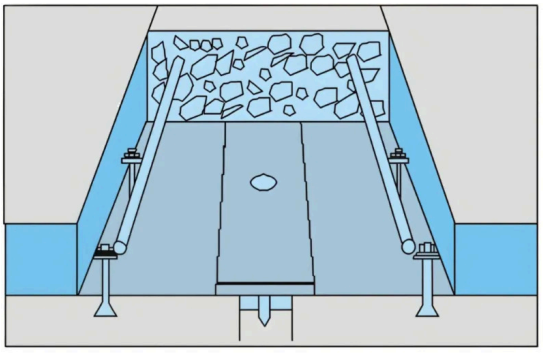
The key difference lies in the use of expansion bolts and reinforcement bars in Type II to ensure stability on steeper slopes.

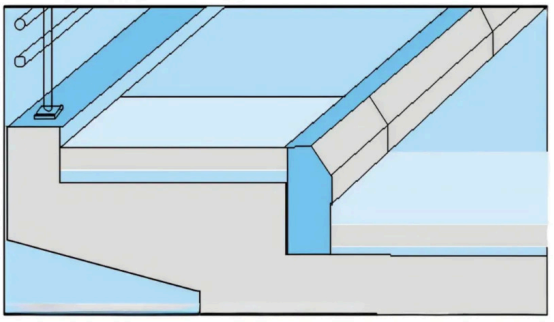


Type I Structure

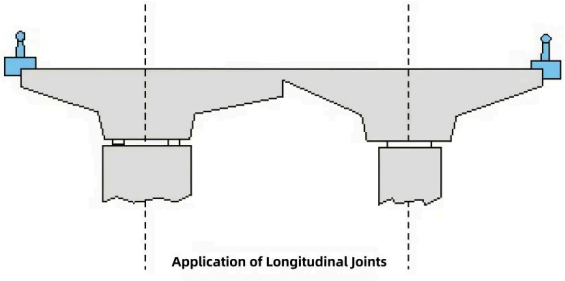


Type II Structure





Pedestrian Walkway Joint Solutions



Application of Longitudinal Joints

Movement Capacity ΔB	Slot Width B	Slot Depth H	Beam End Gap b_2	Steel Cover Plate $b_1 \times h$
10	200	60	20	120×6
20	300	60	20	140×6
30	400	80	30	160×6
40	500	80	40	180×6
45	600	80	40	200×6
50	700	80	40	220×6

RS Rubber & Aggregate

a. Rubber

RS rubber is a newly developed composite material combining elasticity and plasticity. Its primary components include high-molecular polymers and asphalt. During installation, it is heated to 190°C-210°C until fluid and poured into the preheated aggregate. RS rubber exhibits exceptional properties:

High adhesion strength

Resistance to high and low temperatures

Elastic-plastic deformation capacity

Aging resistance

b. Aggregate

The aggregate shall consist of hard limestone crushed stone with angular particles and excellent interlocking properties. Key requirements include:

Crushing value ⩽30%

Flaky and elongated particles content <15%-20%

Heating temperature: 100°C-150°C (prior to mixing with RS rubber)

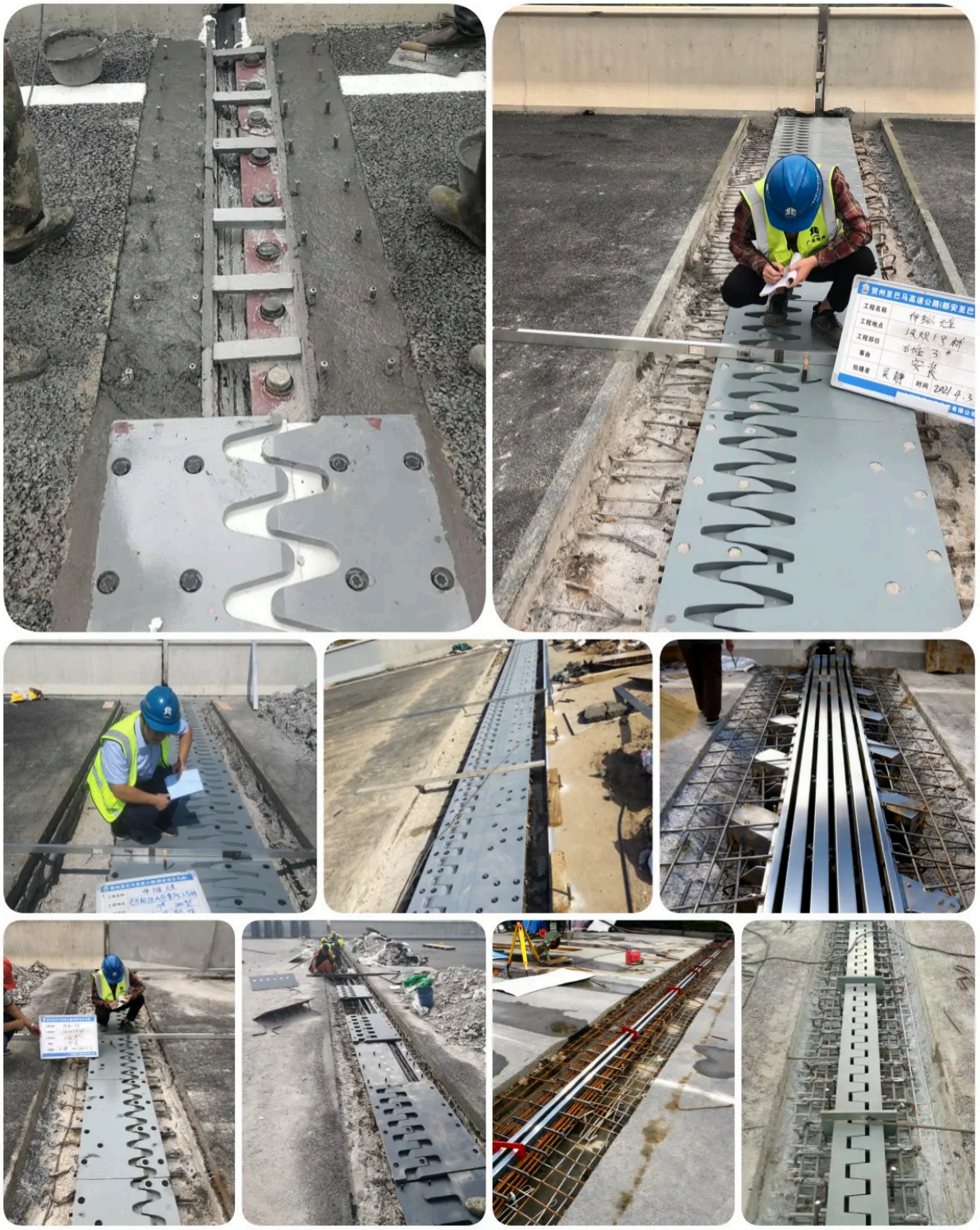
Properties of RS Rubber

Item		Unit	Specification
Density		G/cm³	1.20 ~ 1.25
Tensile Strength		Mpa	0.20 ~ 0.30
Elongation at Break		%	⩾800
Permanent Set after Breaking (15min)			40 ~ 60
Heat Resistance Test (163±1°C, 5h)	Change Rate of Tensile Strength		−15 ~ +15
	Change Rate of Elongation at Break		−20 ~ +10
Water Absorption Rate (23±2°C, 144h)			⩽4.0
Penetration (25±0.1°C, 100±0.01g, 5s)		0.1mm	55 ~ 65
Softening Point (Ring-and-Ball Method)		℃	⩾100
Flash Point (COC Method)			⩾240
Fragile Point (Fraass Method)			⩽−40

Aggregate Gradation Requirements:

Main Layer: 20mm - 40mm (Load-bearing skeleton)

Surface Layer: 5mm - 10mm (Provides a denser surface for smoother paving)



Our Installation Support

With extensive experience from numerous global projects, our team provides comprehensive installation guidance to ensure optimal performance of your expansion joints. We offer detailed technical support, from on-site supervision to step-by-step instruction manuals, guaranteeing a seamless and efficient installation process for all clients.