

Challenges Obtaining Quality Surface Gravel

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South Dakota Surface Gravel Specs

Table 1. Example of Gradation Requirements and Plasticity for Two Types of Materials.

Requirement Sieve	Aggregate Base Course Percent Passing	Gravel Surfacing Percent Passing
1"	100	
3/4"	80-100	100
1/2"	68-91	
No. 4	46-70	50-78
No. 8	34-54	37-67
No. 40	13-35	13-35
No. 200	3-12	4-15
Plasticity Index	0-6	4-12

Better when
modified to 8 - 15

From South Dakota Standard Specifications. (16)







03/15/2011

Gravel

03/15/2011



QUALITY CRUSHED GRAVEL

NOTE ALL THE FRACTURED STONE
AND ITS ABILITY TO STAY PUT



**A NICE 3 TRACK ROAD WITH
AMPLE CROWN AND A
TIGHTLY BOUND SURFACE**



POOR QUALITY GRAVEL

A GOOD SIGN OF POOR GRAVEL AND THE RESULTS



EXAMPLE OF CHECKING FLOAT
CHECKING FLOAT ON A SECTION OF
UNMODIFIED GRAVEL

SURFACE GRAVEL EVALUATIONS

COMPARISON OF FLOAT

LTAP TESTED 2 ROAD SEGMENTS FOR FLOAT AND WERE AMAZED AT THE DIFFERENCE BETWEEN A SUB STANDARD AND AN UPPER LEVEL STANDARD SPEC GRAVEL:

- SUB STANDARD FLOAT SECTION HAD AN AVERAGE OF 668 TONS OF FLOAT PER MILE!!
- THE TOP GRADE STANDARD SECTION HAD ONLY AN AVERAGE OF 107 TONS PER MILE!!!

COST OF GOOD GRAVEL

- AS IS THE COST OF EVERYTHING GOOD, GRAVEL IS NOT AN EXCEPTION!!!!
- ANALYZING COST OF THE GRAVELS LIFE CYCLE IS VERY IMPORTANT
- IS SLIGHTLY MORE EXPENSIVE GRAVEL THAT REQUIRES 10 LESS BLADINGS A YEAR REALLY MORE EXPENSIVE?? NOT REALLY!!!
- GIVING THE PUBLIC A NICE ROAD FOR A REASONABLE COST IS VERY IMPORTANT



QUALITY SURFACE GRAVEL

- A VERY TIGHTLY BOUND SURFACE
- 1.87" RAIN FALL FOR NEARLY 5 MONTHS
- BLADED ONLY TWICE IN THE PAST SIX MONTHS



DEMANDS ON TODAY'S ROADS

DEMANDS ON GRAVEL ROADS HAVE INCREASED
DRAMATICALLY OVER THE PAST 10 YEARS YEARS!!
NOTE THE LOOSE AGGREGATE AND THE DUSTING
OUT OF THE FINES!!!



**MODIFIED SURFACE GRAVEL
EXAMPLE OF GOOD GRAVEL
MODIFIED WITH FINES**

**A NEAR ASPHALT SURFACE AS A RESULT
OF AN EXCELLENT CHOICE OF GRAVEL**

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CONCLUSION

- ROAD PREPARATION IS VITAL
- QUALITY GRAVEL STARTS WITH THE SOURCE
- TESTING IS OF GREAT VALUE
- STOCK PILE MANAGEMENT IS IMPORTANT
- PROPER PLACEMENT OF MATERIAL
- COMMITMENT TO CONTINUE ON A MAINTENANCE SCHEDULE!!!
- TIMELY MAINTENANCE

QUESTIONS AND COMMENTS

THANK YOU FOR YOUR
ATTENDANCE