

GENERAL DESCRIPTION OF GILSONITE IN CONSTRUCTION

GILSONITE IS NATURAL ASPHALT, IS USED AS A BITUMEN BINDER MODIFIER WITH VARIOUS PROPERTIES OF BINDER THAT IS MODIFIED ONLY BY GILSONITE ARE COMMON, WE INVESTIGATE THE EFFECT OF COMBINING BITUMEN AND GILSONITE IN THE SAME BASE BINDER. ADDTING 13–14% GILSONITE INCREASE PERFORMANCE OF ASPHALT. ALSO, THE VISCOSITY OF MODIFIED BINDERS BY GILSONITE IS ALWAYS HIGH. WE ARE SUGGESTING IRAN GILSONITE CAN BE USED AS AN ALTERNATIVE MODIFIER TO REDUCE THE COST OF ASPHALT MIXTURE PRODUCTION AND COMPACTION IN THE FIELD.

GILSONITE IN CONSTRUCTION

GILSONITE IN CONSTRUCTION NORMALLY MIXING IN 180~220C WITH VERY SIMPLE BLENDER. HIGH-PERFORMANCE ROAD SURFACES IS USING GILSONITE. GILSONITE'S PROPERTIES MAKE IT THE GO-TO MODIFIER FOR HOT MIX PAVEMENTS AND PAVEMENT SEALERS IRAN GILSONITE MAKE ROADS LESS SUSCEPTIBLE TO HIGH-TEMPERATURE AND DEFORMATION PERFORMANCE ISSUES. WHEN YOU USE GILSONITE IN ROAD CONSTRUCTION THE ASPHALT BINDER WILL PRODUCE A STRONGER ROAD THAT CAN BE THINNER BY NEARLY 20 PERCENT COMPARED WITH OTHER PAVEMENTS. AS AN AGGREGATE MODIFIER, GILSONITE CAN BE ADDED DIRECTLY AT THE HOT MIX PLANT WITH NO ADDITIONAL EQUIPMENT. THE EXCELLENT BONDING PROPERTIES OF GILSONITE WILL PRODUCE A HIGH-STRENGTH, HIGH-PERFORMANCE PAVEMENT THAT ALSO RESISTS WATER STRIPPING.

DETAIL OF GILSONITE MIXTURE IN ASPHALT

IT HAS BEEN DISCOVERED THAT ASPHALT CEMENT CAN BE TOUGHENED WITH GILSONITE AND THINNED WITH A REACTIVE OIL. REACTIVE OIL IS AN OIL THAT CONTAINS A HIGH CONTENT OF UNSATURATED FATTY ACIDS. BY USING A REACTIVE OIL, THE OIL WOULD CURE OR REACT AFTER APPLICATION OF THE ASPHALT CEMENT TO THE HIGHWAY, THEREBY ALLOWING FOR A LOWER VISCOSITY APPLICATION BY CURING LATER TO PREVENT "RUTTING."



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GILSONITE-CONSTRUCTION

THE PREFERRED NATURAL ASPHALT IS ASPHALTITE SUCH AS GILSONITE. GILSONITE IS PREFERABLY ONE HAVING A MELTING OR SOFTENING POINT NEAR ABOUT 300° F. SO THAT IT IS MORE EASILY SOFTENED AND BLENDED WITH THE PETROLEUM ASPHALT AT SUCH TEMPERATURES.

HOW TO MIX GILSONITE IN ASPHALT:

GILSONITE SHOULD BE ADDED SLOWLY AT THE VORTEX. PROVISIONS SHOULD BE MADE TO RECIRCULATE THE HOT BITUMEN THROUGH RECIRCULATION PIPING. THE MOST IMPORTANT ITEM IS THAT THE MINIMUM TEMPERATURE SHOULD BE ABOUT 170 TO 175° C. ANYTHING SIGNIFICANTLY LESS THAN THIS WILL EXTEND MIXING TIME. FOR TYPICAL (5-10%) SUBSTITUTION CONCENTRATIONS, 2-4 HOURS OF MIXING AFTER ADDITION IS COMPLETED SHOULD BE SUFFICIENT. FOR MASTER BATCH CONCENTRATIONS (OVER 10% GILSONITE) RECIRCULATION OVERNIGHT IS PREFERRED.

PACKING OF GILSONITE “NATURAL ASPHALT” LUMP AND POWDER FORM “MICRONIZED”

GILSONITE IN LUMP FORM LIKE ROCK PACKED IN 500~1000KG JUMBO BAG

GILSONITE 200 MESH PACKED IN 500~1000KG JUMBO BAG

GILSONITE 300 MESH PACKED IN 500~1000KG JUMBO BAG

GILSONITE 30-40 MESH PACKED IN 500~1000KG JUMBO BAG

GILSONITE 100 MESH PACKED IN 500~1000KG JUMBO BAG

GILSONITE 300 MESH PACKED IN 25KG PP BAG

GILSONITE 200 MESH PACKED 25KG MULTI PAPER BAG

GILSONITE 200 MESH PACKED 50LBS MULTI PAPER BAG

GILSONITE 30-40 MESH PACKED PP BAG ON PALLET

BULK ON VESSEL


SPECIFICATION OF GILSONITE

NO	TEST	RESULT	TEST METHOD
1	ASH CONTENT,WT%	5	ASTM-D3174
2	MOISTURE CONTENT,WT%	1%	ASTM-D3173
3	VOLATILE MATTER,WT%	63	ASTM-D3175
5	SOLUBILITY IS CS ₂ ,WT%	80	ASTM-D4
6	SPECIFIC GRAVITY @25 C	1.11	ASTM-D3289
7	NORMAL HEPTHAN INSOLUBLES,WT%	79	ASTM-D3279
8	COLOR IS MASS	BLACK	-----
9	COLOR IN STREAK OR POWDER	BLACK	-----
10	SOFTENING POINT,C	185	ASTM-D36
11	PENETRATION @25C	0	ASTM-D5
ELEMENT ANALYSIS			
1	CARBON,WT%	84	ASTM-D5291
2	HYDROGEN,WT%	7.1	ASTM-D5291
3	NITROGEN,WT%	3.67	ASTM-D5291
4	OXYGEN,WT%	3.1	ASTM-D5291
5	SULPHURE,WT%	2	LECO(S)ANALYZER

OUR APPROVALS
