

	Arquad T50	
Major component	$\text{CH}_3(\text{CH}_2)_{15-17}(\text{CH}_3)_3\text{NCl}$	
Molecular weight (MW)	319.5 to 347.5	
Average MW		333.5
% concentration	45--55	
Average % concentration		50
1 gram	smectite	
CEC	0.9 mmol/g	
Need of pure surfactant (g) per 1 g. of smectite		0.30015
Need of raw surfactant (g)		0.6003
sample quantity (lb) / yard of concrete, CA	1860	
sample quantity (lb) / yard of concrete, FA		
sample quantity (lb), screening		
smectite (%)		1.5
sample size (g)	453.59237	843681.8082
smectite (g)		12655.227123
Need of surfactant for 100% charge balance (g)		7596.9328419369
Need of surfactant for 60% charge balance (g)		4558.1597051622
Need for surfactant for 40% charge balance (g)		3038.7731367748
Factor for gram to pound conversion		0.002204622
Dosage		
Need of surfactant for 100% charge balance (lb)		16.7483652759
Need of surfactant for 60% charge balance (lb)		10.0490191655
Need for surfactant for 40% charge balance (lb)		6.6993461103
Cost (\$) / lb		2.28
Total Cost		
Cost (\$) corresponding to 100% charge balance / yard of PCC		38.186272829
Cost (\$) corresponding to 60% charge balance / yard of PCC		22.9117636974
Cost (\$) corresponding to 40% charge balance / Yard of PCC		15.2745091316

	Atom	Atomic Weight	No.	No.		
HDTMA	C	12	34	38	19	21
$\text{CH}_3(\text{CH}_2)_{15}\text{N}(\text{CH}_3)_3\text{Br}$	H	1	72	80	42	46
	N	14	1	1	1	1
	Cl	35.5	1	1	1	1
363.9		MW	529.5	585.5	319.5	347.5
100						
100						

	C	12	19
	H	1	42
	N	14	1
0.32751	Br	79.9	1
0.32751		MW	363.9

1.5

843681.8082

12655.227123

4144.7134350537

2486.8280610322

1657.8853740215

9.1375264226

5.4825158536

3.655010569

2.28

20.8335602436

12.5001361461

8.3334240974