

HF-150P

POLYMER MODIFIED, HIGH FLOAT ANIONIC ASPHALT EMULSION

PRODUCT DESCRIPTION

HF-150P is a high float polymer modified asphalt emulsion that is designed to be mixed with aggregate or used in surface treatments.

Asphalt emulsions are classified according to the electric charge that surrounds the asphalt particles (i.e. cationic, anionic emulsions) and how quickly the suspended asphalt particles break (i.e. the water will evaporate, leaving the asphalt cement). The **HF-150P** is designed to allow some mixing and aggregate wetting time but break and cure faster than a slow setting emulsion.

A High Float (HF) emulsion creates a gel structure in the asphalt residue after the water evaporates. This permits a thicker asphalt film on the aggregate without danger of run-off, resulting in better aggregate coating and lower moisture susceptibility. The thicker asphalt film will create mixes and surface treatments with higher durability and longer life. High float emulsions also confer reduced temperature susceptibility, i.e. better resistance to rutting and cracking. Polymer further enhances these positive characteristics. The polymer develops a strong, elastic matrix within the asphalt residue that improves the long term resistance of the finished product to moisture damage, rutting and cracking.

GENERAL PRODUCT FEATURES

- Higher cohesive strength imparted by the polymer than HF-150, rapidly develops into load bearing capacity
- Thicker asphalt films on the aggregate surface means more durable mixes and better resistance to long term aging
- The polymer develops a strong elastic matrix in the asphalt which enhances resistance to rutting and low temperature cracking

RECOMMENDED USE

HF-150P emulsions are ideal for use in surface treatments using graded aggregate. Their high wetting power and the gel structure, combined with the relatively quick cure allows good bond to the substrate as well as a strong but flexible grip onto the cover aggregate. The same properties imparted on the asphalt by the polymer and high float characteristics make this product well suited for cold-in-place recycling, cold-central plant recycling and for some types of cold mixes (with and without RAP).

SPECIFICATIONS AND TYPICAL RESULTS

TEST	TYPICAL DATA	SPEC RANGE	
		Min	Max
Tests on Emulsion			
SF Viscosity, 50°C, SFs	95	35	150
Sieve Test, 850 µm, %	0.04	...	0.1
Storag. Stability, 24 hr, %	0.4	...	1.5
Dist. Residue, 204.4°C, %	60.5	62	...
Oil Portion of Dist., %	1.5	0.5	4
Demul 50ml .1N CaCl ₂ , %	88.9	75	...
Particle Charge	(-)	(-)	
Tests on Residue			
Penetration, 25°C, dmm	185	150	250
Float, 60°C, sec	1200+	1200	...
Ash Content, %	0.4	...	1.0
Elastic Recovery, 10°C	55	50	...

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APPLICATION GUIDELINES

- Do not apply if precipitation is anticipated
- Do not dilute product with any cutter stock or water

Mix designs should be formulated prior to initial construction and each time aggregate sources are changed. Testing of final product is highly recommended to ensure a quality mix or seal. **MCA Technical Services** offers complete mix design service and product quality analysis.

CHIP SEALS/SURFACE TREATMENTS

HF-150P is ideal with graded aggregate typically all passing the 16 mm (5/8") or 12.5 mm (1/2") sieve, with 60 –70% passing the 4.75 mm (no. 4) sieve and preferably not more than 6% passing the 0.075 mm (no. 200) sieve. Graded aggregate is an alternative to the more expensive one sized cover stone chip

COLD IN PLACE RECYCLING

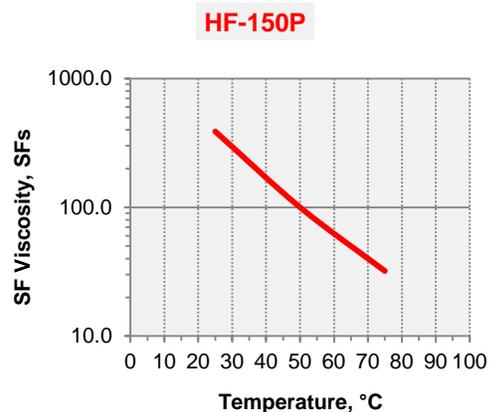
Cold in-place recycling involves combining without heat the reclaimed asphalt pavement (and in some cases part of the granular base) with **HF-150P** emulsion, to produce a new, distress free layer. Only a small amount of virgin binder can be added without over-asphalting the 100% reclaimed asphalt pavement (RAP) mixture; the correct emulsion dosage and the parameters of the recycled lift are established at design stage.

CERTIFICATION OF QUALITY

McAsphalt Industries Limited is accredited to the quality standard **ISO 9001** and to the environmental standard **ISO 14001**.

Each lot of **HF-150P** produced using the strictest quality, safety and environmental guidelines. Each production lot is tested to ensure it meets or exceeds all performance requirements, and it is delivered with a Certificate of Analysis.

TEMPERATURE-VISCOSITY CHART



PACKAGING, STORAGE AND HANDLING

HF-150P should be stored in bulk tanks, vertical if possible, to minimize surface area.

Do not allow **HF-150P** to either freeze or boil – it will break. Storage temperature should be between 10°C and 85°C.

In all bulk storage, mix the **HF-150P** every 1–2 weeks (more frequently in cold weather). Mixing may be by paddle agitator (slow), loose gear pump, slow centrifugal pump, or other suitable low shear pump.

Do not bubble air through **HF-150P** to agitate it, this creates excessive foam and may cause the emulsion to break.

Only use approved and sealed containers for sampling the emulsion.

PRODUCT SUPPORT

With the **MCA Advantage**, you get a partner and advisor who will consult with you about designs, specifications, technical services, processes and material selection. By developing innovative, custom-designed products that offer additional benefits, such as peak performance in unique conditions, improved field performance, greater environmental and health benefits, the **MCA Advantage** provides significant long-term cost savings, resulting in lower “total cost of ownership.”



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