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TECHNICAL BULLETIN # 54

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SAMiflex E30LX and SAMiflex E50LX

Latex modified High Binder Content Emulsions for Sprayed Sealing Applications

Description

SAMiflex E30LX and SAMiflex E50LX are latex modified high residue bitumen emulsion for sprayed sealing applications and used as an alternative to conventional bitumen or polymer modified binders for specific field conditions.

The level of polymer modification may be specified by the customer and can be up to 10%. The solids content is normally in the range of 67% to 78%. Specific site requirements will determine the degree of polymer modification required. The level of latex polymer may be specified when ordering SAMiflex E LX range of emulsions

Features and Benefits

Offers the advantages of:

- No heat degradation during transport or storage of the binder
- Improved aggregate embedment and adhesion
- Can be applied all year round, even in cool, damp conditions
- Lower spray temperatures (80°C - 95°C)
- Doesn't require adhesion agents or diluents
- Elimination of fuming

Applications

- New seals over properly prepared surfaces
- Reseals over pavements exhibiting surface cracking
- Pavements with high deflections
- Where waterproofing of the surface is necessary

Delivery and Transportation

The proper handling of both SAMiflex E30LX and E50LX post the manufacture is very important. The following should be used as a guide.

Tankering

- Only transport in tankers that have been properly cleaned and flushed to avoid contamination or the possible breaking of the emulsion during transit. The heat from the emulsion at 95°C is not sufficient to free blocked valves or lines
- No heat should be applied to the product until the nominated delivery site has been reached. Ensure sufficient time is allowed for at the destination, to heat the product up to a temperature of 90°- 95°C prior to discharging into the sprayer. Heating and circulation must be kept to a minimum and should be done just prior to the time requested on site
- Do not heat at a rate greater than 10°C per hour, or above 95°C
- During heating, commence slow circulation once the product temperature is above 70°C
- Do not circulate, pump or transfer product until at least 70°- 80°C
- When transferring product into the sprayer by suction then ensure the tanker is circulating the product during the transfer. When transferring product by pumping then have the

sprayer circulating the product. This will assist with the re-blending of any "skin" that may have formed during transportation

- During transportation there will be some evaporation of water from the product depending on the amount of ullage in the tank. This will cause a "skin" to form on the surface of the product within the tank, which is normal. After transferring the product there may be some binder residue (skin) left in the bottom of the tank which can be easily removed by flushing the tank as per normal practice

Sprayer

- Ensure that the sprayer and spray bar have been thoroughly flushed prior to loading either the SAMiflex E30LX or SAMiflex E50LX and the manifold and valves are free and clear
- Once loaded, commence heating to spraying temperature (85°- 95°C). Circulate slowly during heating
- Do not circulate, pump or transfer product unless the product temperature is greater than 70°C
- Do not heat at a rate greater than 10°C per hour, or above 95°C
- Where a damp pavement is to be sealed, the spray temperature of the product should be around 95°C to assist with the "breaking" process
- Both SAMiflex E30LX and E50LX are sprayed using standard sized AN18 spray jets (A4 jets)

Storage

- Both SAMiflex E30LX and E50LX can be stored for up to 3 weeks provided storage tanks are cleaned prior to use and have adequate heating capability
- Once the emulsion is in storage allow the product to cool to ambient temperature and only re-heat just prior to use
- Slow circulation is necessary when re-heating provided the temperature is above 70°C.
- The tankers must be able to heat the product at a rate not greater than 10°C per hour without localised heating.

Recommended Field Practices

Spraying

- SAMiflex E LX can be applied on steeper gradients and cross falls
- The product can be sprayed over a wide variety of weather conditions. The product may be applied in damp conditions, but not when the pavement is wet, rain is imminent or when raining
- At the completion of spraying, the sprayer must be thoroughly flushed to avoid leaving any material which may break and contaminate future loads

Aggregate

- The aggregate may be damp, preferably pre-coated and must be free of any dirt or foreign matter
- After spraying, the application of the aggregate is best left until either SAMiflex E30LX or E50LX has started to break (turn black) or "skin". Timing for this to occur is very much dependent on both pavement and ambient air temperature
- If the application rate or gradient/cross fall is such that the product starts to run or move, apply the aggregate as soon as possible then wait for the break/curing process to begin before commencing rolling

Rolling

- The main function of the rollers is to orientate the aggregate and to assist with the breaking and set-up of the emulsion
- If the "Racked In" aggregate process is not used then pick-up may occur in the early stages of rolling, however this is dependent on application rates, aggregate size, and the amount or freshness of aggregate pre-coat

- For best results, if possible allow the binder to partially break or “skin” prior to spreading the aggregate this will reduce the chance of “pick-up” on the roller’s tyres
- If un-precoated aggregate is used then rubber tyred rollers may experience “pick-up”. To reduce this risk, lightly spray the tyres with water. Both SAMIflex E30LX and E50LX have a very strong affinity to the rubber on rubber tyred rollers and if any contact is made, there may be a build up of emulsion and aggregate on the tyres. This can cause further pick up of the aggregate from the fresh seal causing “Pock Marks”

Brooming

- Brooming may commence once rolling has been completed and the binder has fully cured
- When it is necessary to sweep before the binder has fully cured, such as late in the day prior to darkness, light brooming is recommended however some aggregate may be dislodged

Traffic Control

- It is recommended to keep the speed restriction of 40kph until the emulsion is fully cured and the pavement swept
- Refer to RMS, NSW “Emulsion Guide” for further information

NOTE: *Whilst every care is taken in the preparation of this data sheet, no responsibility is accepted for the interpretation of information contained herein, nor is any warranty expressed or implied for the suitability of the material for a particular application.*