

PAVING GRADE ASPHALT, PG64-22

Description:

PG64-22 is a Performance Grade (PG) of asphalt cement based on two factors: traffic and pavement temperature. Adjustments are made to the PG grade of asphalt cement based on traffic conditions and traffic volumes which is intended to enhance the design life of the pavement. The PG grading system is defined by two numbers which represent pavement temperatures. The first number PG 64-XX represents the high pavement temperature in degrees Celsius, while the second number PGXX-22 represents the low pavement temperature. All adjustments to the PG grading system are made in six (6) degree increments. The high temperature relates to the effects of rutting and the low temperature relates to cold temperature and fatigue cracking.

Storage /Handling:

Personnel must be trained in the proper handling of PG64-22 and provided the information contained in the Material Safety Data Sheet (MSDS).

The WSDOT specifications state PG64-22 asphalt at hot mix plants may be heated to a maximum temperature of 177°C (350°F). However, the preferred storage temperatures for PG64-22 is 140°C to 168°C (285°F to 335°F). Unnecessarily high temperatures result in increased hardening and heating costs. These temperatures should be verified with your asphalt supplier.

This asphalt must be stored in insulated tanks which have hot oil, electric or high pressure steam heating systems. We recommend that inspection of asphalt storage tanks be done on a regular basis to prevent potential performance problems.

Because of the high temperatures of paving asphalts, extreme care must be exercised in handling them to prevent severe burns. Proper clothing must be worn with face shields, hard hats, long sleeve shirts, pant, boots and rubber-faced insulated gloves being required for protection.

When loading trucks and trailers or transferring paving asphalts into empty tanks, care must be taken to prevent boiling-over due to the presence of water. If trucks or trailers have previously hauled a water-based product such as emulsified asphalt, they must be inspected for moisture

and may require drying out before loading. Also, hoses and fittings must be inspected regularly for defects.

Usage:

PG64-22 is primarily used in paving for both new construction and pavement rehabilitation and in both dense-graded and open graded Hot Mix Asphalt (HMA). This product could also be used for sealing of edges of new to old paving and crack sealing. Other uses include spray applications for bridge deck and pavement protective membranizing with fabrics.

It has been reported that with proper aggregate characteristics and asphalt content, HMA with PG64-22 as the binder may exhibit less tenderness than a similar mixture with a lower viscosity/softer asphalt. The typical tenderness problems of mixture shoving and checking during rolling and pavement surface scuffing and marking by traffic immediately after paving may be noticeably reduced.

Mixing:

The use of proper mixing temperatures for a PG asphalt like PG64-22 is not only important to achieving adequate asphalt coating and mix compaction, but also to the asphalt hardening and pavement properties. Therefore, it is important to consider the mixing temperatures recommended in the mix design or by the asphalt supplier.

Additional Information:

For additional information on PG64-22, contact the Asphalt Division of U.S. Oil & Refining Co., 3001 Marshall Avenue, Tacoma, Washington, 98421, Telephone: 253-383-1651 and Fax: 253-572-1717

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