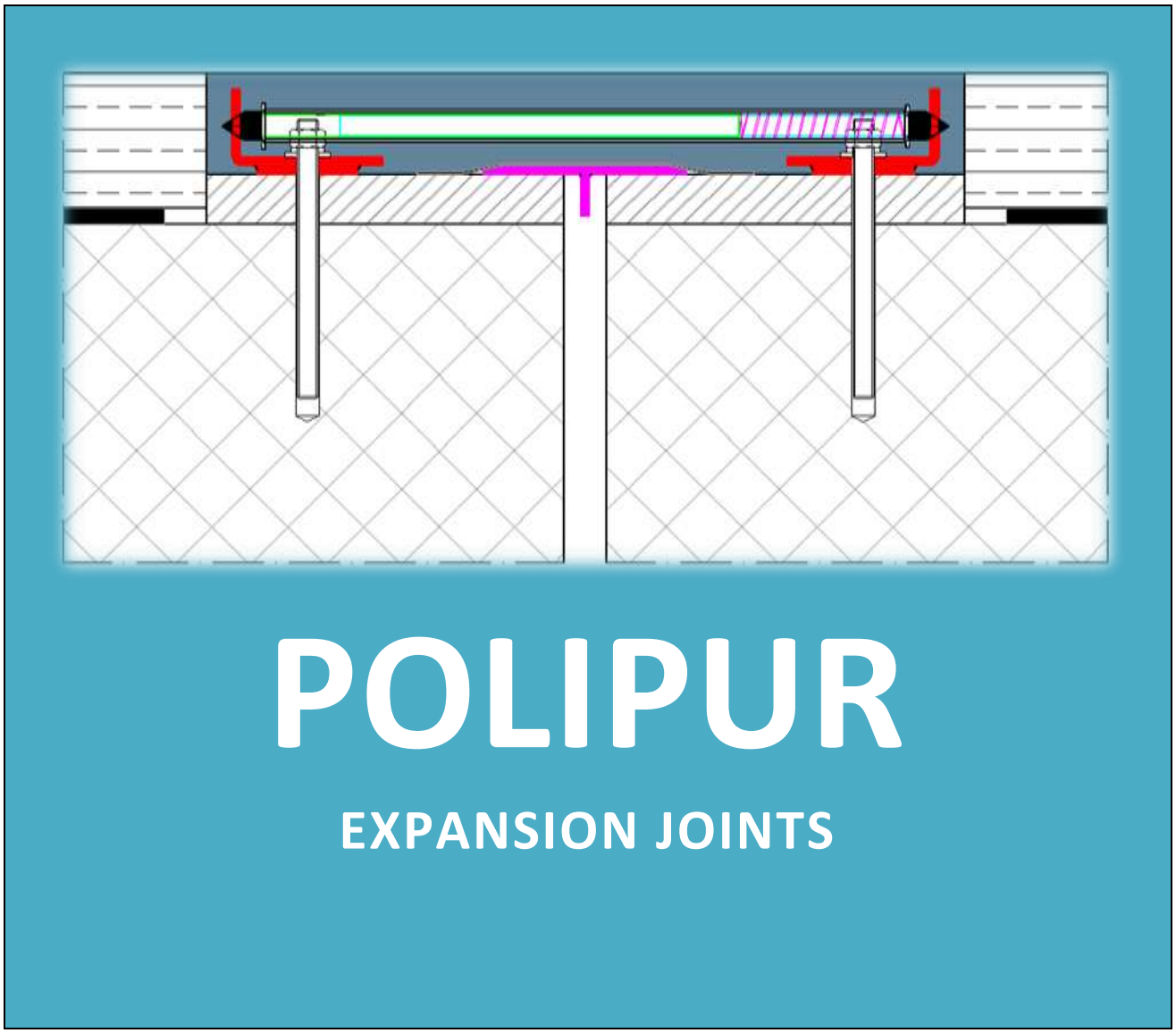
7. POLIPUR TYPE EXPANSION JOINTS CATALOGUE



DESIGN CONCEPT

Basic purpose of expansion joints is to enable undisturbed movements of bridge spans related to abutments of bridge (two dilated parts of structure), while bridging the gap between them in order to ensure smooth flow of traffic.

By filling gaps between two dilated structures, expansion joints should ensure:

- secure load transfer to substructure
- solid components structure and fatigue resistance
- low wear
- continuous adaptation versus deformation
- watertightness
- usage of materials resistant to ageing, corrosion and wear
- durability and easy maintenance

EXPANSION JOINT DESCRIPTION

POLIPUR type expansion joints are polyurethane based expansion joints made from two-compomemt self levelling polyurea matter (advanced polyurethane).
POLIPUR expansion joints enable movements up to ±60 mm.
They are ideal for bridge sanations and expansion joint repairs because they do not require installation gaps in structure.
They have high traffic vibration resistance and provide high driving comfort, not emitting noise level higher than normal noise of traffic on the pavement.

Advanced polyurethae is reinforced with steel profiles, which direst deformations into elastic area of expansion joint system, thus ensuring adhesion of polyurethane with adjacent structure, watertightness and durability of device.

Constant factory controll system for all production processes and usage of advanced polyurethane ensures high level of quality for POLIPUR expansion joints.

PU 860 advanced polyurethane, which is installed into POLIPUR joints:

- very high elasticity…700% elongation at break
- is permanently elastic – no dents or ruts from traffic load
- is installed using “cold casting procedure”, after combining two components with no heating. It has possibility of installation in segments (it is possible to flow traffic during installation)
- homogenous material, which allows deformations in all directions
- very durable, wear resistant and UV radiation resistant (with final coating TC458) and does not require maintenance of expansion joint…the principle is “install and forget, on low traffic roads

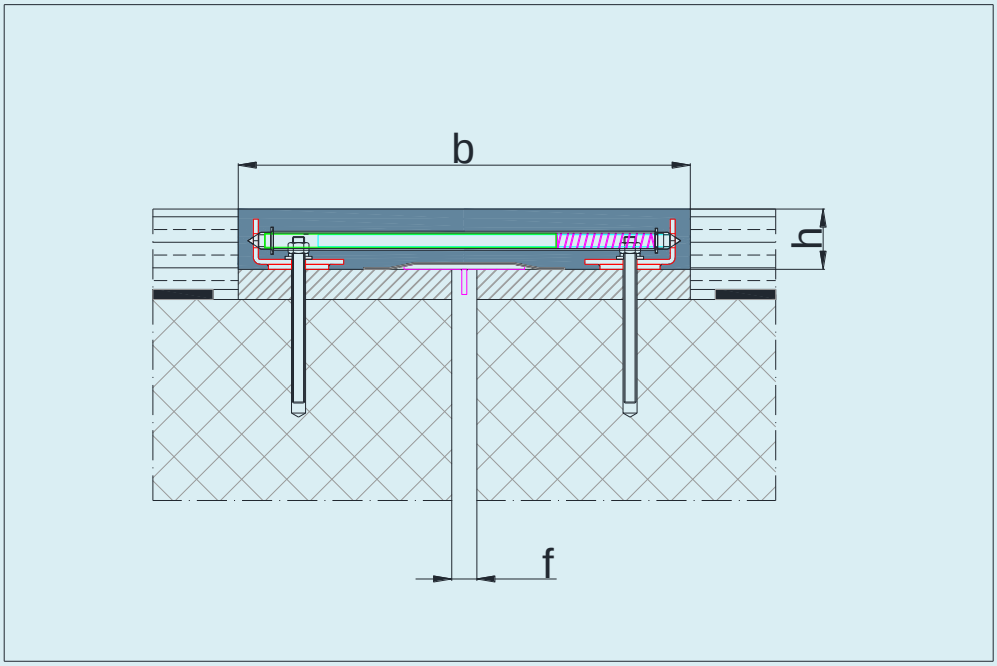
Advanced polyurethane PU 860 mechanical properties

Hardness ShoreA			75
Tensile strength	DIN 53504	MPa	15
Elongatin at break	DIN 53504	%	700
Viscosity	DIN 53515	MPA	21

POLIPUR EXPANSION JOINT ELEMENTS

ELEMENT	DESCRIPTION
FILLER	
ADVANCED POLYURETHANE	PU 860
STRUCTURAL ELEMENTS	
STABILISATION SYSTEM	telescopic seamless steel pipe S235JR and PP coating
SUBSTRUCTURE	profiled steel sheets S235JR or better
ANCHORING	
PAVEMENT ANCHORING SYSTEM	chemical anchoring VPK-SF + ASK-F + DIN 125 + DIN 934

TYPES, MOVEMENTS AND DIMENSIONS



EXPANSION JOINT TYPE	KAMOVEMENT CAPACITY [mm]	VERTICAL MOVEMENT [mm]	NOMINAL OPENING f [mm]	POLYURETHANE LAYER THICKNESS h [mm]	EXPANSION JOINT WIDTH b [mm]
PP 15	15 (+10; -5)	2,5	20	40	280
PP 30	30 (+20; -10)	2,5	20	50	350
PP 50	50 (+33; -17)	5	25	60	450
PP 60	60 (+40; -20)	5	30	60	500
PP 75	75 (+50; -25)	5	35	60	600
PP 90	90 (+60; -30)	10	40	60	750
PP 135	135 (+90; -45)	10	50	60	1100