

SPECIFICATION		CATEGORY CODE ITEMS		Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES SOILS & SOIL-AGGREGATE MIXTURES CHARACTERISTICS AND PERFORMANCE STANDARD NO. MD 000.01 APPROVED Karl G. McCall DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT APPROVAL • SHA REVISIONS APPROVAL 6-11-68 REVISED 10-1-01 REVISED REVISED APPROVAL • FEDERAL HIGHWAY ADMINISTRATION APPROVAL 12-13-68 REVISED REVISED REVISED														
GENERAL CLASSIFICATION		GRANULAR MATERIALS					SILT-CLAY MATERIALS											
GROUP CLASSIFICATION	A-2	A-3	A-2-4	A-4-2	A-2-7	A-7-2	A-4	A-4-7	A-7-4	A-7	A-6	A-5	A-8					
GENERAL DESCRIPTION	SAND		SILTY-SAND	SANDY-SILT	CLAYEY-SAND	SANDY-CLAY	SILT	CLAYEY SILT	SILTY-CLAY	CLAY	COLLOIDAL CLAY	MICA, DIATOMS & SILT	SWAMP MUCK					
STABILITY	WHEN N.P. HIGH	WHEN PLASTIC, GOOD WHEN DRY	IDEAL WHEN CONFINED	GOOD WHEN DRY	GOOD WHEN DRY & PROPERLY COMPACTED	GOOD WHEN PROPERLY COMPACTED OR UNDISTURBED	POOR							GOOD TO POOR	NONE			
USE AS A BASE	FAIR	FAIR	EXCELL.	FAIR	FAIR	POOR	UNSATISFACTORY							GOOD TO POOR	NONE			
USE AS A SUBBASE	EXCELL.	GOOD	EXCELL.	FAIR	FAIR	FAIR	UNSATISFACTORY							GOOD TO POOR	NONE			
USE AS A SUBGRADE	EXCELL.	EXCELL.	EXCELL.	FAIR	FAIR	FAIR	UNSATISFACTORY							GOOD TO POOR	NONE			
FILLS UNDER 50'	EXCELL.	GOOD	GOOD	GOOD	FAIR	FAIR	UNSATISFACTORY							GOOD TO POOR	NONE			
FILLS OVER 50'	GOOD	GOOD TO FAIR	FAIR	FAIR	FAIR	FAIR	UNSATISFACTORY							GOOD TO POOR	NONE			
FROST ACTION	NONE TO LOW	115-135	105-130	110-130	115-135	115-135	UNSATISFACTORY							GOOD TO POOR	NONE			
RANGE OF MAX. DRY DENSITY (AASHTO T-180) (PCF)	115-135	115-135	105-130	110-130	115-135	115-135	UNSATISFACTORY							GOOD TO POOR	NONE			
RANGE OF OPTIMUM MOISTURE CONTENTS (AASHTO T-180%)	9-12	8-12	8-15	8-15	9-15	6-12	UNSATISFACTORY							GOOD TO POOR	NONE			
REQUIRED COMPACTION (AASHTO T-180) (%)	92-95	92-95	92-95	92-95	92-95	92-95	UNSATISFACTORY							GOOD TO POOR	NONE			
COMPACTION METHODS	ROLLING WITH SMOOTH FACE, TAMPING, RUBBER-TIRED ROLLER, OR VIBRATORY COMPACTOR	TRACTOR DISKING, VIBRATION	TAMPING OR RUBBER-TIRED ROLLER	TAMPING OR RUBBER-TIRED ROLLER	TAMPING OR RUBBER-TIRED ROLLER	TAMPING OR RUBBER-TIRED ROLLER	UNSATISFACTORY							GOOD TO POOR	NONE			
COMPACTION ABILITIES	GOOD WITH CLOSE CONTROL	GOOD	GOOD TO POOR	GOOD TO POOR	GOOD TO POOR	GOOD TO POOR	UNSATISFACTORY							GOOD TO POOR	NONE			
PUMPING ACTION	EXCELLENT TO FAIR	SLIGHT TO NONE	GOOD TO FAIR	GOOD TO FAIR	GOOD TO FAIR	GOOD TO FAIR	UNSATISFACTORY							GOOD TO POOR	NONE			
BEARING VALUE	EXCELLENT TO FAIR	GOOD	GOOD TO FAIR	GOOD TO FAIR	GOOD TO FAIR	GOOD TO FAIR	UNSATISFACTORY							GOOD TO POOR	NONE			
DRAINAGE	EXCELLENT TO FAIR	GOOD	GOOD TO FAIR	GOOD TO FAIR	GOOD TO FAIR	GOOD TO FAIR	UNSATISFACTORY							GOOD TO POOR	NONE			

NOTES

A-2 TO A-3 SOILS: WHEN USED AS A BASE, PLASTICITY INDEX AND LIQUID LIMIT SHOULD NOT EXCEED 6 AND 25 RESPECTIVELY. BEST FOR SOIL-CEMENT STABILIZATION, GENERALLY 8 TO 12% CEMENT BY WEIGHT WILL BE SUFFICIENT.

NON-PLASTIC A-2 TO A-3, SOILS MAY REQUIRE VIBRATION FOR COMPACTION.

A-4 TO A-7 SOILS, FILLS SHOULD BE PLACED IN DRY SEASON.

A-4 SILTS, SUSCEPTIBLE TO SETTLEMENT AND EROSION.

A-5 SOILS, WHEN MICA IS PRESENT, VERY DIFFICULT TO COMPACT BECAUSE OF EXPANSION AND REBOUND.

A-6 SOILS (CLAY), WILL PUMP IN POROUS BASES FORMING CRACKS. FILLS WILL SETTLE-OVER LONG PERIODS OF TIME. HIGH BANKS IN CUTS AND FILLS VERY LIABLE TO SLIDE.