

# 十二、 AC Patching, Joint & Crack Sealing

參考資料：

1. Darter, M. I. “Techniques for Pavement Rehabilitation,” Training Course, FHWA, 1987. (Block 3 Restoration, Module C and I)

## Module 3C - Patching with Bituminous Mixtures

Introduction

Materials

1. Cold Mixes
2. Hot Mixes

Need for Patching

1. Replacement of PCC
2. Pothole Repair

Flexible / Concrete Pavement

3. Repair of AC Fatigue Cracking
4. Spot Patching and Level-Up

Properties Needed

1. All Mixes: Stability, Cohesiveness, Resistance to Water Action, Durability
2. Cold Mixtures: Workability, Storability

Establishing Patching Boundaries

Patching Mixtures

1. Hot Mix Asphalt Concrete
2. Stockpiled Patching Mixtures (Binders & Aggregates)

## Patching Techniques and Procedures

1. Marking
2. Cutting Boundaries
3. Cleaning and Repairing Foundation
4. Tack Coat
5. Filling
6. Compaction
7. Cleanup

## Module 3I - Joint and Crack Sealing

### Introduction

1. Removal of incompressibles and prevention of further intrusion
2. Reduction of water infiltration and chemical intrusion
3. Types of damage
4. Types of Sealants:
  - a. Field-Poured Self-Leveling Sealants (Hot or Cold Poured)
  - b. Preformed Compression Seals
  - c. Field-Poured Non-Self-Leveling Sealants

### Factors Affecting Sealant Performance

1. Movement
2. Field-Poured Liquid Sealants
  - Shape factor =  $0.67 \sim 1.0$  (Figure 3 and Figure 4)
3. Preformed Compression Seals (Fig. 6)
4. Sealant Properties

## Sealing Joints

1. Sealant Removal
2. Refacing for Shape Factor
3. Cleaning
4. Sealant Installation
5. Special Considerations
  - a. Compression Seals
  - b. Low-Modulus Silicone Sealants
  - c. Polymer Sealants
6. Construction, Longitudinal, and Expansion Joints
7. Sealant Specifications

## Crack Sealing

1. Concrete Pavements
  - a. Sealant Removal
  - b. Routing or Sawing
  - c. Crack Reservoir Design
  - d. Crack Repair
  - e. Cleaning
  - f. Sealant Types
2. Flexible Pavements
  - a. Sealant Removal
  - b. Crack Repair
  - c. Cleaning
  - d. Sealant Types