

## AKZO NOBEL Asphalt Applications

## Solving Problems in Slurry Surfacing

High clay, fines in aggregate   Check grading, MB or SE	Problem	Possible Cause	Action
Aggregate feed too high   Check gate   Hot emulsion used   Insufficient additive   Increase additive   Emulsion designed for low temperatures   Consult supplier   Water absorbed by substrate   Spray surface   Slurry sets too   Road surface too hot or absorbent   Spray surface   Insufficient additive   Increase additive   Insufficient additive   Insufficient water in slurry   Increase water   Decrease feed   Low fines in aggregate   Check grading   Aggregate feed too low   Check gate, hopper   Filler too low   Excess additive   Reduce additive   Reduce additive   Excess additive   Reduce additive   Excess foaming   Excess additive   Reduce additive   Excess additive   Reduce additive   Excess additive   Reduce additive   Excess emulsifier in emulsion   Check with supplier   Excess emulsifier in emulsion   Check with supplier   Excess emulsifier in emulsion   Check with supplier   Excess emulsion or water   Check grading   Excess emulsion or water   Check feeds   Excess additive   Reduce additive   Emulsion designed for higher   Check with supplier   Emperatures   Fatting up of binder.   Surface glossy and sticky   Surry consistency too low   Check feed   Aggregate too coarse to hold emulsion   Check grading   Surry consistency too low   See above   Surry consistency too low   See above   Surry consistency too low   See above   Too slow setting   See above   Too slow setting   See above   Check feed and bulking   Check feed   C	Slurry breaks in	High clay, fines in aggregate	Check grading, MB or SE
Hot emulsion used   Insufficient additive   Emulsion designed for low temperatures   Consult supplier   Water absorbed by substrate   Spray surface   Slurry sets too rapidly on road   Road surface too hot or absorbent   Spray surface   Insufficient additive   Increase additive   Insufficient additive   Increase additive   Insufficient water in slurry   Increase water   Insufficient water in slurry   Increase water   Insufficient water in slurry   Increase water   Increase w	mixer or spreader	Lack of mix water	Check feed
Hot emulsion used   Insufficient additive   Increase additive   Emulsion designed for low temperatures   Consult supplier   Water absorbed by substrate   Spray surface   Slurry sets too rapidly on road   High fines content in aggregate   Check grading   Road surface too hot or absorbent   Insufficient additive   Increase additive   Insufficient water in slurry   Increase additive   Insufficient water in slurry   Increase water   Too much mix water   Decrease feed   Low fines in aggregate   Check grading   Aggregate feed too low   Check grading   Aggregate feed too low   Excess additive   Reduce additive   Excess additive   Reduce additive   Excess foaming   Excess additive   Reduce additive   Reduce additive   Excess additive   Reduce additive   Excess additive   Reduce additive   Reduce additive   Reduce additive   Excess emulsifier in emulsion   Check with supplier   Check grading   Excess emulsifier in emulsion   Check grading   Excess emulsion or water   Check feeds   Excess additive   Emulsion designed for higher   Check grading   Excess emulsion or water   Check feeds   Excess additive   Emulsion designed for higher   Check grading   Surry consistency too low   See above   See above   Surface glossy and sticky   Surry consistency too low   See above   Surry consistency too low   See above   See above   Surry consistency too low   See above   Too slow setting   See above   Check feed and bulking   Check feed   Ch	box	Aggregate feed too high	Check gate
Insufficient additive   Emulsion designed for low temperatures   Consult supplier			Check temperature
Water absorbed by substrate   Spray surface		Insufficient additive	Increase additive
High fines content in aggregate   Check grading   Road surface too hot or absorbent   Spray surface   Insufficient additive   Increase additive   Insufficient water in slurry   Increase water		Emulsion designed for low temperatures	Consult supplier
Road surface too hot or absorbent   Spray surface   Insufficient additive   Increase additive   Insufficient water in slurry   Increase water		Water absorbed by substrate	Spray surface
Insufficient additive   Increase additive   Insufficient water in slurry   Increase water	Slurry sets too	High fines content in aggregate	Check grading
Insufficient water in slurry	rapidly on road	Road surface too hot or absorbent	Spray surface
Too much mix water   Decrease feed		Insufficient additive	Increase additive
Low fines in aggregate   Check grading		Insufficient water in slurry	Increase water
Aggregate feed too low Filler too low Excess additive  Mix looks dry Lack of mix water or emulsion Aggregate drier than expected Excess foaming Excess additive  Excess foaming Excess additive Slurry consistency too low Excess emulsifier in emulsion Check with supplier  Low fines content in aggregate Excess additive Emulsion designed for higher temperatures  Fatting up of binder. Surface glossy and sticky White discoloration (Lime bloom from filler) in seal Uneven light gray color in seal  Aggregate feed too low Check gate, hopper Check feeds, increase Check moisture content Reduce additive Reduce additive level Check with supplier Check grading Check feed Check feed Check feed Check feed Check grading Check feed See above See above Check feed See above Check feed and bulking Corrections Check feed	Slurry consistency too	Too much mix water	Decrease feed
Filler too low Excess additive  Mix looks dry  Lack of mix water or emulsion Aggregate drier than expected Excess foaming  Excess additive  Excess additive  Excess additive  Slurry consistency too low Excess emulsifier in emulsion  Slow setting of seal  Low fines content in aggregate Excess emulsion or water Excess emulsion or water  Excess emulsion or water  Excess additive Excess emulsion or water  Excess additive Emulsion designed for higher temperatures  Fatting up of binder. Surface glossy and sticky  White discoloration (Lime bloom from filler) in seal  Uneven light gray color in seal  Filler too low  Excess emulsion  Check bin and feed Reduce additive Check with supplier Check with supplier Check with supplier Check grading Check grading Slurry consistency too low See above  Too slow setting  See above  Emulsion feed too high Check feed and bulking corrections Check feed	low, mix looks wet	Low fines in aggregate	Check grading
Excess additive  Mix looks dry  Lack of mix water or emulsion Aggregate drier than expected  Excess foaming  Excess additive  Excess additive  Slurry consistency too low Excess emulsifier in emulsion  Check with supplier  Check grading  Excess emulsion or water  Check feeds Excess emulsion or water  Check feeds Excess emulsion or water  Check with supplier  Check with supplier  Check feeds Excess additive  Emulsion designed for higher temperatures  Fatting up of binder.  Surface glossy and sticky  White discoloration (Lime bloom from filler) in seal  Uneven light gray color in seal  Excess additive  Reduce additive Check with supplier Check with supplier Check feed  Check feed Slurry consistency too low See above See above  Too slow setting  Check feed and bulking corrections  Check feed Check feed and bulking corrections  Check feed		Aggregate feed too low	Check gate, hopper
Mix looks dryLack of mix water or emulsionCheck feeds, increaseExcess foamingExcess additiveReduce additive levelSlurry consistency too lowSee aboveExcess emulsifier in emulsionCheck with supplierSlow setting of sealLow fines content in aggregateCheck gradingExcess emulsion or waterCheck feedsExcess additiveReduce additiveEmulsion designed for higher temperaturesCheck with supplierFatting up of binder. Surface glossy and stickyFiller too lowCheck feedSurry consistency too lowSee aboveWhite discoloration (Lime bloom from filler) in sealSlurry consistency too lowSee aboveUneven light gray color in sealAggregate feed too high correctionsCheck feed and bulking correctionsEmulsion feed too lowCheck feed		Filler too low	Check bin and feed
Aggregate drier than expected Check moisture content  Excess foaming Excess additive Reduce additive level  Slurry consistency too low See above Excess emulsifier in emulsion Check with supplier  Check grading Excess emulsion or water Check feeds Excess emulsion or water Check feeds Excess additive Reduce additive Emulsion designed for higher Check with supplier  Fatting up of binder. Surface glossy and sticky Slurry consistency too low See above  White discoloration (Lime bloom from filler) in seal  Uneven light gray color in seal  Excess additive Reduce additive Check feeds  Excess additive Reduce additive Check with supplier Check with supplier Check grading Surry consistency too low See above See above  Too slow setting See above  Emulsion feed too low Check feed and bulking corrections  Emulsion feed too low Check feed		Excess additive	Reduce additive
Excess foaming  Excess additive  Slurry consistency too low  Excess emulsifier in emulsion  Slow setting of seal  Low fines content in aggregate  Excess emulsion or water  Excess emulsion or water  Excess additive  Excess additive  Excess additive  Emulsion designed for higher temperatures  Fatting up of binder.  Surface glossy and sticky  White discoloration (Lime bloom from filler) in seal  Uneven light gray color in seal  Excess additive  Excess emulsion or water  Check grading  Check grading  Check grading  See above  See above  See above  Too slow setting  Aggregate feed too high  Check feed and bulking corrections  Emulsion feed too low  Check feed	Mix looks dry	Lack of mix water or emulsion	Check feeds, increase
Slurry consistency too low Excess emulsifier in emulsion  Check with supplier  Check grading Excess emulsion or water Check feeds Excess emulsion or water Excess additive Emulsion designed for higher temperatures  Fatting up of binder. Surface glossy and sticky White discoloration (Lime bloom from filler) in seal  Uneven light gray color in seal  Slurry consistency too low Excess emulsion or water Check grading Check feed Check grading Check grading Slurry consistency too low See above See above  Aggregate feed too high Check feed and bulking corrections Emulsion feed too low Check feed	-	Aggregate drier than expected	Check moisture content
Excess emulsifier in emulsion Check with supplier    Slow setting of seal   Low fines content in aggregate   Check grading     Excess emulsion or water   Check feeds     Excess additive   Reduce additive     Emulsion designed for higher   Check with supplier     temperatures   Filler too low   Check feed     Surface glossy and sticky   Slurry consistency too low   See above     White discoloration (Lime bloom from filler) in seal   Uneven light gray color in seal     Uneven light gray color feed too low   Check feed     Aggregate feed too low   Check feed and bulking corrections     Emulsion feed too low   Check feed     Check with supplier     Check with supplier     Check grading     Check grading     See above     Check feed and bulking corrections     Check feed     Check	Excess foaming	Excess additive	Reduce additive level
Low fines content in aggregate   Check grading		Slurry consistency too low	See above
Excess emulsion or water  Excess additive  Emulsion designed for higher temperatures  Fatting up of binder. Surface glossy and sticky  White discoloration (Lime bloom from filler) in seal  Uneven light gray color in seal  Excess emulsion or water Excess additive Reduce additive Check with supplier Check feed Aggregate too low See above Slurry consistency too low See above See above Check feed and bulking corrections Emulsion feed too low Check feed		Excess emulsifier in emulsion	Check with supplier
Excess additive Emulsion designed for higher temperatures  Fatting up of binder. Surface glossy and sticky Slurry consistency too low White discoloration (Lime bloom from filler) in seal Uneven light gray color in seal  Excess additive Emulsion designed for higher Check with supplier Check feed Aggregate too coarse to hold emulsion Check grading See above See above See above Too slow setting Check feed and bulking corrections Emulsion feed too low Check feed	Slow setting of seal	Low fines content in aggregate	Check grading
Emulsion designed for higher temperatures  Fatting up of binder. Surface glossy and sticky  White discoloration (Lime bloom from filler) in seal  Uneven light gray color in seal  Emulsion designed for higher temperatures  Filler too low  Check feed  Aggregate too coarse to hold emulsion  Check grading  See above  See above  Too slow setting  See above  See above  Check feed and bulking corrections  Emulsion feed too low  Check feed		Excess emulsion or water	Check feeds
Fatting up of binder. Surface glossy and sticky  White discoloration (Lime bloom from filler) in seal  Uneven light gray color in seal  Emulsion temperatures  Filler too low  Aggregate too coarse to hold emulsion  Check grading  See above  See above  See above  Too slow setting  Aggregate feed too high  Check feed and bulking corrections  Emulsion feed too low  Check feed		Excess additive	Reduce additive
Fatting up of binder. Surface glossy and sticky Slurry consistency too low White discoloration (Lime bloom from filler) in seal Uneven light gray color in seal Emulsion feed too low  Filler too low Aggregate too coarse to hold emulsion Check grading See above See above See above See above Check feed and bulking corrections Check feed		Emulsion designed for higher	Check with supplier
Surface glossy and stickyAggregate too coarse to hold emulsion Slurry consistency too lowCheck grading See aboveWhite discoloration (Lime bloom from filler) in sealSlurry consistency too low Too slow settingSee aboveUneven light gray color in sealAggregate feed too high correctionsCheck feed and bulking correctionsEmulsion feed too lowCheck feed		temperatures	
stickySlurry consistency too lowSee aboveWhite discoloration (Lime bloom from filler) in sealSlurry consistency too low Too slow settingSee aboveUneven light gray color in sealAggregate feed too high correctionsCheck feed and bulking correctionsEmulsion feed too lowCheck feed	Fatting up of binder.	Filler too low	Check feed
White discoloration (Lime bloom from filler) in sealSlurry consistency too low Too slow settingSee aboveUneven light gray color in sealAggregate feed too high correctionsCheck feed and bulking correctionsEmulsion feed too lowCheck feed	Surface glossy and	Aggregate too coarse to hold emulsion	Check grading
(Lime bloom from filler) in sealToo slow settingSee aboveUneven light gray color in sealAggregate feed too high correctionsCheck feed and bulking correctionsEmulsion feed too lowCheck feed	sticky	Slurry consistency too low	See above
filler) in sealCheck feed and bulkingUneven light gray color in sealAggregate feed too high correctionsCheck feed and bulking correctionsEmulsion feed too lowCheck feed	White discoloration	Slurry consistency too low	See above
Uneven light gray color in sealAggregate feed too high correctionsCheck feed and bulking correctionsEmulsion feed too lowCheck feed	`	Too slow setting	See above
color in seal corrections  Emulsion feed too low Check feed	filler) in seal		
Emulsion feed too low Check feed	Uneven light gray	Aggregate feed too high	9
	color in seal		
Clay in the aggregate Check MR or SF values		Emulsion feed too low	Check feed
Olice Values		Clay in the aggregate	Check MB or SE values

*MB* = *methylene blue value* 

SE = sand equivalence

Problem	Possible Cause	Action
Texture variation	Segregated aggregate	Turn over stockpile
	Low slurry consistency	See above
Mat scored by	Mix breaking in the spreader box	See above
furrows	Broken slurry falling into box	Keep box clean
	Layer laid too thin	Should be >1.5x top size
	Aggregate contains oversize	Screen aggregate
Coarse particles	Traffic on too soon	Control traffic
removed by traffic	Laid in cold weather	Adjust emulsion recipe
	Clay in aggregate	Check aggregate
	Aggregate grading wrong	Check grading
Bleeding in wheel	Loss of coarse aggregate	See above
tracks	Too much asphalt	See above

MB = methylene blue value

SE = sand equivalence

All information concerning this product and/or suggestions for handling and use contained herein are offered in good faith and are believed to be reliable. Akzo Nobel Chemicals Inc., however, makes no warranty as to the accuracy and/or sufficiency of such information and/or suggestions, as to the product's merchantability or fitness for any particular purpose, or that any suggested use will not infringe any patent. Nothing contained herein shall be construed as granting or extending any license under any patent. Buyer must determine for himself, by preliminary tests or otherwise, the suitability of this product for his purposes. The information contained herein supersedes all previously issued bulletins on the subject matter covered.