



Wetfix[®] G400



Environmentally friendly, exceptionally low odor adhesion promoter and compaction aid

Nouryon

Wetfix G400

Non-amine based adhesion promoter that is compatible with standard and poly phosphoric acid (PPA) modified Asphalt binder.

Versatile adhesion promoter

Works with both siliceous and calcareous aggregates. Works with normal and polymer modified binders. It can also be used as an adhesion promoter for cold patch mix as it exhibits active adhesion properties.

Improved workability and easier compaction

Improves workability of asphalt mixes and is easier to compact. This enables cool weather paving, longer haul distances and faster paving operations.

The workability test results from Rutgers University as tested by the Marshall Compaction method showed that Wetfix G400 gave better results compared to conventional warm-mix additives.

Compatible with PPA modified binder

Wetfix G400 is an adhesion promoter that maintains the PG grade of PPA-modified binders, AASHTO M320 and M332.

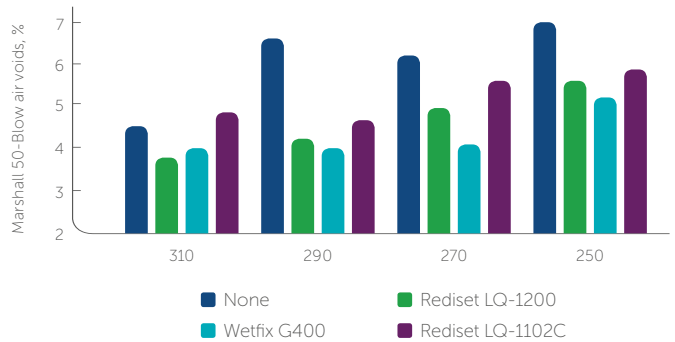
Environmentally friendly

Wetfix G400 and the treated binders do not exhibit odors associated with traditional hot-mix/warm-mix additives. Wetfix G400 is not classified as a marine pollutant.

- Does not contain amines or volatile solvents
- It is not regulated as dangerous goods for transport
- Most of the raw material derived from renewable resources

Compactability

Results of workability test using the Marshall compaction method by Rutgers University.



Asphalt mix was 6.5% of SBS polymer modified PG76-22 with a 9.5 mm coarse graded trap rock aggregate.

Adhesion

Wetfix G400 gave good results with traditional stripping tests such as static immersion and boil test. Here are photos from the Vermont boil test with 0.5% Wetfix G400 by the weight of asphalt binder and a control.



The Vermont boil test method: the hot asphalt aggregate mix is cooled to ambient temperature, placed under water, heated to bring it to full rolling boil and boiled for 1 min. The contents are rinsed with cold tap water, water drained off and then examined for retained coating.



Performance grading (PG)

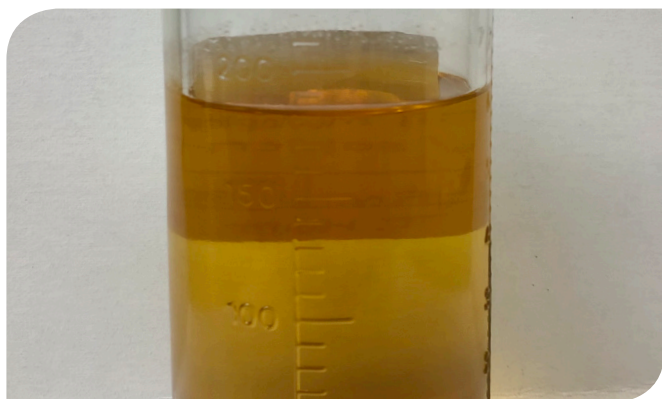
Data with and without Wetfix G400 in PPA modified binders. Addition of Wetfix G400 does not alter the PG grade of PPA modified binders. This is one of the main advantages of Wetfix G400 compared to traditional amine based additives.

Binder	Spec	PG64-28, Neat	PG64-28, + 0.5% Wetfix G400
Original binder (unaged)			
DSR, test temp (°C)		64	64
G*/sin delta, kPa	≥1.0	1.06	1.03
RTFOT residue			
DSR, G*/sin delta, kPa	≥2.2	2.71	2.83
PAV residue	≤5000	2390	2180
BBR, test temp (°C)		-18	-18
Stiffness, S, MPa	≤300	255	222
Slope, m	≥0.300	0.318	0.321
PG		64-28	64-28

PG data with and without Wetfix G400 in SBS modified binders shows that addition of Wetfix G400 does not alter the PG grade of SBS modified binders, maintaining Jnr and % recovery.

Binder	Spec	PG64E-22, Neat	PG64E-22, + 0.5% Wetfix G400
Original binder (unaged)			
Test temp (°C)		64	64
DSR, G*/sin delta, kPa	≥1.0	3.42	3.28
RTFOT residue			
Test temp (°C)		64	64
DSR, G*/sin delta, kPa		7.03	7.77
MSCR, J _{nr3.2'} , kPa-1	<0.5 (E)	0.228	0.172
MSCR, J _{nrdiff'} , %	<75	10.9	5.21
MSCR, Recovery _{3.2'} , %		75.0	78.4

Wetfix G400



Key benefits

- Exceptionally low odor
- Versatile adhesion promoter
- Improved workability and compaction
- Compatible with PPA modified binders
- Environmentally friendly

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Nouryon

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