PRODUCT DATA SHEET

PDS 19.10.22 P1

HF-150P

HIGH-FLOAT POLYMER-MODIFIED 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 emulsion's asphalt particles (i.e. whether it is a cationic or an anionic emulsion) and how quickly the suspended asphalt particles separate from the surrounding water ("breaking"). **HF-150P** is designed to allow some mixing and aggregate wetting time but also to break and cure faster than a slow-setting emulsion.

A high-float (HF) emulsion creates a gel-like structure in the asphalt residue after the water evaporates. This permits a thicker asphalt film on the aggregate without the danger of runoff, resulting in better aggregate coating and lower moisture susceptibility. The thicker asphalt film will create mixes and surface treatments with higher durability and longer lifespans. High-float emulsions also confer a reduced temperature susceptibility (i.e. better resistance to rutting and cracking).

RECOMMENDED USE

HF-150P emulsions are ideal for use in surface treatments using graded aggregate. Their high wetting power and gel structure combined with a relatively quick cure allows for a strong bond with 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).

CERTIFICATION OF QUALITY

McAsphalt Industries Limited is accredited to the quality management standard **ISO 9001**, the environmental management standard **ISO 14001,** and the occupational health and safety standard **ISO 45001**.

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

GENERAL PRODUCT FEATURES

- "High-float" gel structure allows for the spraying of thicker emulsion films without the risk of runoff.
- Allows the usage of graded aggregate for surface treatments, meaning inexpensive but high-performing surfacing
- Allows the use of anti-stripping agents to improve moisture resistance and improve bonds with difficult aggregates
- Thicker asphalt films on aggregate surfaces means more durable mixes and better resistance to long-term aging.
- Produces adequate wetting and good contact with fine aggregates while providing good adhesion to substrates, whether they are asphalt or granular
- Higher cohesive strength imparted by the polymer than **HF-150**, rapidly developing into load-bearing capacity
- The polymer develops a strong elastic matrix in the asphalt which enhances resistance to rutting and low temperature cracking.

SPECIFICATIONS AND TYPICAL RESULTS

TEST	TYPICAL DATA	SPEC.	
		Min	Max
Tests on Emulsion			
SF Viscosity, 50°C, SFs	**95**	35	150
Sieve Test, 850 µm, %	**0.04**	-	0.1
Storage Stability, 24 h, %	**0.4**	-	1.5
Distillation Residue, 204.4°C, %	**64.4**	62	-
Oil Portion of Distillation, %	**1.5**	0.5	4
Demulsibility, 50 ml 0.1 N $CaCl_2$, %	**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	-

MCASPHALT INDUSTRIES LIMITED

8800 Sheppard Ave East T 416.281.8181 TF 1.800.268.4238
Toronto, ON M1B 5R4 F 416.281.8842 E info@mcasphalt.com

mcasphalt.com
ISO 9001/14001/45001

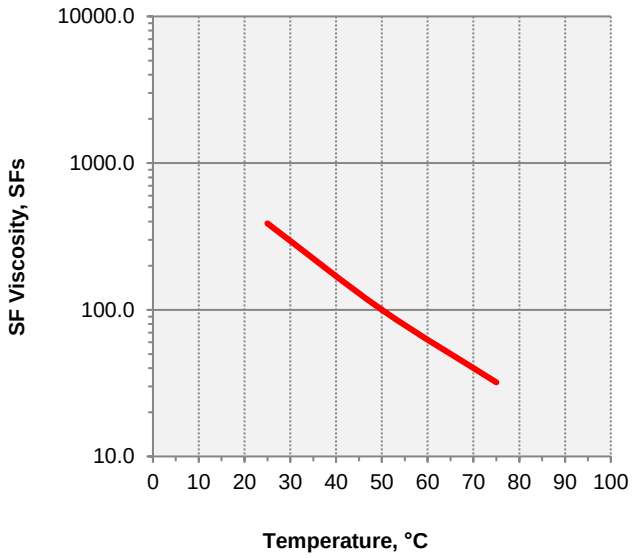
PRODUCT DATA SHEET

PDS 19.10.22 P2

HF-150P

HIGH-FLOAT POLYMER-MODIFIED ANIONIC ASPHALT EMULSION

TEMPERATURE VISCOSITY CHART



PACKAGING, STORAGE AND HANDLING

- **HF-150P** should be stored in bulk tanks, ideally vertical to minimize surface area.
- Do not allow **HF-150P** to either freeze or boil: it will break. Safe storage temperatures range from 10°C (50°F) to 85°C (185°F).
- In bulk storage, mix the **HF-150P** every 1 to 2 weeks (more frequently in cold weather). Mixing may be done 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 **HF-150P** to break.
- Always use clean storage containers. Make sure prior contents are compatible with **HF-150P** or the emulsion may break.
- Only use approved and sealed containers for sampling the emulsion.

APPLICATION GUIDELINES

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

DESIGN GUIDELINES

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

CHIP SEALS/SURFACE TREATMENTS

HF-150P is ideally mixed with graded aggregate typically all passing the 16 mm (5/8 in) or 12.5 mm (½ in) 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, single-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 the design stage.

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, and 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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