AGOM®
IDEAS, ENGINEERING AND MANUFACTURE

EXPANSION JOINTS

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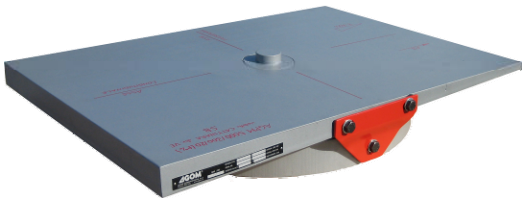
Building and engineering

Bridges are subjected to movements and rotation caused by traffic, temperature changes, earthquakes, shrinkage, prestressing, creep, etc. Bridge construction requires carefully designed and manufactured bearings, anti-seismic devices, shock absorbers and expansion joints to ensure that such forces are properly dealt with throughout the life of the structure.

Agom has over 40 years experience in the design and manufacture of bridge bearings, bridge expansion joints, anti-seismic devices and shock absorbers for the bridge-building and construction industry. All products comply with the latest European standards and all main international standards.

The quality and durability of these products are ensured by:

- our team of skilled engineers to conceptualise and design the most appropriate engineering solutions
- qualified professionals trained and continually updated in quality production techniques
- virgin raw materials that are quality assessed in our on-site testing laboratory
- ISO 9001:2000 quality standard accreditation
- strict quality control processes
- periodical external inspections by globally recognized bodies such as the Polytechnic University of Milan and Certiquality



Bridge Deck Movements

The horizontal movements of a bridge superstructure are due to :

- Temperature expansion and contraction
- Shrinkage of concrete
- Shortening of concrete due to creep effect
- Elastic shortening
- Movements due to induced external loads (e.g. earthquake, wind, vehicular braking etc.)

Temperature

Temperature variations cause both expansion and shortening of the bridge deck and are usually computed as a plus and minus range about a mean structure temperature which occurs when the superstructure is placed on the bearings. Temperature differentials also occur in the deck from top to bottom and from one side to other side of the deck. Temperature differentials through the depth of the deck have little effect on the bearings and piers but those from one side of the deck to the other cause the deck to bend in plan which results in horizontal forces on the bearings and piers.

Shrinkage of Concrete

Shrinkage of concrete results in the shortening of the bridge superstructure. This effect depends upon factors such as quality of concrete used, size of the member, relative humidity and time after casting.

Shortening due to Creep Effect

Effect of creep of concrete under prestressing and other permanent loads results in the shortening of the superstructure. It is a time dependent effect.

Elastic Shortening

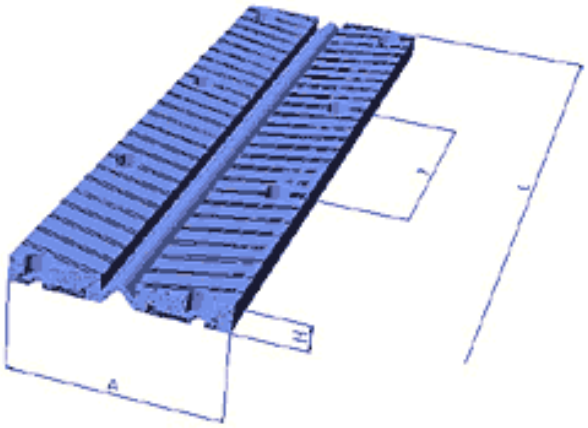
This phenomenon occurs in case of prestressed superstructure during prestressing. The amount of shortening depends on the stage at which the superstructure is placed on the bearings and also at what stage it is prestressed. Some times, partial or complete prestressing may be carried out before the superstructure is placed on the bearings thus eliminating this shortening from affecting the bearings at least partly.

Bridge EXPANSION JOINTS

AGWJ-series expansion joints

AGOM's AGWJ expansion joints are designed to enable displacements of up to 70mm with respect to the bridge decks they are fastened to. Entirely waterproof, they are secured to the structure with suitable anchor bolts. The deformable rubber elements are vulcanised with two rolled steel reinforcements with a U cross-section (standard EN 10025). AGWJ joints also allow displacement of the structure's parts relative to each other in any direction.

Advantages AGWJ-series expansion joints:



WATERPROOF:
AGWJ joints are entirely waterproof.

EASE OF ASSEMBLY:
AGWJ joints are extremely easy to fit. The joint's elements are connected together with a male-female coupling and secured to the structure with suitable anchor bolts.

CORROSION RESISTANCE:
the steel structure is thoroughly embedded in the rubber, meaning it is protected from the atmospheric agents.

LOW NOISE:
thanks to the special design of the rubber cover, the joint makes little noise as vehicle runs over it.

LONG SERVICE LIFE:
the special anti-abrasive rubber used to manufacture AGOM joints has been designed to withstand the action of oil, grease, petrol and ageing due to constant exposure to sunlight and changes in temperature.

INTERCHANGEABLE:
the AGWJ is a particularly suitable choice for replacing existing joints.

Technical Specifications: AGWJ-series expansion joints

Model	Movement [mm]	Dimensions AxHxL [mm]	P [mm]	Weight [kg/m]
AGWJ 50	± 25	282 X 35 X 2000	313	15
AGWJ 70	± 35	282 X 35 X 2000	313	16

Highway expansion joints

AGOM's HIGHWAY AGFLEXJ expansion joints are designed to enable displacements of up to 330 mm with respect to the bridge decks they are fastened to. Entirely waterproof, they are secured to the structure with suitable anchor bolts. The deformable rubber elements are vulcanised with rolled steel reinforcements made up of two angular plates and a bridge plate (standard EN 10025). AGFLEXJ joints also allow displacement of the structure's parts relative to each other in any direction.

Advantages AGFLEXJ-series expansion joints

WATERPROOF:
AGFLEXJ joints are entirely waterproof.

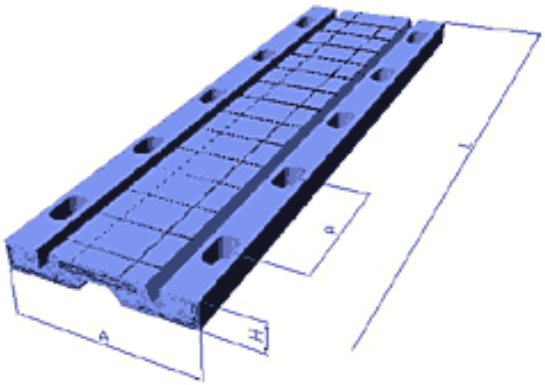
EASE OF ASSEMBLY:
AGFLEXJ joints are extremely easy to fit. The joint's elements are connected together with a male-female coupling and secured to the structure with suitable anchor bolts.

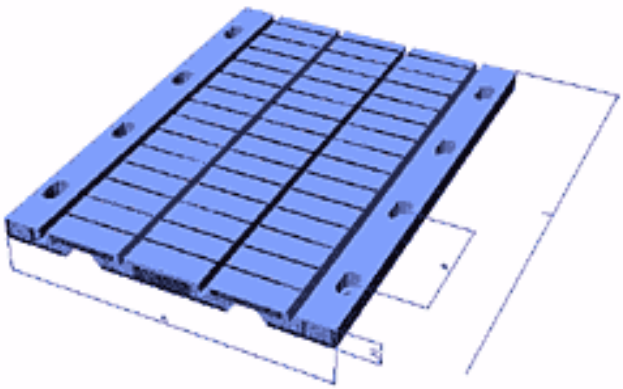
CORROSION RESISTANCE:
the steel structure is thoroughly embedded in the rubber, meaning it is protected from the atmospheric agents.

LOW NOISE:
thanks to the special design of the rubber cover, the joint makes little noise as vehicle runs over it.

LONG SERVICE LIFE:
the special anti-abrasive rubber used to manufacture AGOM joints has been designed to withstand the action of oil, grease, petrol and ageing due to constant exposure to sunlight and changes in temperature.

INTERCHANGEABLE:
the AGFLEXJ is a particularly suitable choice for replacing existing joints.





Technical Specifications: AGFLEXJ-series expansion joints

Model	Movement [mm]	Dimensions AxHxL [mm]	P [mm]	Weight [kg/m]
AGFLEXJ 30	± 15	269 X 32 X 2000	200	18
AGFLEXJ 50	± 25	272 X 42 X 2000	200	25
AGFLEXJ 80	± 40	357 X 46 X 2000	250	34
AGFLEXJ 100	± 50	388 X 55 X 2000	250	45
AGFLEXJ 120	± 60	427 X 69 X 1000	250	59
AGFLEXJ 140	± 70	462 X 78 X 2000	250	81
AGFLEXJ 160	± 80	498 X 84 X 2000	250	88
AGFLEXJ 200	± 100	800 X 71 X 2000	250	135
AGFLEXJ 250	± 125	882 X 78 X 2000	250	155
AGFLEXJ 330	± 165	1106 X 100 X 1000	250	280

AGFLEXBJ -series expansion joints

AGOM's AGFLEXBJ-type expansion joints are designed to enable very large displacements with respect to the bridge decks they are fastened to. Entirely waterproof, they are secured to the structure with suitable anchor bolts. The joint movement can be obtained or by deformation of rubber elements vulcanised with rolled steel reinforcements or by compression and extension of rubber bellows (see below pictures). The gap between structures is overcome by a bridge steel zinc coated plate (standard EN 10025).

Advantages AGFLEXBJ -expansion joints

WATERPROOF:
AGFLEXBJ joints are entirely waterproof.

EASE OF ASSEMBLY:
AGFLEXBJ joints are easy to fit. The joint's elements are connected together with a male-female coupling and secured to the structure with suitable anchor bolts. The bridge plate is connected to the rubber mats by bolts and plugs.

CORROSION RESISTANCE:
the steel structure is thoroughly embedded in the rubber, meaning it is protected from the atmospheric agents. The bridge plate is zinc coated and the connection plugs are made of stainless steel.

LONG SERVICE LIFE:
the special anti-abrasive rubber used to manufacture AGOM joints has been designed to withstand the action of oil, grease, petrol and ageing due to constant exposure to sunlight and changes in temperature.

COMPREHENSIVE LABELLING:

All elastomeric expansion joints are provided with a non-fading mark directly moulded on the rubber outlining the properties of the joint
- international standards
- order number
- date of manufacture

Quality of materials

All the expansion joints are manufactured using only first class rubber (natural or synthetic) in accordance with the main international standards. Agom can manufacture also expansion joints with dielectric rubber.

MORE THAN 40 YEARS EXPERIENCE DESIGNING AND MANIFACTURING DEVICES FOR CONSTRUCTION, OFFSHORE AND INDUSTRIAL MARKETS





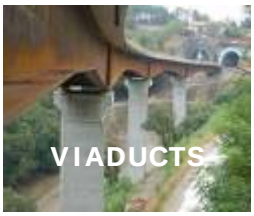


Bridge bearings
- Elastomeric Bridge bearings
- Pot bearings
- Spherical bearings
- Incremental Launching bearings
- Horizontal load bearings
- Special bearings

Seismic Isolators
- High damping rubber bearings
- Lead core rubber bearings
- Multilayer rubber bearings
- Shock transmitters
- Shock absorber
- Rubber dampers

Expansion joints
- Elastomeric joints
- Joints for high movements
- Finger joints
- Buried joints
- Railway joints

Services
- Design
- Consulting
- On site assistance
- Installations
- Tests
- Inspection

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