



Protect Environment

Always Think

Green



# Bituaqua\* ST

## Bitumen emulsion for surface treatment, SST, DST & TST

### Uses

**Bituaqua ST** is specially designed bitumen emulsion for Single, Double and Tripple road surface treatment system, **Bituaqua ST** stabilize and bind the surface fines together and promoting excellent bond to aggregate and with base surface, .

### Advantages

- Hold/bind the layers of aggregate.
- Provides waterproofing and reduce the water absorption.
- No aggregate stripping, and plug capillaries.
- Money and time saving is achieved, as no heating is required.
- Protect environment.
- Does not affect the base bitumen properties.

### Compliance to ASTM / BS / AASHTO Standards

ASTM D140 Practice for Sampling Bitumen  
 ASTM D244 Test Methods for Emulsified Asphalts  
 ASTM D977 Specification for Emulsified Asphalt  
 ASTM D2397, AASHTO M-140

### Description

**Bituaqua ST\*** is an emulsified bitumen for surface treatment, a blend of bitumen, special emulsifiers, adhesion promoters, and anti-stripping agents, it is supplied as brown liquid and ready to use at site.

CMS-1 (Cationic)  
 CRS-1 (Cationic)

MS-1 (Anionic)  
 RS-1 (Anionic)

**Bituaqua ST\*** can also be used as prime coat, details are mentioned in **Priming** section.

### Properties

Appearance	: Brown liquid	
Residue	: 61 % ± 2	
Saybolt Furol viscosity	: 20 Sec. – 30 Sec. @ 25 °C	
Dry film penetration	: 60/70	
Particle size	: 5 – 6 microns	
Settlement 5 days	: < 3%	
Setting time at 35 °C	: Rapid Set	Medium Set
Initial set – hours	: 1	1½
Final set – hours	: 2	3

### Surface Preparation

**Bituaqua ST\*** can be applied in some situations without any special preparation. Surface must be well compacted and prepared as per standard specification. To optimize the performance of **Bituaqua ST\***, the following steps should be employed.

### Grading

Insure that the surface is free from local high spots and potholes, and that the material is evenly mixed and distributed to avoid segregated pockets of coarse or fine gradation. In the case where planning section is not required, the top surface should be scarified for 12.5 to 25 mm

### Priming

Apply prime coat on prepared surface and allow to cure prior to the application of **Bituaqua ST\***

**Bituaqua ST\*** can also be used as primer coat, but it must be diluted with water prior to the application, dilution ratio will be 3:1 (Emulsion:Water), check water compatibility with emulsion in laboratory, prior to the addition in emulsion at site, always add water in emulsion, **Do not add emulsion in water**, diluted material must be used within 12 hours of its dilution, and do not kept/store for long time.

### Application

For single surface treatment SST, the rate of application will be 1.63 Kg. / m<sup>2</sup>. For double surface treatment DST rate of application for first layer will be 2.14 Kg. / m<sup>2</sup> and second layer 1.63 Kg. / m<sup>2</sup>, For triple surface treatment TST rate of application will be the same as DST for first and second layer and for third layer rate of application will be 0.68 Kg. / m<sup>2</sup>



## Technical support

Pakistan Bitumen Company provides a technical advisory service for on-site assistance and advice on selection of prime coat grade, as per the properties of aggregate and site conditions.

## Precaution / Limitation

**Bituaqua ST\*** shall not be applied when the ambient temperature is below 10° C (50° F), or when rain is imminent.

**Bituaqua ST\*** may be harmful to growing plants, since like any other oil, it seals pores and interferes with intake of carbon dioxide. Reasonable care should be taken to prevent spray on crops. Also, since the product is black, reasonable care should be taken to prevent spraying on buildings, fences, and other areas where dark stains are undesirable.

Avoid skin and eye contact, in case of contact, use plenty of water and seek medical advice, use the appropriate means if self protection, the emulsion is non toxic, it must not be disposed to surface and still water.

**Bituaqua ST\*** does not fall into the hazard classifications of current regulations. However, it should not be swallowed or allowed to come into contact with skin and eyes.

Suitable protective gloves and goggles should be worn. Splashes on the skin should be removed with water. In case of contact with eyes rinse immediately with plenty of water and seek medical advice. If swallowed seek medical attention immediately do not induce vomiting.

## Protect Environment

The primary pollutants of concern from asphalt paving operations are volatile organic compounds (VOC). Cutback asphalts are the major source of VOCs as only minor amounts of VOCs are emitted from emulsified asphalts and asphalt cements. VOC emissions from cutback asphalts result from the evaporation of the petroleum distillate used to liquefy the asphalt cement. VOC emissions can occur at both the job site and the mixing plant; however, the largest source of emissions was reported as from the road.

Asphalt emulsions are typically used in place of cutback asphalts to eliminate VOC emissions. The use of cutback asphalt is regulated in many jurisdictions to help reduce VOC emissions. Prohibitions on the use of cutback, either permanently or during certain times of the year, are common in jurisdictions that have either reached, or are nearing non attainment for ozone requirements of the Clean Air Act.

## Storage

**Bituaqua ST\*** has a shelf life of 12 months provided the temperature is kept within the range of 5 °C to 50 °C. Should the temperature of the product fall outside this range then contact your local office for advice.

**Freezing point: Approximately below 0°C**

## Health and safety

For further information consult the Material Safety Data Sheet available for this product.

## Fire

**Bituaqua ST\*** is water base and non flammable.

## Estimating – packaging

**Bituaqua ST\*** is available in 218 kg. Gross Drums and bulk supply.

\* Denotes the trademark registered

## REGIONAL SALES OFFICES IN PAKISTAN:

### Pakistan Bitumen Company Subsidiary of Fospak (Pvt) Ltd.

#### Head Office

702, Business Avenue,  
Block-6, PECHS.  
Shahra-e-Faisal,  
Karachi, Pakistan  
Tel # +92-21-34528477, 34529859  
Fax # +92-21-34522436  
Email [info.khi@fospak.com.pk](mailto:info.khi@fospak.com.pk)

#### Lahore Sales Office

2<sup>nd</sup> Floor Sarwar Shaheed Plaza,  
Cavalry Ground,  
Main Boulevard,  
Lahore Cantt, Lahore.  
Tel # +92-42-36675773  
Fax # +92-42-36675838  
Email [info.lhr@fospak.com.pk](mailto:info.lhr@fospak.com.pk)

#### Islamabad Sales Office

Plot No. 169, Street No. 9,  
Industrial Area I-10/3,  
Islamabad.  
Tel # +92-51-4575746  
Fax # +92-51-9290590  
Email [info.isb@fospak.com.pk](mailto:info.isb@fospak.com.pk)

## Important note

PBC products are guaranteed against defective materials and manufacture and are sold subject to its standard terms and conditions of sale, copies of which may be obtained on request. Whilst PBC endeavours to ensure that the technical information on this data sheet is correct at the time of printing, it is the customer's responsibility to satisfy himself, by checking with the company that this information is still current at the time of use, that the product is suitable for the intended application, and that the actual conditions of use are in accordance with those recommended. Because PBC has no control over the conditions of use of its products, all recommendations or suggestions regarding the use of these products are made without guarantee.