

Odor Free Antistrip and Warm Mix Technology



ZycoTherm

ZycoTherm is a next generation antistrip additive with the additional benefit of warm mix asphalt (WMA). It is compatible with all aggregate types and allows for improved adhesion of bitumen to aggregate at significantly lower dosage rates compared to conventional antistrips. ZycoTherm enables temperature reduction up to 60°F (30°C) during mix production and field compaction, and has benefits of Chemical Bonding, Complete Coating and Consistent Compaction.

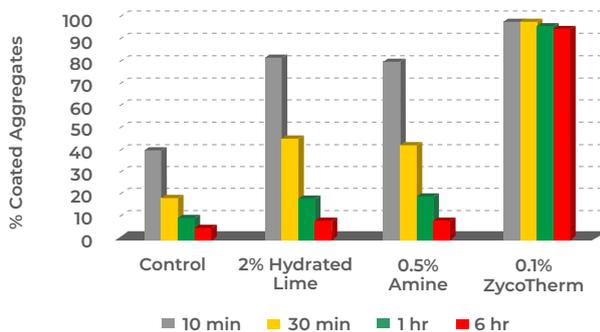
BENEFITS

- ✓ Combined Antistrip and WMA
- ✓ Higher incorporation of RAP
- ✓ Longer Hauls
- ✓ Excellent compaction in cold climates
- ✓ Non-toxic and odor free
- ✓ Extremely low dosage rates
- ✓ Excellent salt tolerance
- ✓ Compatible with PPA, SBS & CRMB

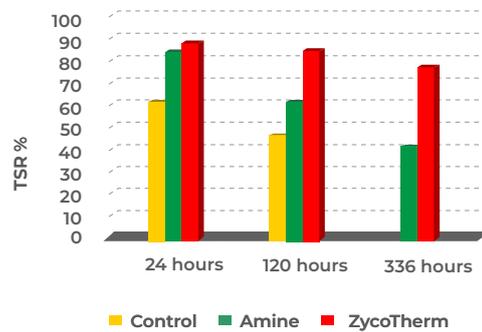
CHEMICAL BONDING

Unlike conventional antistrips which form a weak physical bond between the aggregate and bitumen, ZycoTherm forms a permanent chemical bond between the aggregate and the bitumen. Due to the permanent nature of the chemical bond formed, there are significant gains with respect to moisture resistance, durability and overall life cycle costs for the pavement. ZycoTherm is compatible with all aggregate types, works at significantly lower dosages compared to conventional antistrips and is an environmentally friendly additive that is non-corrosive and odor free.

ASTM D 3625 BOIL TEST

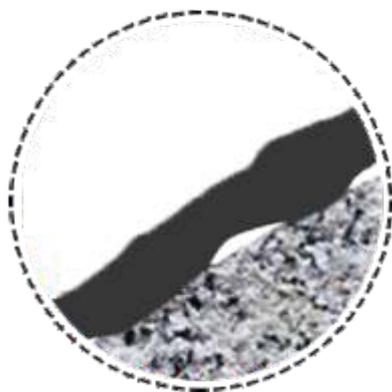


EXTENDED CONDITIONING TSR COMPARISON

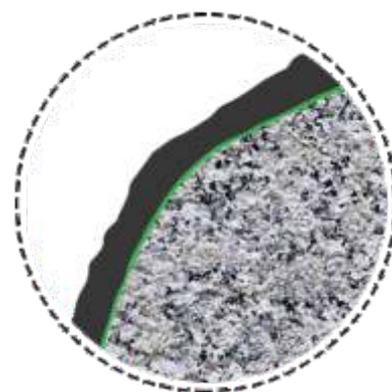


COMPLETE COATING

ZycoTherm modified bitumen coats aggregate surfaces in a significantly faster and easier manner compared to conventional additives. The superior coating and wetting attributes of ZycoTherm ensure easy coating of fines, better mixing of RAP and jet black looking mixes. The complete coating of aggregates by ZycoTherm modified bitumen also leads to mixes that are free of pinholes and have reduced stripping and oxidative potential.



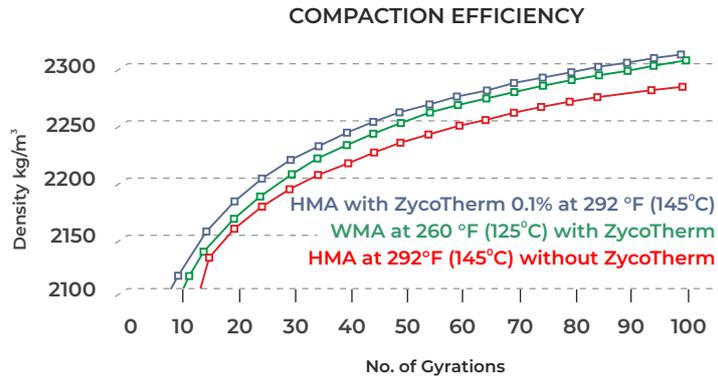
WITHOUT ZYCOTHERM



WITH ZYCOTHERM

CONSISTENT COMPACTION

ZycoTherm provides excellent warm mix asphalt benefits and reduces production temperatures to as low as 275 °F (135 °C). Consistent and easy compaction can be achieved up to temperatures of 210 °F (98 °C), thereby enabling longer hauls and cold climate paving.



DOSAGE

- The typical dosage range for ZycoTherm is 0.03 to 0.1% by weight of the bitumen binder. If aggregate type and characteristics are known, refer to the table below for indicative dosages. Adjust the same based on mix testing.
- It is critical that ZycoTherm be thoroughly mixed into the bitumen to ensure homogenous distribution of the product.

ZycoTherm Dosage for Antistrip Benefits			AGGREGATE TYPE	ZycoTherm Dosage for Antistrip and Warm Mix Benefits		
AGGREGATE WATER ABSORPTION %				AGGREGATE WATER ABSORPTION %		
0.5-0.8	0.9-1.4	1.5-2		0.5-0.8	0.9-1.4	1.5-2
0.03	0.03	0.05	Limestone, Dolomite	0.07	0.07	0.07
0.03	0.03	0.05	Basalt, Gabbro	0.07	0.07	0.1
0.03	0.05	0.05	Granite, Granodiorite, Rhyolite	0.07	0.07	0.1
0.03	0.05	0.1	Quartzite	0.1	0.1	0.1
0.03	0.07	0.1	Greywacke, Andesite, Sandstone	0.1	0.1	0.1

ADVANTAGES

Paving

- Reduced odor
- Improved workability and compaction efficiency
- Improved mix flow & cleaner equipments
- Elimination of mix segregation
- Dark black look
- Extended paving season

Manufacturing

- Reduced odor
- Cleaner tanks, coils & elevators
- Cleaner flights of the mixing chamber
- Lower mix temperature & fuel economy
- Higher RAP/RAS

Health and Environment

- Non corrosive
- Odor free
- Health rating of 1
- TSCA Compliant
- REACH Compliant
- DSL Compliant

STORAGE & SHELF LIFE

ZycoTherm should be stored 41 – 113 °F (5 to 45 °C) in a shaded, dry area away from sunlight, heat, source of sparks, rain and standing water. The container lid should be securely fastened every time it is used. It's shelf life is 48 months. In case the product freezes at low temperatures, allow it to thaw and unfreeze.

ABOUT ZYDEX

Established in 1997, Zydex is a specialty chemicals company with the purpose of innovating for sustainability.

Beyond pavement products, Zydex offers a diverse set of chemical technologies for the textile, agriculture and civil construction industries. We were recently recognised as one of the 25 Most Innovative Companies in India by the Confederation of Indian Industries (CII).

Sustainable Green Chemistry

Zydex is deeply committed to sustainable chemistries that ensure a greener future for everyone. Our commitment has made us a pioneer in introducing non-polluting and non-hazardous technologies that conserve, protect and enhance the environment. Pursuing chemical innovations that would mean a greener, purer and more resource renewable world is our passion. Our technologies have been recognized by the International Road Federation (IRF), and have been globally adopted.

GLOBAL PRESENCE

