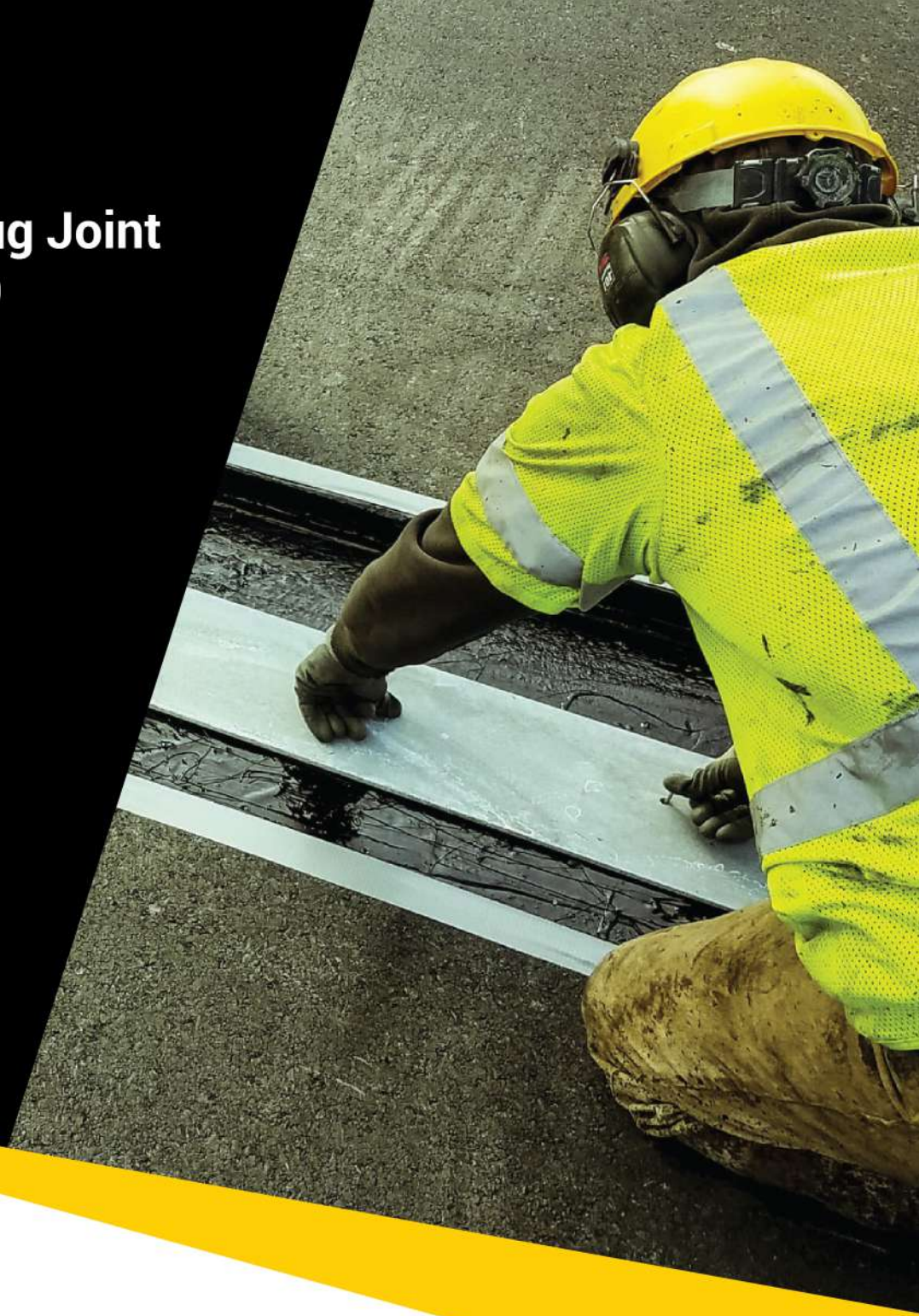
Asphaltic Plug Joint System (APJ)

Thorma Joint



ATAYA®
CONSTRUCTION PRODUCTS

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1-INTRODUCTION

ATAYA is an **ENNIS FLINT** approved applicator for the delivery and installation of the Thormajoint bridge joint range according to the specification of **Asphaltic Plug Joint.**

ThormaJoint is a combination of an elastomer modified bitumen binder known as **BJ200** and a carefully selected single size aggregate. The joint is constructed in layers, in-situ and is a hot process.

BJ200 is manufactured by **ENNIS FLINT** and is a special blend of bitumen, polymers, fillers and a surface active agent, formulated to combine good fluidity at process temperatures with low temperature flexibility and ambient temperature flow resistance. It is delivered to site in bags in its solid state, where it is heated in special boilers **(double oil jacketed boiler)** to its normal application temperature.

2-WHY THORMA JOINT?

- Very low and easy maintenance.
- Low surface noise & excellent ride quality.
- Excellent durability.
- Able to withstand extremes temperatures.
- Flexible and waterproof.
- Ability to accommodate longitudinal, rotational and transverse movements.
- Quick installation, thereby minimizing disruption to traffic flow.
- Can be used across the full depth of the bridge.

3-TECHNICAL ADVISORY SERVICES

Further technical information may be obtained upon request and consultation is encouraged to ensure choice of materials selected and detailing is optimised to suit in-service performance requirements and economic solutions.

4-MATERIAL & EQUIPMENT

1 Materials

Binder

The binder shall be a hot applied polymer modified bituminous material, complying with the following characteristics:

- Flow resistant.
- Stable in hot condition.
- Flexible in cold conditions.

Aggregate

The aggregate shall be a single size 20 mm stones.

2 Equipment

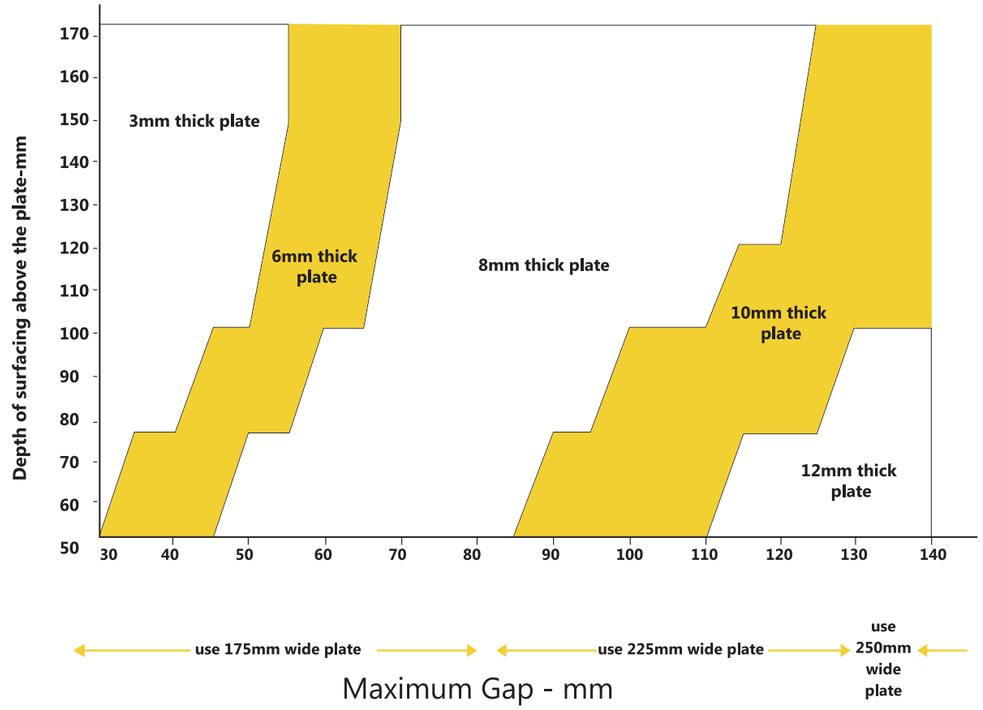
1. **Excavation Equipment:** Diamond Blade Saw, Pneumatic/Hudraulic Hammer.
2. **Cleaning Equipment:** Wire brush, Compressed air.
3. **Material Preparation:** Double oil jacket, Mixer.
4. **Compaction Equipment.**

5-DETAILS OF JOINT WIDTH & DEPTH

A-Joint width and depth

Joint Width (mm)	Joint Depth (mm)	Maximum Horizontal Movement (mm)
500	+100 75-100 50-75	±35 mm ±25 mm ±12 mm
400	+100 75-100 50-75	±25 mm ±25 mm ±12 mm
300	+100 50-100	±10 mm ±5 mm

B-Steel plate thickness (Figure 1)



6-INSTALLATION

1 Marking

The joint shall be marked out to the specified width.

2 Cutting

Cutting out through full depth of asphalt.

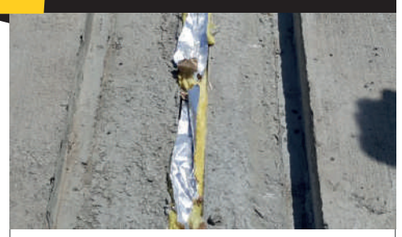
3 Demolshing

Demolshing the asphalt after cutting till the surface of concrete deck.

4 Repairs

Defective concrete should be repaired with an approved material as agreed upon by the Project Engineer.

5 Caulking

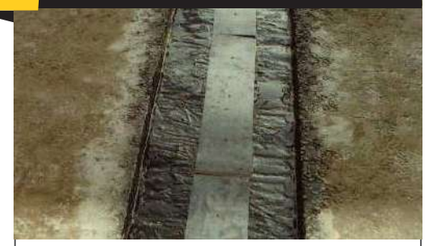


Caulk the expansion gap using Thormafoam

6 Tanking

Tank the recess with hot BJ200 binder to seal the joint and improve adhesion of the joint to the asphalt.

7 Plating



Install the aluminum strip or steel plate over the gap Materials (the steel plate size according to fig.1).

8 Material Preparation

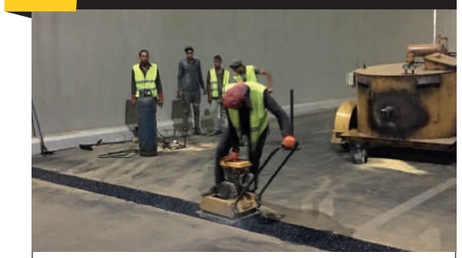
a-The aggregate must be heated in a vented rotating drum mixer by the use of a hot compressed air lance. The aggregate has to be heated to a temperature of 150°- 190° C.

b-The binder shall be heated in a double oil heat jacketed kettle.

9 Surface Layer

The hot pre-mix prepared shall be transferred to the joint and spread to a slight overfill in to layers.

10 Compaction



Compaction should take place as soon as possible after filling using a vibratory plate or roller .

11 Surface Dressing

Seal the surface using BJ200.

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