

AMERICAN GILSONITE COMPANY

Increase the performance of your Superpave mix design

Gilsonite® Superpave Modifier (GSM) improves the PG grade of your binder

Gilsonite® uintaite is a naturally occurring hydrocarbon resin that adds strength, durability and longevity to asphalt roads. Testing has proven GSM can provide a 1-2 grade improvement in the PG grade of your binder.

No other additive can match all the benefits of GSM:

- Increases the temperature range of binders
- Provides up to 1-2 PG grade improvement
- Increases elastic recovery
- Reduces ductility to prevent deformation
- Does not significantly impact Delta T_c
- Mitigates viscosity loading time to improve rutting resistance

Gilsonite® uintaite has proven properties to improve your Superpave mix design

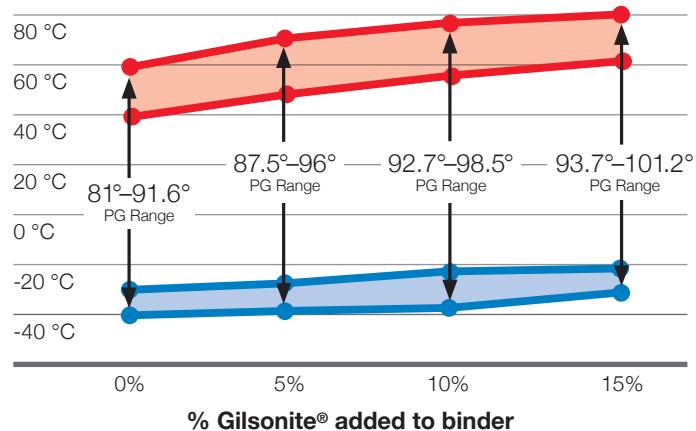
GSM makes use of the proven properties of a mined asphaltic material, which has high resin content, quality asphaltenes and a high nitrogen content to modify asphalt binders for PG grades or other applications.

| Description | GSM Value |
|-----------------------|------------|
| Asphaltenes (typical) | 55% |
| Resins (typical) | 40% |
| Nitrogen | 2.2 - 2.8% |
| Solubility | >98.0% |
| Softening Point (R&B) | 350-360 °F |

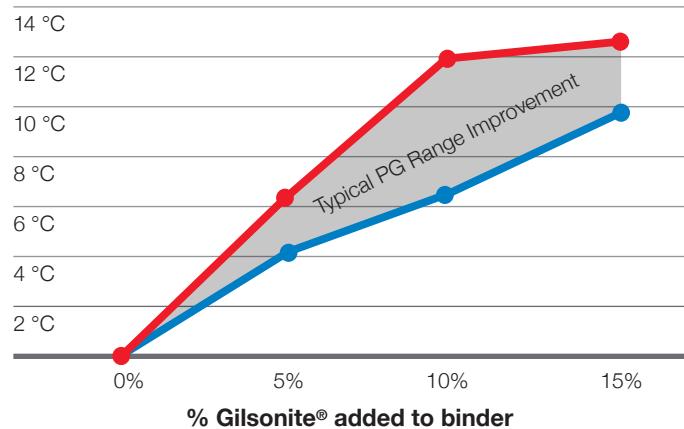
GSM is highly effective at increasing the temperature range of binders

The high temperature properties of a typical asphalt binder are modified by the asphaltenes and resin components of GSM. These components add structure to the binder and have been shown to increase the "Useful Temperature Index" (UTI) of a PG grade binder as GSM is added. Testing has demonstrated a 1 grade improvement with a 7 to 8% addition of GSM and up to a 2 grade improvement with >10% GSM.

GSM increases the temperature range of binders

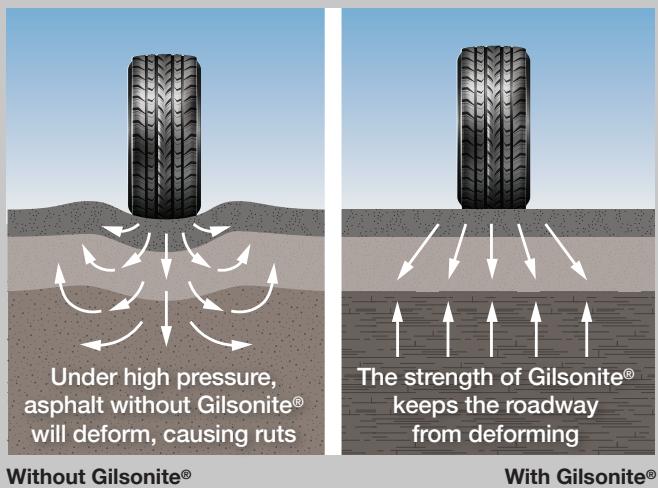


PG temperature range improvement

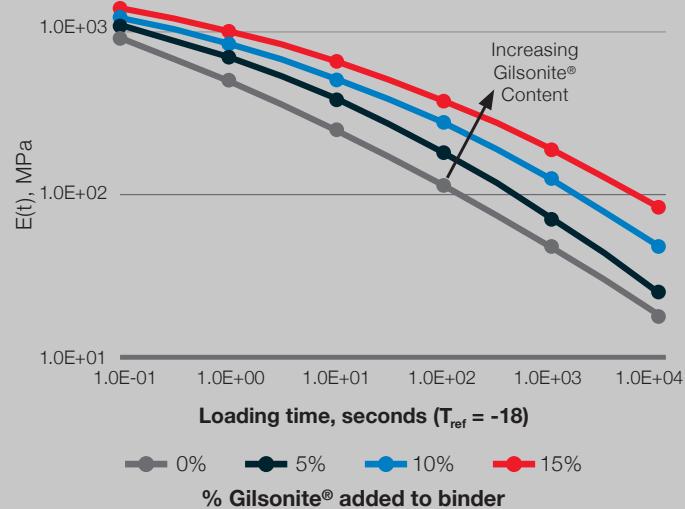


Gilsonite® Superpave Modifier (GSM) increases viscosity to resist rutting

Gilsonite® uintaite increases the viscosity of asphalt so roadways resist deformation and fatigue, even under high pressure.



GSM increases viscosity to mitigate loading times



GSM decreases ductility and increases elastic recovery

The resin properties of GSM decrease ductility while improving elastic recovery by 15-20% – a result normally associated with polymer modification.

These results make GSM an excellent alternative for asphalt modification. GSM can also be used in conjunction with other modifiers such as PPA, oils and polymers to achieve the most cost-effective binder modification.

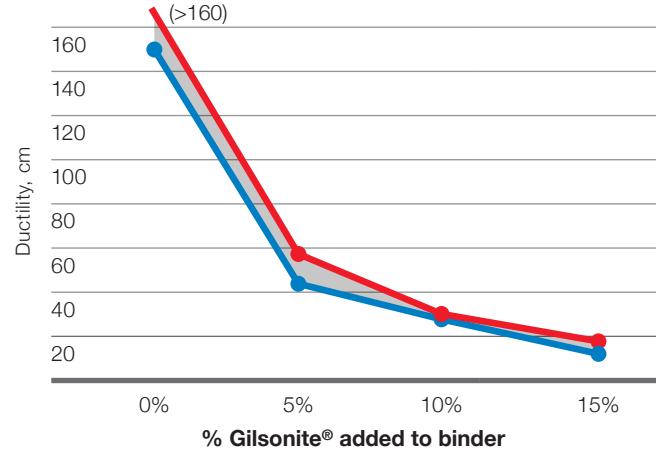
Building stronger roads for more than 100 years

Gilsonite® is the trademarked name for uintaite, a natural asphalt discovered in the Uinta Basin of northeastern Utah. Since the 1860s, American Gilsonite Company has been producing Gilsonite® uintaite to strengthen asphalt roads.

Gilsonite® is readily available in meltable bags, bulk bags and bulk trucks.

Gilsonite® is naturally better®

Range of ductility reduction



Range of elasticity improvement

