# Dantex Maxi-Crete® F20 & F40

## Inlaid and Recess Repairs in Asphalt

## MATERIAL DATA SHEET Latest Revision - December 2021



### 1. GENERAL DESCRIPTION:

**Maxi-Crete F i**s a BBA HAPAS approved material and is used extensively as a recess repair system in many airfield pavements. **Maxi-Crete F** is also widely used as a Stress Absorbing Membrane Interlayer (SAMI) on surfaces due to be overlaid, thus reducing the effects of reflective cracking in the new asphalt overlay.

**Maxi-Crete F20 and F40** can be installed to any depth and width, however for depths up to 40mm it is advised to **F20** is used but laid in tow layers of 20mm. **F20** is the preferred system for use on runways and taxiways because the finer aggregates provide a smoother surface finish. **F40** can be used for repairs deeper than 40mm but it is advised that the top 20mm is finished off with **F20**. By recessing the **F20** and **F40** into the pavement surface it will greatly prolong the service life and enhance ride quality.

**Maxi-Crete F** is a black, pre-mixed, hot applied, high modulus, polymerised resin compound incorporating fillers, aggregates and rubber and other mineral fillers.

Fine aggregate (2-3mm) granite, basalt or bauxite can be used on the surface of the repair to meet friction and texture depth requirements or to be sympathetic to the adjacent surface colour; however this is not recommended on runways and taxiways because of potential FOD issues due to possible loose aggregates.

**Maxi-Crete F** offers extremely good adhesion to asphalt surfaces and is formulated to have excellent anti-oxidation properties. In its molten state **Maxi-Crete F** has excellent flow properties thereby ensuring total penetration of the crack/recess. Following cooling it sets to a touch, load-bearing repair that is capable of maintaining flexibility through a wide range of temperatures, and will ensure optimum compressive resistance.

### 2. BENEFITS:

- **BBA HAPAS approved**
- **Prolongs the life of cracked pavements**
- **Prevents the ingress of water and de-icing salts**
- **Enhances ride quality**
- **Simpley heat and apply**
- **Minimal traffic disruption**

### 3. APPLICATION:

- **Road and highways**
- **All airfield pavements**
- **Industrial hard standings**
- **Surface car parks**

BBA APPROVAL INSPECTION TESTING CERTIFICATION
TECHNICAL APPROVALS FOR CONSTRUCTION
CERTIFICATE No: 20/H298

## 4. INSTALLATION:

**Weather Conditions:** Installation of the material shall only be carried out on a surface temperature >-0ºC. Below freezing temperatures extra care must be taken with preparation and when applying primer to surface.

**Preparation of the Surface:** The existing surface is mechanically planed-out, centrally over the length of the cracks to a depth of up to 100mm. The width of the recess should be formed to extend at least 25mm into the sound surface. Typically widths of recess can be 100-1000mm. The recess must be clean and dry and free from all loose aggregate, moribund sealants, road salt and any other loose material. Cleaning with hot compressed air is essntial.

## 5. SYSTEM INSTALLATION PROCEDURE:

Where areas of reflective craking are evident and further movement is expeted the system should incorporate the **Maxi-Crete F20** material as a surface course and **Maxi-Crete F40** as a base course, the following methods should be applied:

### SYSTEM 1 - MAXI-CRETE F20 & F40 IN COMBINATION:

5.1 **Maxi-Crete F40** is melted in horizontal mixer-heaters that are agitated at a rate of ≥10 RPM to a laying temperature of between 180ºC and 210ºC. The materials must be kept at this temperature for a period of 40 minutes before using.

5.2 **Maxi-Crete F40** is poured into the prepared recess and leveled using a hot tool to finish within approximately 20mm of the adjacent surface. If the depth of the recess is >40mm **Maxi-Crete F40** materials should be applied in layers between 20-40mm.

5.3 **Maxi-Crete F20** is melted down in horizontal mixer-heaters that are agitated at a rate of ≥10 RPM to a laying temperature of between 180ºC and 210ºC.

5.4 **Maxi-Crete F20** is poured into the prepare recess in a layer approximately 20mm deep via a screed box, to finish flush and overlap onto the adjacent surface by 10mm. The application of the **Maxi-Crete F20** surface material must be applied onto, the **Maxi-Crete F40** base material before its temperature falls below 25ºC. Should the temperature fall below 25ºC the recess and **Maxi-Crete F40** surface must be carefully re-heated using a gas and air lance.

5.5 Whilst the **Maxi-Crete** material is still in a molten state, ≥75ºC a covering of pre-heated 3mm aggregate (≥100ºC) is applied to the surface.

5.6 Once the repair has cured (30 minutes to 120 minutes) the work area is mechanically swept to remove any excess aggregate.

**SYSTEM 2 - MAXI-CRETE F20:**

When repairs are being undertaken in surfaces where no or minor movement is anticipated, the following method should be applied:

5.7 **Maxi-Crete F20** is melted in dedicated horizontal mixer-heaters that are agitated at a rate of ≥10 RPM to a laying temperature of between 180ºC and 210ºC.

5.8 **Maxi-Crete F20** is poured into the prepared recess and levelled using a smoothing iron or a screed box to finish flush with the adjacent surface. If the dpth of the recess is >20mm **Maxi-Crete F20** should not be applied in layers >20mm.

5.9 Whilst the **Maxi-Crete F20** material is still in a molten state ≥75ºC a covering of pre-heated 3mm-5mm aggregate (≥100ºC) is applied to the surface.

5.10 Once the repair has cured (30 to 120 minutes) the work area is mechanically swept to remove any excess aggregate.

5.11 During the curing period no disturbance or trafficking of the repaired area should be permitted.

## 6. TECHNICAL SPECIFICATIONS:

| | MC40 GRADE | MC20 GRADE |
|---|---|---|
| **SURFACE TEMP. RANGE:** | -5ºC to 30ºC | -5ºC to 30ºC |
| **SPECIFIC GRAVITY:** | 2.2 (approx.) | 1.8 (approx.) |
| **SOFTENING POINT**: | 95ºC (min) ASTM D36 | 95ºC (min) ASTM D36 |
| **FLOW TEST (5HRS @ 80ºC):** | 4mm (max) ASTM | 3mm (max) ASTM |
| | D3407/BS2499 | D3407/BS2499 |
| **EXTENSION TEST 1MM PER MIN @ 25ºC:** | ASTM D5329 | ASTM D5329 |
| **NEWTON FORCE:** | 650 N (max) | 650 N (max) |
| **EXTENSION:** | 40% (min) | 55% (min) |
| **SLUMP TEST (CONE - 3HRS @ 70ºC):** | 5% (max) BS3262 Part 1 | 5% (max) BS3262 Part 1 |
| **COMPRESSION RESISTANCE** | | |
| **10mm/min @ 23ºC @ 30% compression:** | 5500 Newton Load (min) | 3500 Newton Load (min) |
| **WHEEL TRACKING @ 60ºC** | 3.5mm/hr (max) | 2.5mm/hr (max) |
| **MAX RUT DEPTH:** | 4.2mm | 5mm |
| **MAXIMUM SAFE HEATING TEMP.:** | 220ºC | 220ºC |
| **INSTALLATION TEMP. RANGE:** | 180ºC TO 210ºC | 180ºC TO 210ºC |
| **DE-ICING FLUIDS:** | Resistant | Resistant |

## 7. PACKAGING AND STORAGE:

**STORAGE:** Pallets must not be stacked more than 2 high.

**PACKAGING:** Maxi-Crete F is supplied in 25kg melt-pack plastic bags.

**SHELF LIFE:** 2 years if stored in warehouse conditions.

## 8. WARRANTY:

The company warrant that all materials meet stated specifications at the time of shipment. Techniques used for the preparation of the repair prior to use of the material are beyond our control, as are the use and application of the materials. The Company shall not be responsible for improperly applied or misused materials. There shall be no other warranties expressed or implied.



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High Friction Surfacing
Colour Coated Aggregates
**The Complete Highway Service**

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