

**HP-400**

**SPRAY-GRADE ANIONIC ASPHALT EMULSION**

**PRODUCT DESCRIPTION**

**HP-400** is a medium-setting anionic asphalt emulsion that reacts with aggregate moderately fast to revert from an emulsion to asphalt.

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). A medium-setting emulsion is one that will break moderately fast when in contact with aggregate. The setting speed is relative because it is affected by atmospheric conditions at the time of construction.

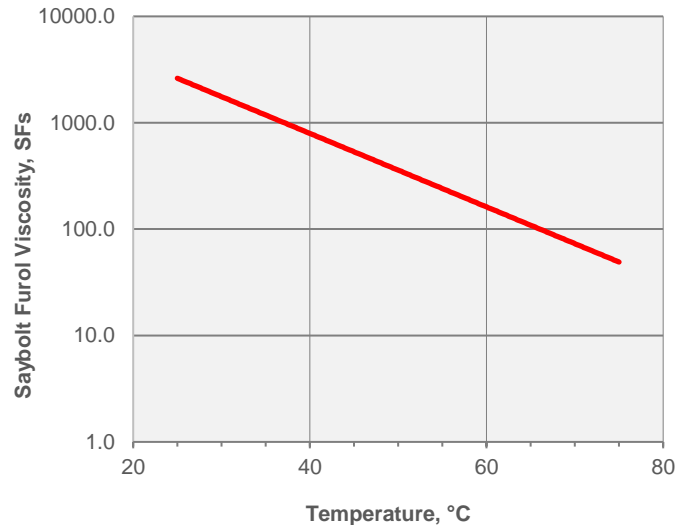
**GENERAL PRODUCT FEATURES**

- Ability to penetrate into the granular base which promotes a better bond between the surface treatment and substrate
- Due to its higher viscosity, this product may be sprayed at higher application rates without fear of running or flowing in hilly areas or sections with increased super-elevations and/or cross-slopes
- Increased application rates which results in increased durability
- Although technically classified as a medium-setting emulsion, **HP-400** exhibits rapid-setting properties while still maintaining good workability
- Specifically designed to be used with screened and unwashed chips
- Good wetting power to penetrate dust films on unwashed screened aggregate
- Traffic can be restored very shortly after application
- Seals narrow cracks against moisture penetration
- Can be utilised in typically unfavourable weather and with damper chips than otherwise possible with other conventional chip seal emulsions

**SPECIFICATIONS AND TYPICAL RESULTS**

TEST	TYPICAL DATA	SPEC.	
		Min	Max
<b>Tests on Emulsion</b>			
SF Viscosity, 50°C, SFs	<b>340</b>	250	400
Sieve Test, 850 µm, %	<b>0</b>	-	0.1
Settlement, 5 days, %	<b>0.6</b>	-	3.0
Distillation Residue, 260°C, %	<b>68.0</b>	65.0	-
Demulsibility, 50 ml 0.02 N CaCl <sub>2</sub> , %	<b>63</b>	30	70
Particle charge	<b>( - )</b>	( - )	
<b>Tests on Residue</b>			
Penetration, 25°C, dmm	<b>146</b>	100	250
Ash Content, %	<b>0.11</b>	-	1

**TEMPERATURE-VISCOSITY CHART**



**RECOMMENDED USE**

**HP-400** cures quickly and its high viscosity permits a higher spray rate without the danger of run-off in hilly terrain.

**HP-400** is ideal for spray applications such as chip seals and double surface treatments using unwashed screened aggregate. It is not suitable for continuously graded aggregate seals.



**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

**HP-400****SPRAY-GRADE ANIONIC ASPHALT EMULSION****APPLICATION GUIDELINES**

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

Designs should be formulated prior to initial construction and each time aggregate sources are changed. Coating and water resistance tests should also be performed on each aggregate source to assess compatibility and coating of the chips. Testing of the final product is highly recommended to ensure a quality seal. **MCA Technical Services** offers complete design services, on site customer support, and product quality analysis.

**CHIP SEAL/SURFACE TREATMENTS**

A uniform application of **HP-400** asphalt emulsion to a properly prepared surface is to be followed by a uniform application of cover aggregate. Aggregates used should be one sized, unwashed chip with sizes ranging from 6 mm (¼") to 19 mm (¾").

Spray rates will be determined by the design, depending on aggregate size, type, traffic levels, substrate condition, and whether a single or double surface treatment is employed.

**PACKAGING, STORAGE AND HANDLING**

**HP-400** should be stored in bulk tanks, vertically if possible, to minimize its surface area.

Do not allow **HP-400** to either freeze or boil: it will break. Storage temperatures should be between 10°C and 85°C.

In all bulk storage, mix the **HP-400** 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 **HP-400** 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, and greater environmental and health benefits, the **MCA Advantage** provides significant long-term cost savings, resulting in lower total cost of ownership.

**CERTIFICATION OF QUALITY**

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

Each lot of **HP-400** 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.

**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