

Katz Matte- Δ 10

Lab 4-Back to the Flux Capacity

Katz Matte

Original

062522-1

Neph Sy	42.84
Strontium Carb	35.37
EPK	12.90
Flint	8.89
Copper Carbonate	1.01
Water	60



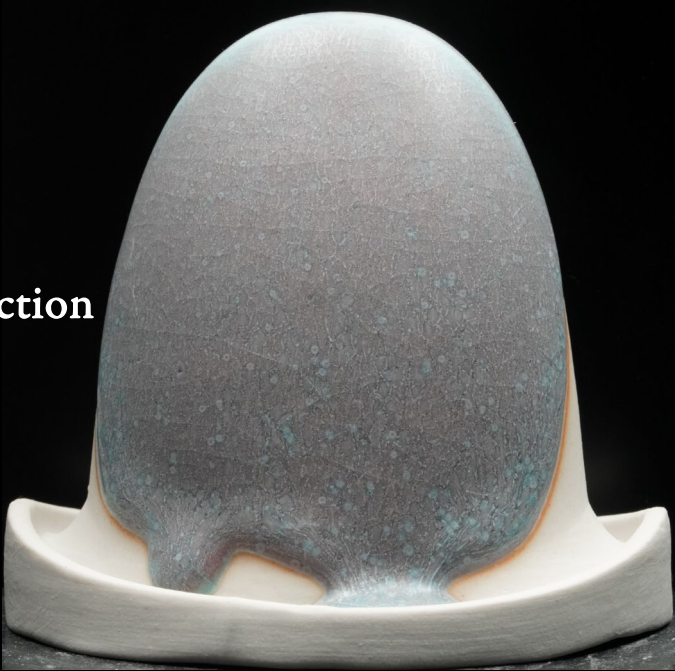
1-3 Second Dip



2-3 Second Dips



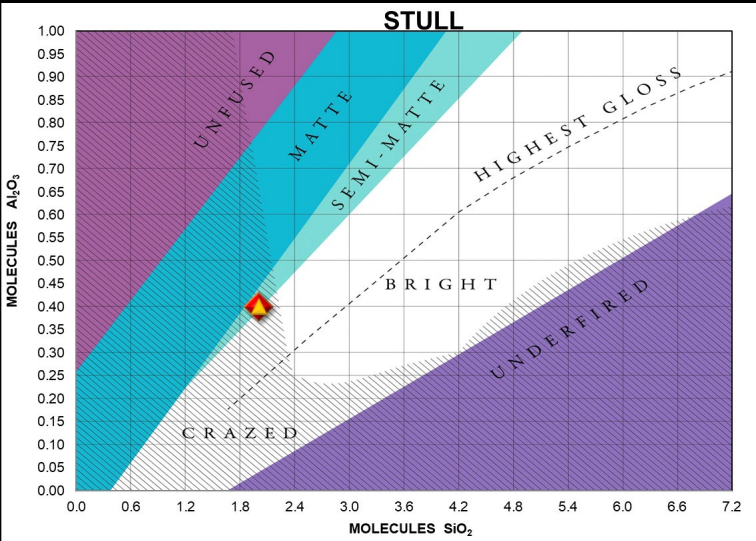
Reduction



Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 5.00 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 2.01	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.21	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.40	Li ₂ O	CuO 0.02	SrO 0.69	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.00 : 1		Alkali Metals 0.27		Alkaline Earths 0.73	
SiO ₂ 2.06	Collective "Al ₂ O ₃ " 0.41	Na ₂ O 0.21	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.41	Li ₂ O	CuO	SrO 0.71	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

Lab 4-Alkali Metals-Oxidation



062522-1



062522-35



062522-36

1-3 Second Dip



062522-37



062522-X1



062522-38



Original (NS)

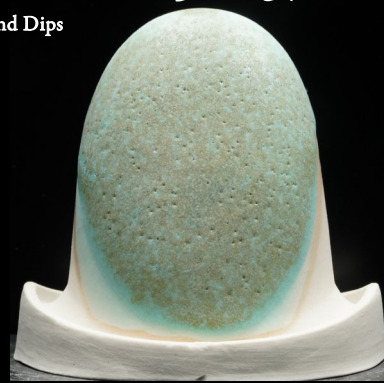


w/Mahavir



w/Custer

2-3 Second Dips



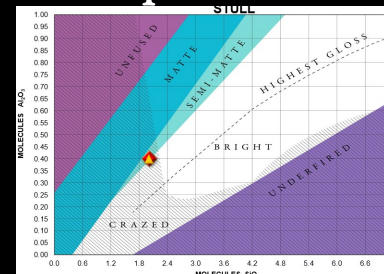
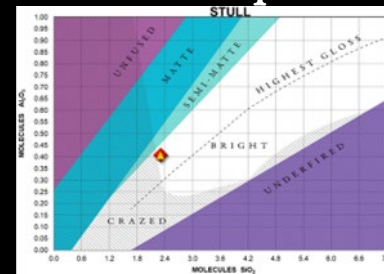
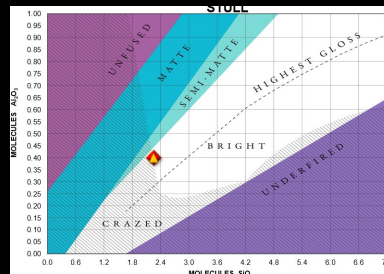
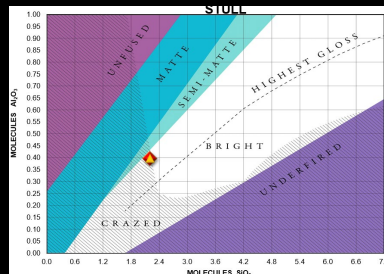
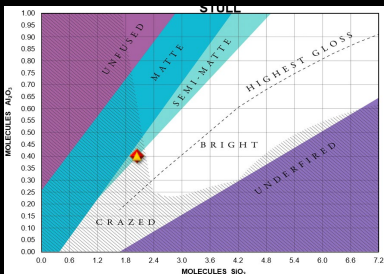
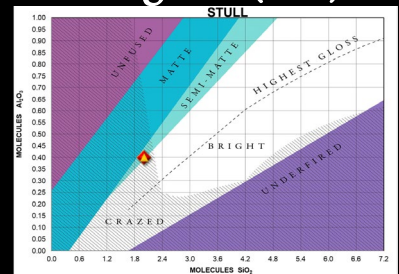
w/G200EU



w/Minspar



w/Spodumene



Ceramic
Materials
Workshop

Lab 4-Alkali Metals-Oxidation



062522-1



062522-40



062522-41



062522-42

1-3 Second Dip



Original (NS)



w/Frit 3110

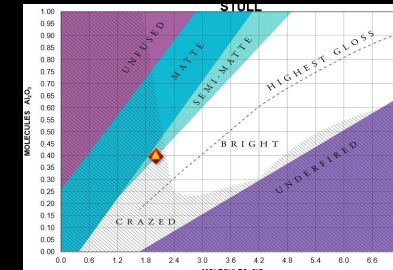
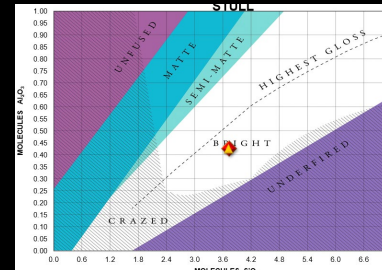
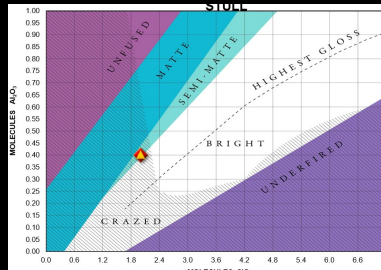
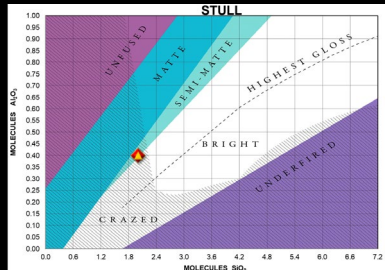


w/Cornwall



w/Lithium Carbonate

2-3 Second Dips



Ceramic
Materials
Workshop

Lab 4-Alkali Metals-Reduction



062522-1



062522-35



062522-36



062522-37



062522-X1



062522-38

1-3 Second Dip



Original (NS)



w/Mahavir



w/Custer



w/G200EU

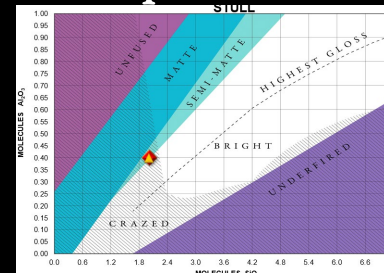
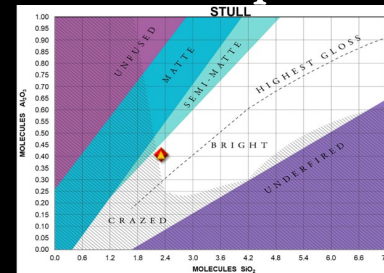
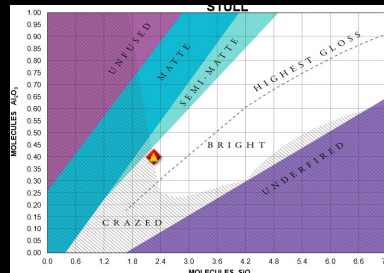
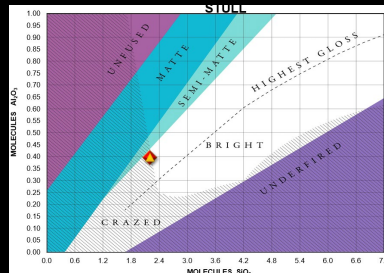
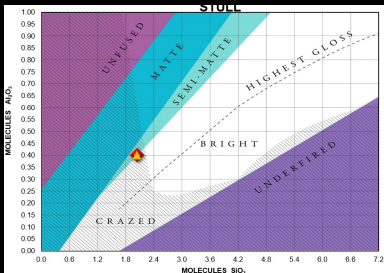
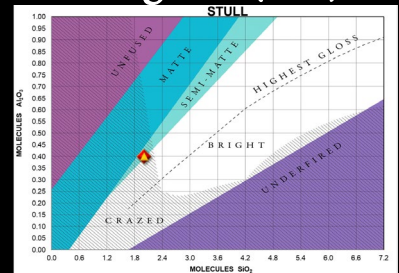


w/Minspar



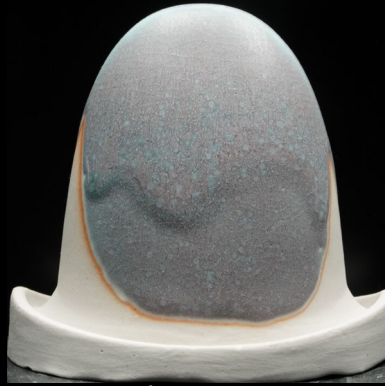
w/Spodumene

2-3 Second Dips



Ceramic
Materials
Workshop

Lab 4-Alkali Metals-Reduction



062522-1



062522-40



062522-41



062522-42

1-3 Second Dip



Original (NS)



w/Frit 3110

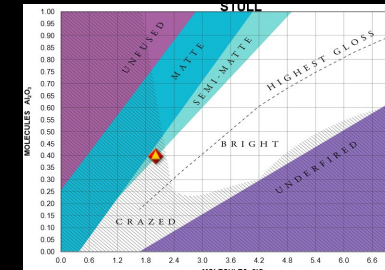
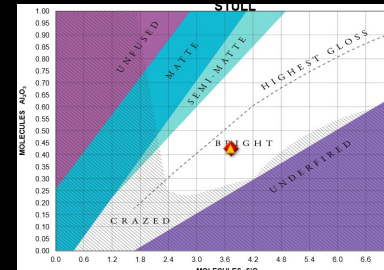
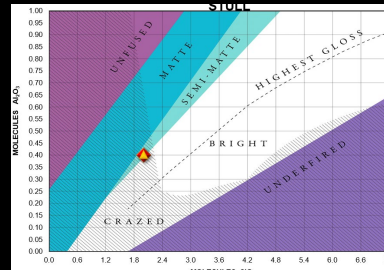
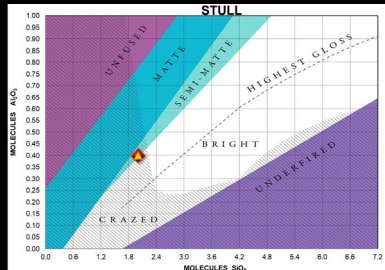


w/Cornwall



w/Lithium Carbonate

2-3 Second Dips



Ceramic
Materials
Workshop

Lab 4-Alkaline Earths-Oxidation



062522-1



062522-43



062522-44

1-3 Second Dip



062522-45



062522-46



062522-47



Original (Strontium)



w/Talc



w/Mag Carb

2-3 Second Dips



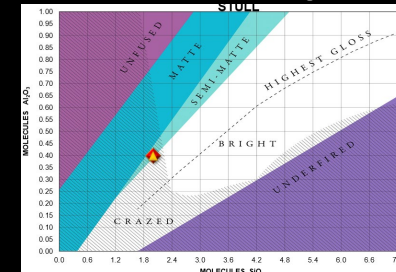
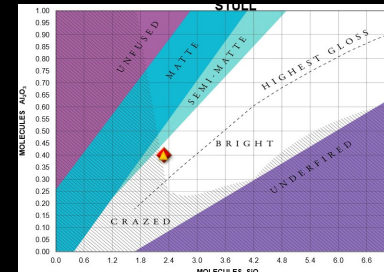
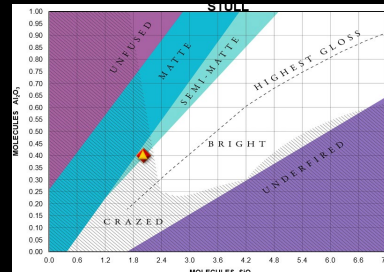
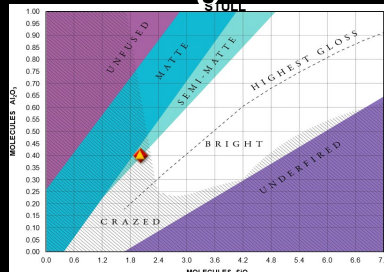
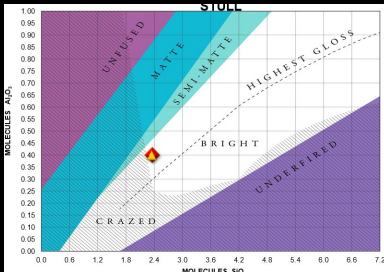
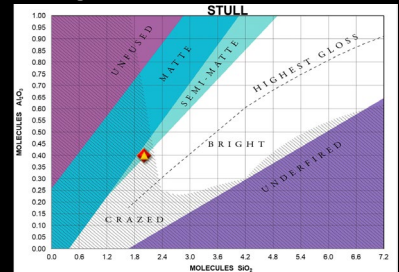
w/Dolomite



w/Wollastonite



w/Whiting



Ceramic
Materials
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Lab 4-Alkaline Earths-Oxidation



062522-1



062522-48

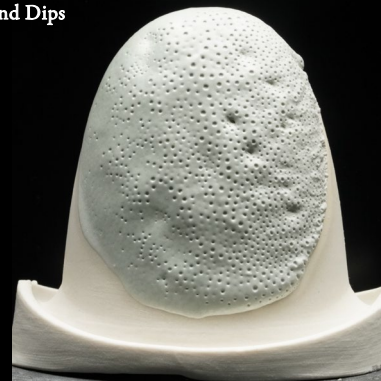


062522-49



062522-50

1-3 Second Dip



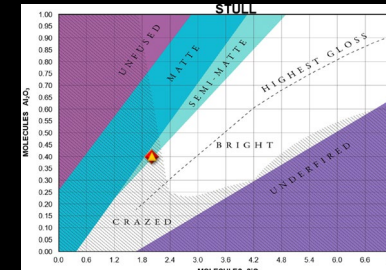
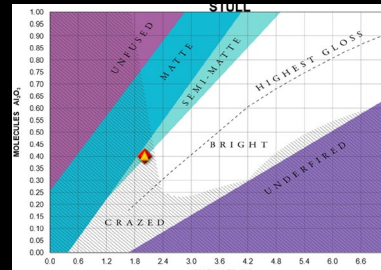
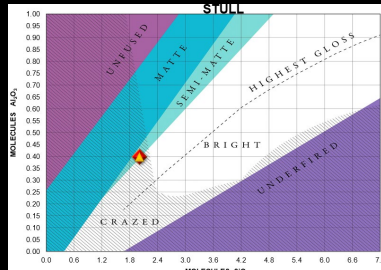
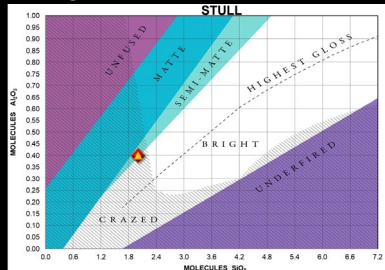
2-3 Second Dips

Original (Strontium)

w/Barium Carb

w/Zinc Oxide

w/Bone Ash



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Lab 4-Alkaline Earths-Reduction



062522-1



062522-43

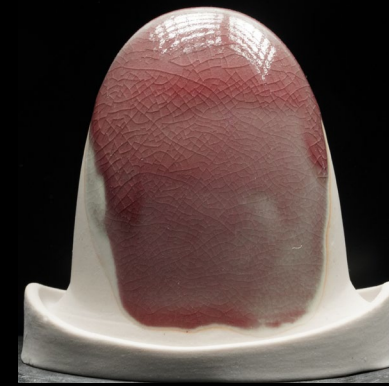


062522-44

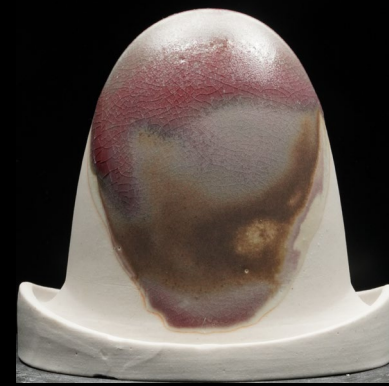
1-3 Second Dip



062522-45



062522-46



062522-47



Original (Strontium)



w/Talc



w/Mag Carb

2-3 Second Dips



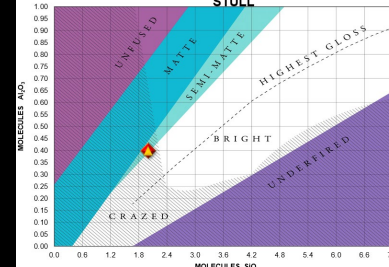
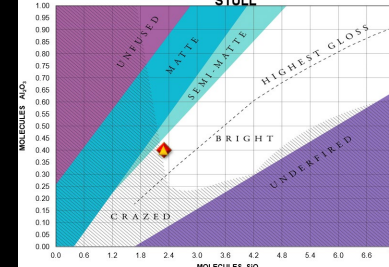
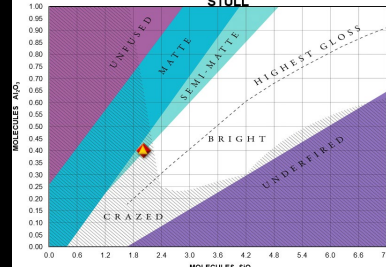
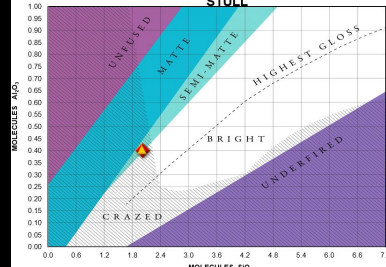
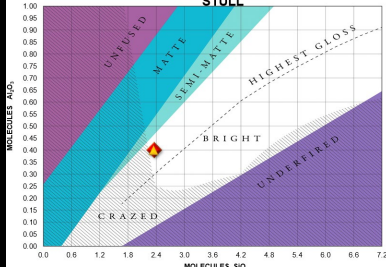
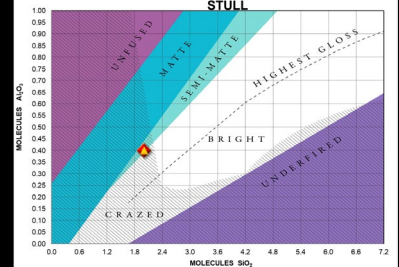
w/Dolomite



w/Wollastonite



w/Whiting



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Materials
Workshop

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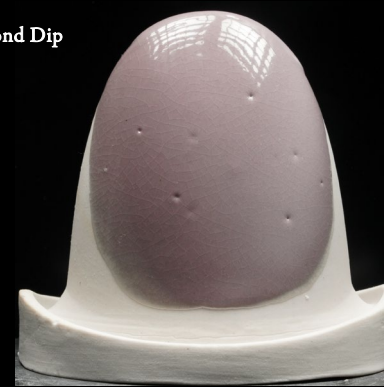
Lab 4-Alkaline Earths-Reduction



062522-1



062522-48



062522-49



062522-50

1-3 Second Dip



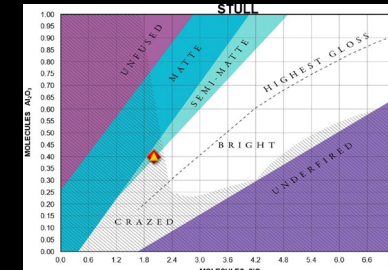
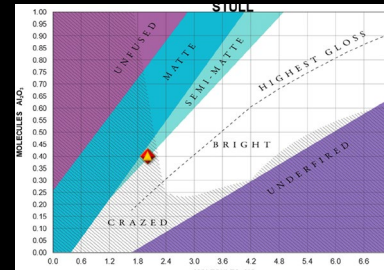
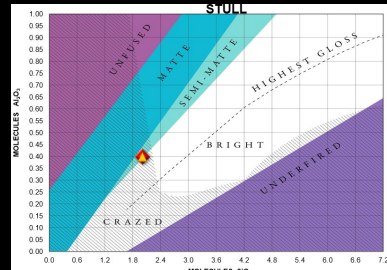
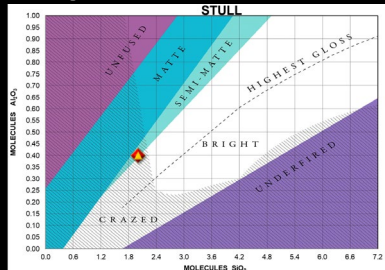
2-3 Second Dips

Original (Strontium)

w/Barium Carb

w/Zinc Oxide

w/Bone Ash



Ceramic
Materials
Workshop

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Katz Matte

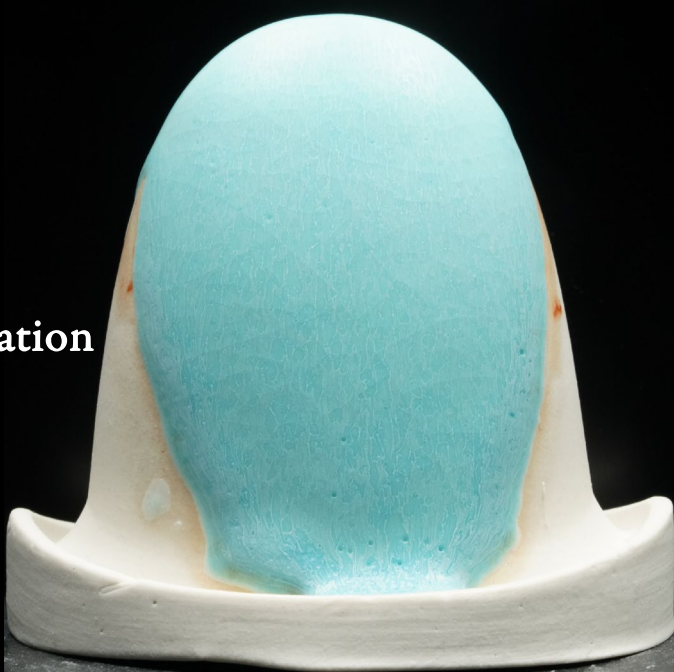
Original

062522-1

Neph Sy	42.84
Strontium Carb	35.37
EPK	12.90
Flint	8.89
Copper Carbonate	1.01
Water	60



1-3 Second Dip



2-3 Second Dips



Reduction

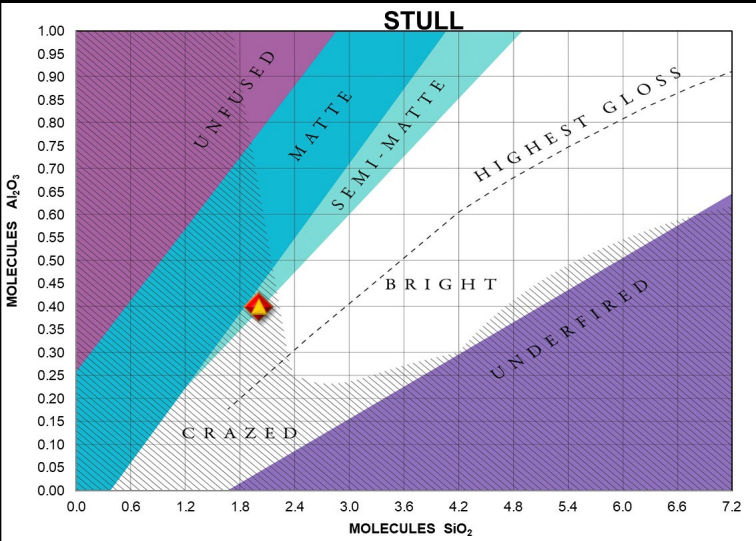


Reduction

Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 5.00 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 2.01	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.21	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.40	Li ₂ O	CuO 0.02	SrO 0.69	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.00 : 1		Alkali Metals 0.27		Alkaline Earths 0.73	
SiO ₂ 2.06	Collective "Al ₂ O ₃ " 0.41	Na ₂ O 0.21	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.41	Li ₂ O	CuO	SrO 0.71	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

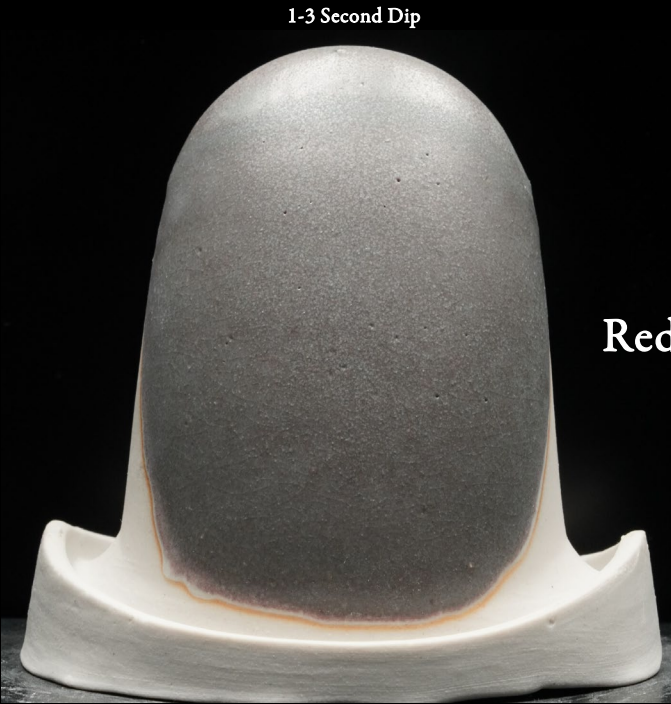
Katz Matte

Chemical Match
Mahavir Feldspar
062522-35

Mahavir	52.39
Strontium Carb	34.49
EPK	13.12
Flint	
Copper Carbonate	1.01
Water	60



Oxidation

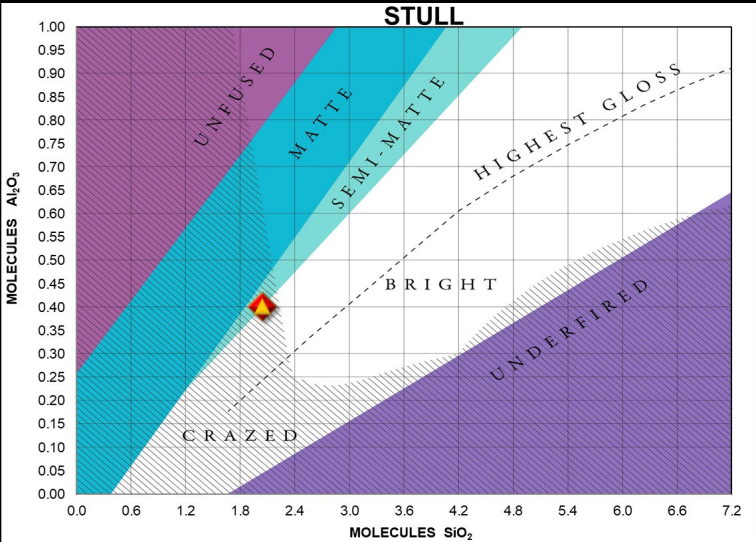


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 5.08 : 1		Alkali Metals 0.27		Alkaline Earths 0.73	
SiO ₂ 2.10	Collective "Al ₂ O ₃ " 0.41	Na ₂ O 0.08	K ₂ O 0.20	MgO 0.01	CaO 0.00
B ₂ O ₃	Al ₂ O ₃ 0.41	Li ₂ O	CuO	SrO 0.71	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.08 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 2.05	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.07	K ₂ O 0.19	MgO 0.01	CaO 0.00
B ₂ O ₃	Al ₂ O ₃ 0.40	Li ₂ O	CuO 0.02	SrO 0.69	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

Katz Matte

Chemical Match
Custer Feldspar
062522-36

Custer 2022	58.54
Strontium Carb	31.79
EPK	9.66
Flint	
Copper Carbonate	1.01
Water	60



Oxidation

1-3 Second Dip



2-3 Second Dips

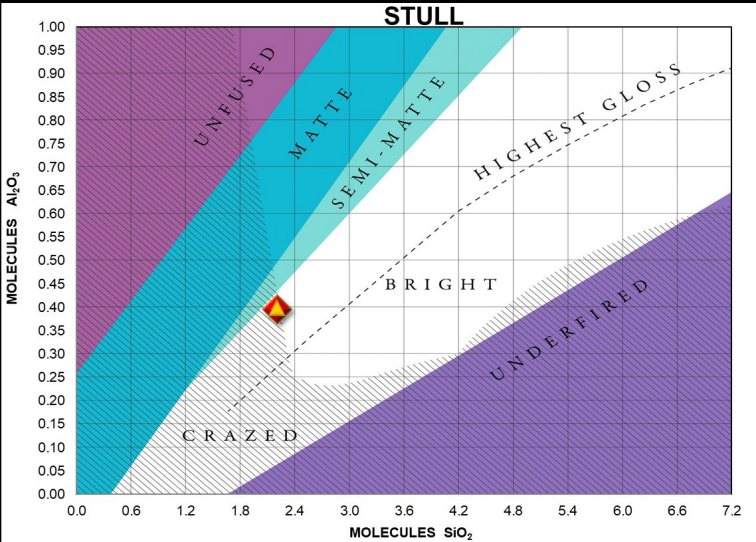


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 5.53 : 1		Alkali Metals 0.32		Alkaline Earths 0.68	
SiO ₂ 2.26	Collective "Al ₂ O ₃ " 0.41	Na ₂ O 0.13	K ₂ O 0.19	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.41	Li ₂ O	CuO	SrO 0.66	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.53 : 1		Alkali Metals 0.34		Alkaline Earths 0.66	
SiO ₂ 2.21	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.13	K ₂ O 0.19	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.40	Li ₂ O	CuO 0.02	SrO 0.64	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

Katz Matte

Chemical Match
G200EU Feldspar
062522-37

G200 EU	57.24
Strontium Carb	32.76
EPK	10.00
Flint	
Copper Carbonate	1.01
Water	60



Oxidation

1-3 Second Dip



2-3 Second Dips

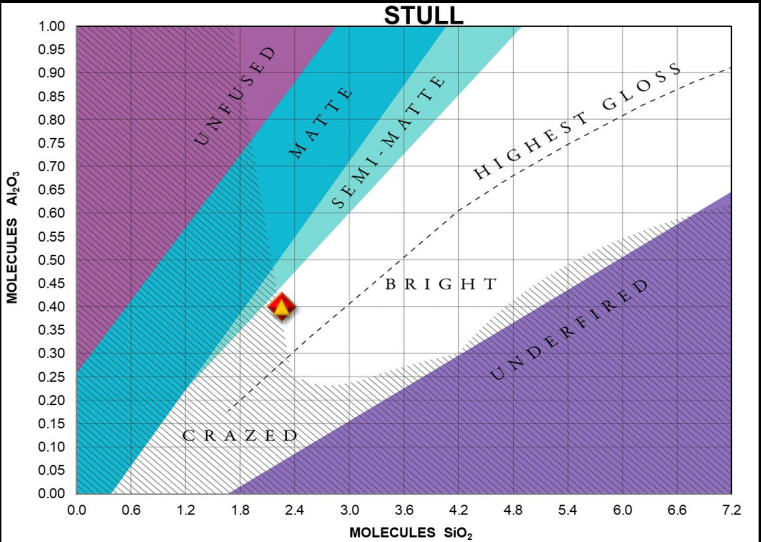


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 5.63 : 1		Alkali Metals 0.27		Alkaline Earths 0.73	
SiO ₂ 2.31	Collective "Al ₂ O ₃ " 0.41	Na ₂ O 0.06	K ₂ O 0.21	MgO 0.00	CaO 0.02
B ₂ O ₃	Al ₂ O ₃ 0.41	Li ₂ O	CuO	SrO 0.70	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.63 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 2.25	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.06	K ₂ O 0.21	MgO 0.00	CaO 0.02
B ₂ O ₃	Al ₂ O ₃ 0.40	Li ₂ O	CuO 0.03	SrO 0.68	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

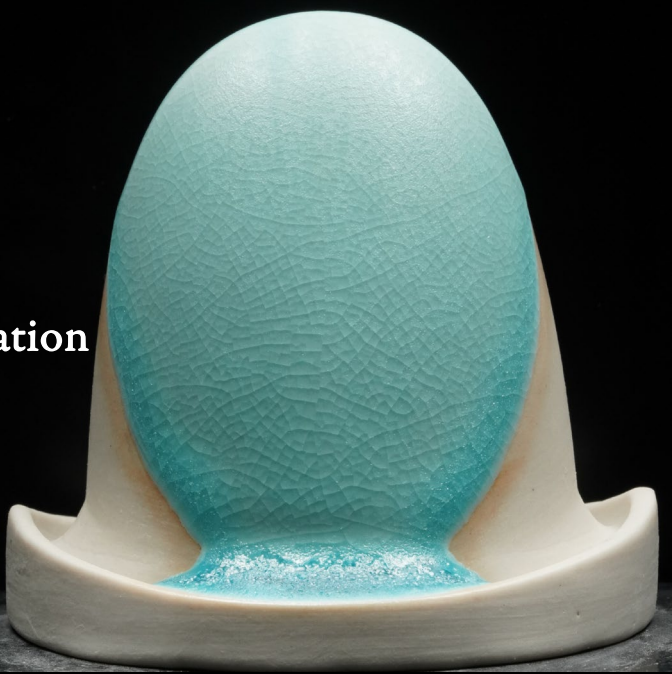
Katz Matte

Weight Substitution
Minspar Feldspar
062522-X1

Minspar	62.61
Strontium Carb	32.71
EPK	5.86
Flint	
Copper Carbonate	1
Water	60



1-3 Second Dip



2-3 Second Dips

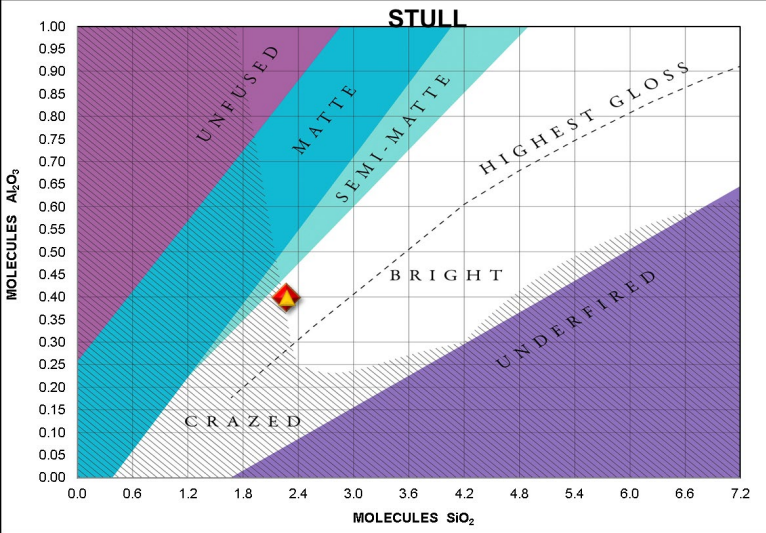


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 5.70 :1		Alkali Metals 0.27		Alkaline Earths 0.73	
SiO ₂ 2.33	Collective "Al ₂ O ₃ " 0.41	Na ₂ O 0.19	K ₂ O 0.08	MgO 0.00	CaO 0.04
B ₂ O ₃	Al ₂ O ₃ 0.41	Li ₂ O	CuO	SrO 0.67	BaO 0.00
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.70 :1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 2.27	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.19	K ₂ O 0.08	MgO 0.00	CaO 0.04
B ₂ O ₃	Al ₂ O ₃ 0.40	Li ₂ O	CuO 0.02	SrO 0.66	BaO 0.00
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

Katz Matte

Chemical Match
Spodumene
062522-38

Spodumene	36.46
Strontium Carb	36.98
EPK	13.50
Flint	13.05
Copper Carbonate	1.01
Water	60



1-3 Second Dip



2-3 Second Dips



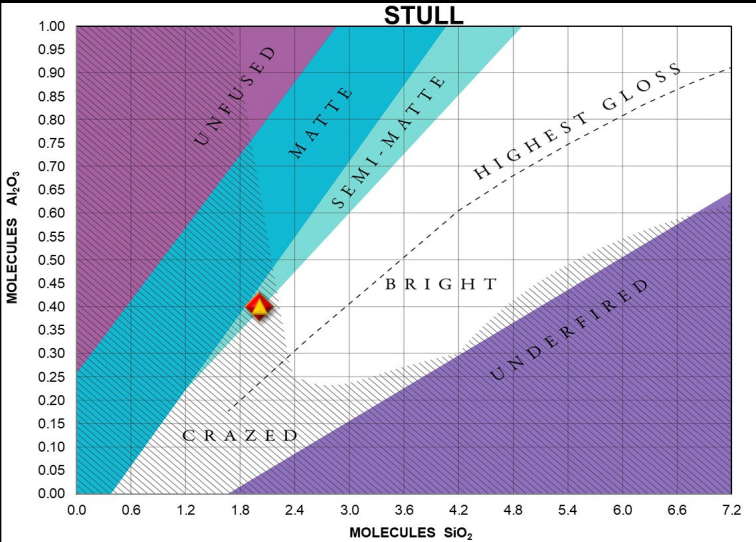
Reduction



Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 5.01 : 1		Alkali Metals 0.27		Alkaline Earths 0.73	
SiO ₂ 2.06	Collective "Al ₂ O ₃ " 0.41	Na ₂ O 0.00	K ₂ O 0.00	MgO 0.00	CaO 0.00
B ₂ O ₃	Al ₂ O ₃ 0.41	Li ₂ O 0.27	CuO	SrO 0.72	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.01 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 2.01	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.00	K ₂ O 0.00	MgO 0.00	CaO 0.00
B ₂ O ₃	Al ₂ O ₃ 0.40	Li ₂ O 0.26	CuO 0.02	SrO 0.70	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

Katz Matte

Chemical Match
Frit 3110

062522-40

3110	39.66
Strontium Carb	35.02
EPK	42.45
Flint	0.60
Copper Carbonate	1.01
Water	60



1-3 Second Dip



2-3 Second Dips

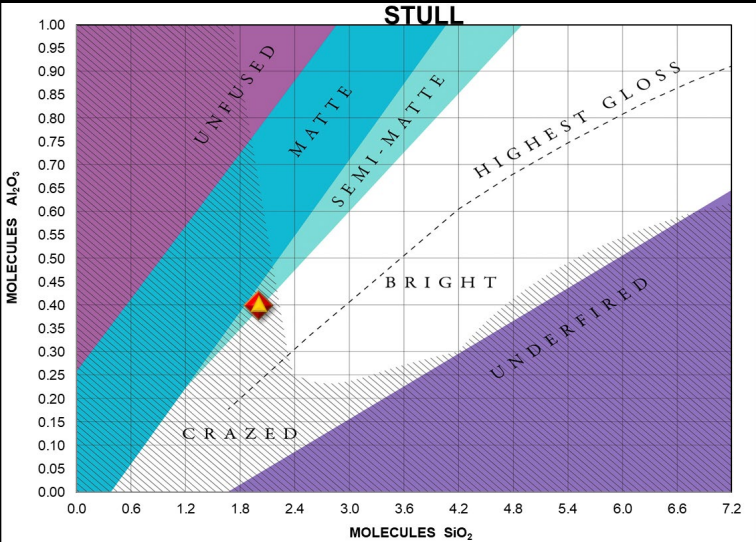


Reduction

Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 4.96 : 1		Alkali Metals 0.28		Alkaline Earths 0.72	
SiO ₂ 2.05	Collective "Al ₂ O ₃ " 0.41	Na ₂ O 0.25	K ₂ O 0.03	MgO 0.00	CaO 0.11
B ₂ O ₃ 0.04	Al ₂ O ₃ 0.41	Li ₂ O	CuO	SrO 0.59	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 4.96 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 2.01	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.24	K ₂ O 0.03	MgO 0.00	CaO 0.11
B ₂ O ₃ 0.04	Al ₂ O ₃ 0.40	Li ₂ O	CuO 0.02	SrO 0.58	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

Katz Matte

Chemical Match
Cornwall Stone
062522-41

Cornwall	76.66
Strontium Carb	23.34
EPK	
Flint	
Bentonite	2.06
Copper Carbonate	1.03
Water	60



1-3 Second Dip



2-3 Second Dips

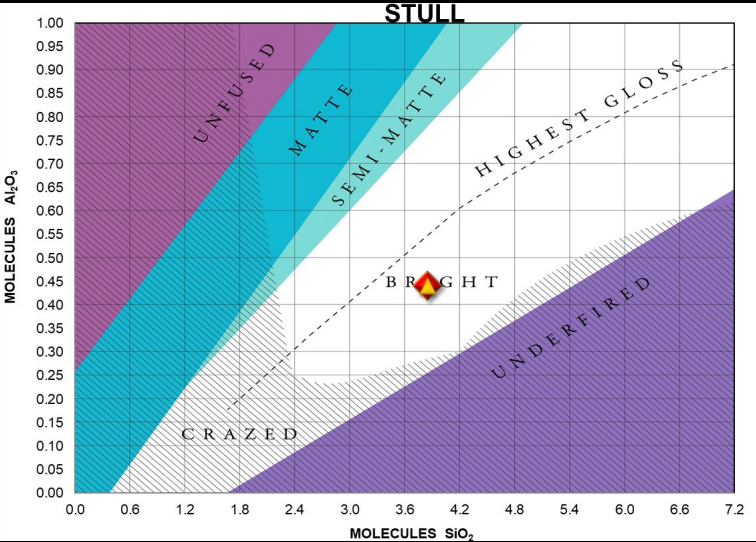


Reduction

Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.71 : 1		Alkali Metals 0.27		Alkaline Earths 0.73	
SiO ₂ 3.85	Collective "Al ₂ O ₃ " 0.44	Na ₂ O 0.15	K ₂ O 0.12	MgO 0.01	CaO 0.08
B ₂ O ₃	Al ₂ O ₃ 0.44	Li ₂ O	CuO	SrO 0.62	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 8.71 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.73	Collective "Al ₂ O ₃ " 0.43	Na ₂ O 0.14	K ₂ O 0.12	MgO 0.01	CaO 0.08
B ₂ O ₃	Al ₂ O ₃ 0.43	Li ₂ O	CuO 0.03	SrO 0.60	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

Katz Matte

Chemical Match
Lithium Carbonate
062522-42

Lithium Carb	6.47
Strontium Carb	33.81
EPK	37.94
Flint	21.78
Copper Carbonate	1.01
Water	60



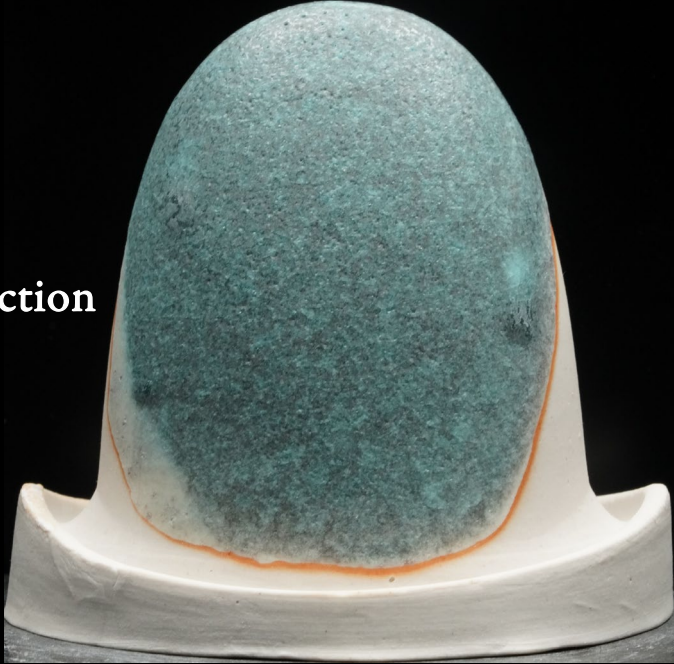
1-3 Second Dip



2-3 Second Dips



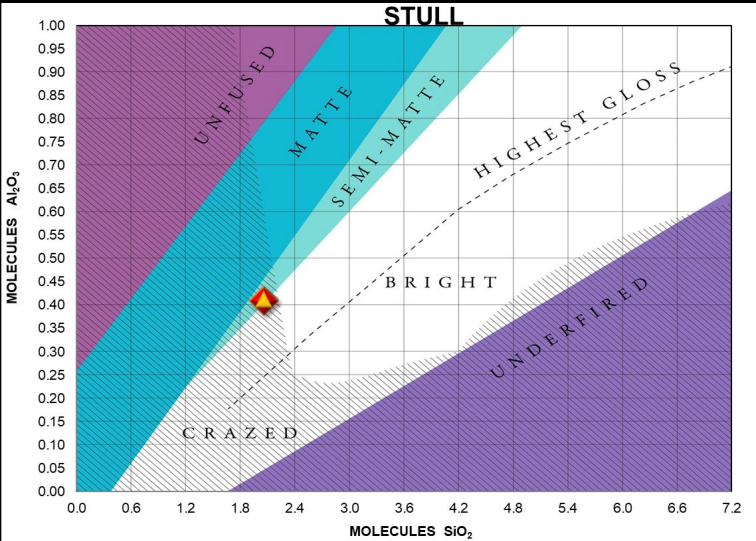
Reduction



Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 4.97 : 1		Alkali Metals 0.27		Alkaline Earths 0.73	
SiO ₂ 2.06	Collective "Al ₂ O ₃ " 0.41	Na ₂ O	K ₂ O	MgO	CaO
B ₂ O ₃	Al ₂ O ₃ 0.41	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.01	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 4.97 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 2.01	Collective "Al ₂ O ₃ " 0.40	Na ₂ O	K ₂ O	MgO	CaO
B ₂ O ₃	Al ₂ O ₃ 0.40	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.01	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

Katz Matte

Chemical Match
Talc

062522-43

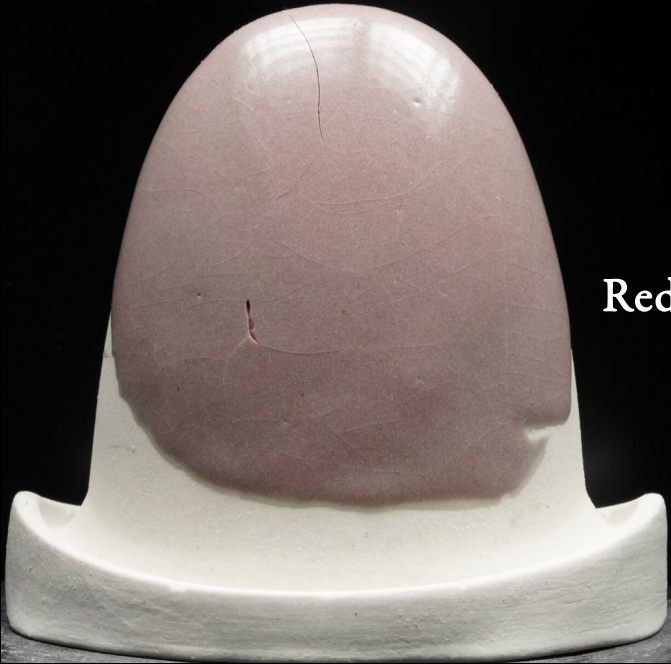
Neph Sy	50.02
Talc	34.90
EPK	15.08
Flint	
Copper Carbonate	1.01
Water	60



1-3 Second Dip



2-3 Second Dips



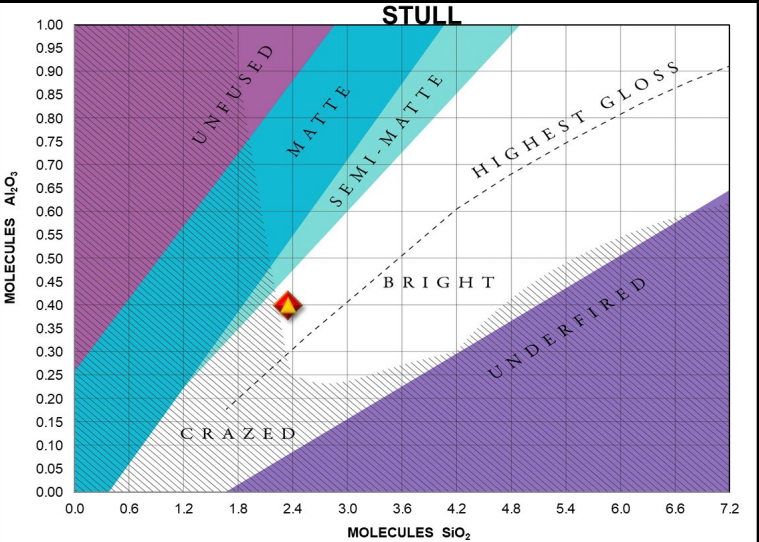
Reduction



Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 5.84 : 1		Alkali Metals 0.27		Alkaline Earths 0.73	
SiO ₂ 2.40	Collective "Al ₂ O ₃ " 0.41	Na ₂ O 0.21	K ₂ O 0.06	MgO 0.65	CaO 0.06
B ₂ O ₃	Al ₂ O ₃ 0.41	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.84 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 2.35	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.21	K ₂ O 0.06	MgO 0.63	CaO 0.06
B ₂ O ₃	Al ₂ O ₃ 0.40	Li ₂ O	CuO 0.02	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

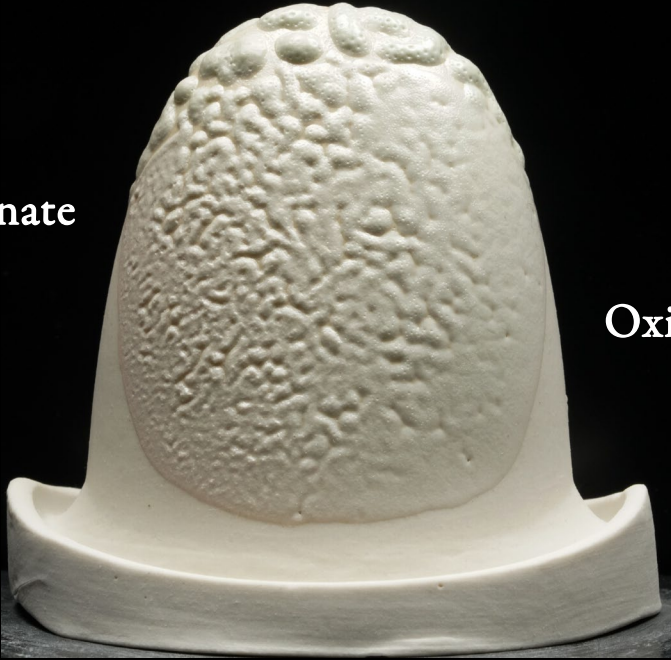


Ceramic
Materials
Workshop

Katz Matte

Chemical Match
Magnesium Carbonate
062522-44

Neph Sy	50.95
Mag Carbonate	23.40
EPK	15.25
Flint	10.40
Copper Carbonate	1.01
Water	60



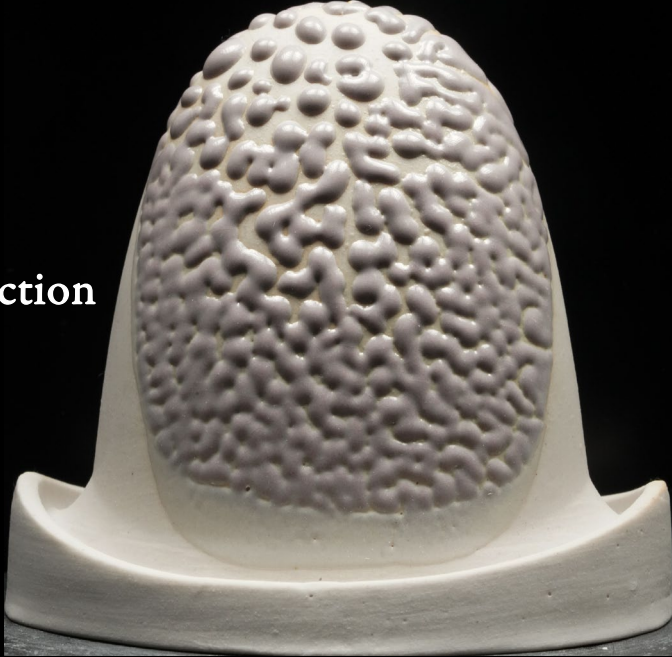
1-3 Second Dip



2-3 Second Dips



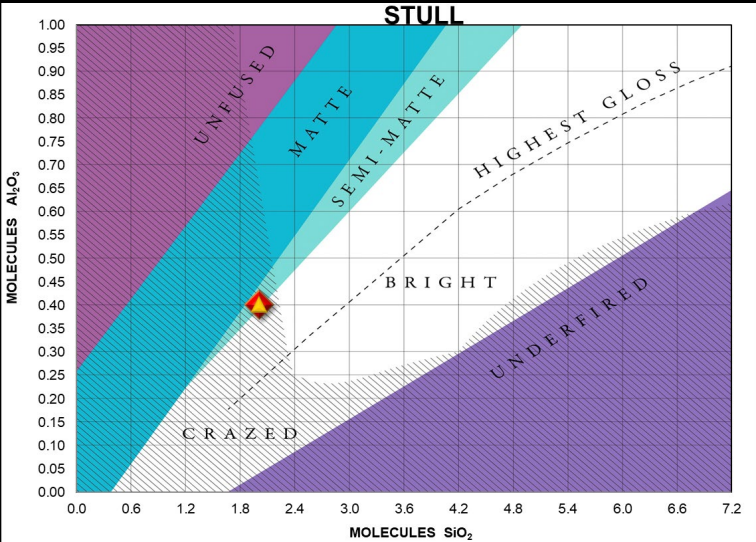
Reduction



Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 4.98 : 1		Alkali Metals 0.27		Alkaline Earths 0.73	
SiO ₂ 2.05	Collective "Al ₂ O ₃ " 0.41	Na ₂ O 0.21	K ₂ O 0.06	MgO 0.71	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.41	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 4.98 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 2.01	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.21	K ₂ O 0.06	MgO 0.70	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.40	Li ₂ O	CuO 0.02	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

Katz Matte

Chemical Match
Dolomite
062522-45

Neph Sy	49.49
Dolomite	25.50
EPK	14.85
Flint	10.16
Copper Carbonate	1.01
Water	60



1-3 Second Dip



2-3 Second Dips

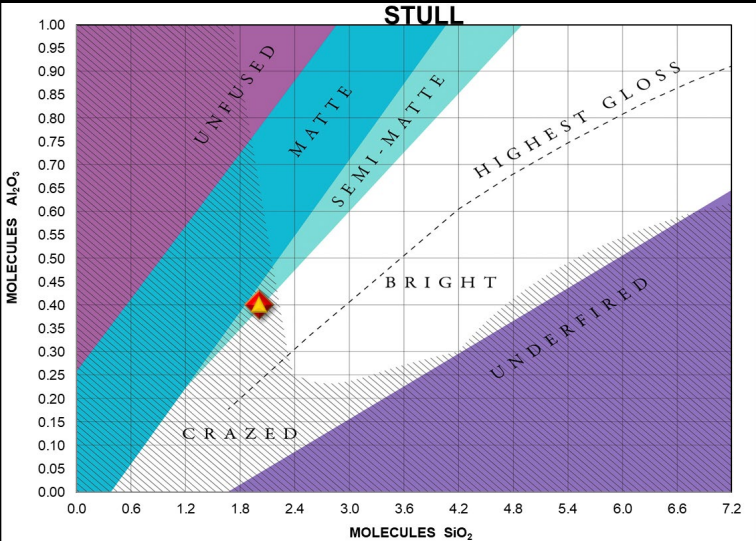


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 4.99 : 1		Alkali Metals 0.27		Alkaline Earths 0.73	
SiO ₂ 2.05	Collective "Al ₂ O ₃ " 0.41	Na ₂ O 0.21	K ₂ O 0.06	MgO 0.36	CaO 0.36
B ₂ O ₃	Al ₂ O ₃ 0.41	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 4.99 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 2.01	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.21	K ₂ O 0.06	MgO 0.35	CaO 0.36
B ₂ O ₃	Al ₂ O ₃ 0.40	Li ₂ O	CuO 0.02	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

Katz Matte

Chemical Match
Wollastonite
062522-46

Neph Sy	50.50
Wollastonite	34.83
EPK	14.67
Flint	
Copper Carbonate	1.01
Water	60

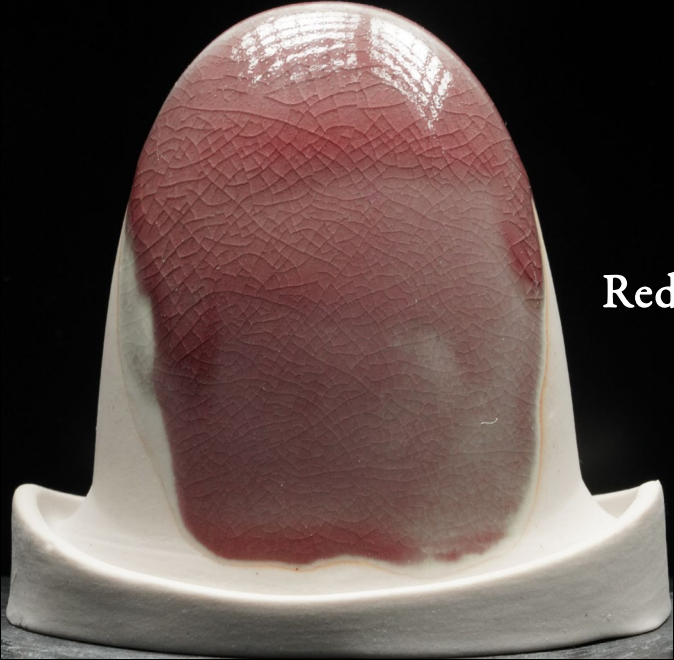


1-3 Second Dip

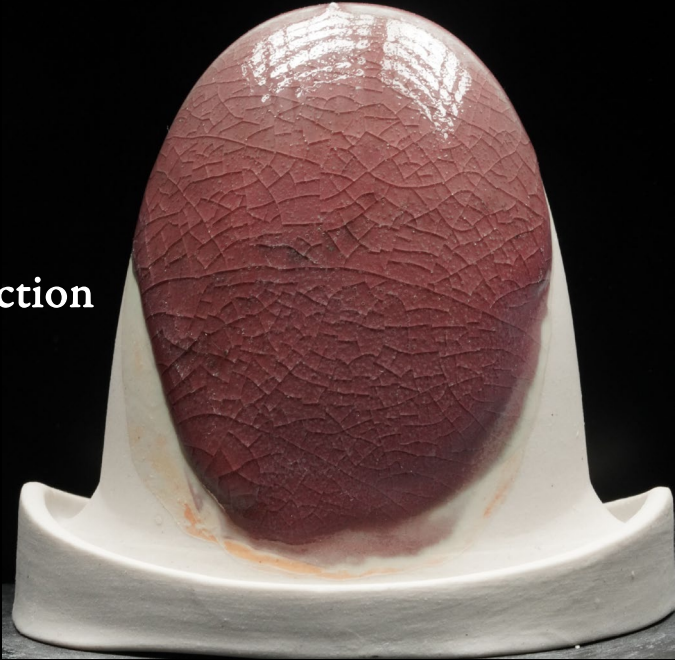


2-3 Second Dips

Oxidation

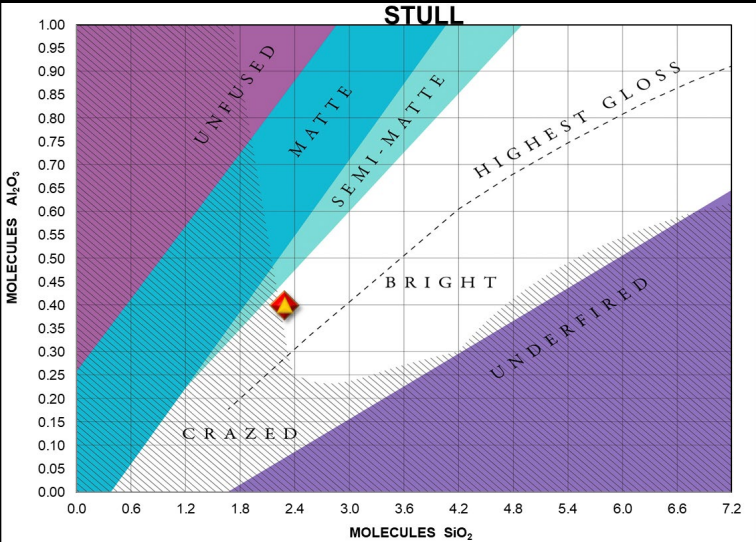


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 5.69 : 1		Alkali Metals 0.27		Alkaline Earths 0.73	
SiO ₂ 2.34	Collective "Al ₂ O ₃ " 0.41	Na ₂ O 0.21	K ₂ O 0.06	MgO 0.03	CaO 0.68
B ₂ O ₃	Al ₂ O ₃ 0.41	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.69 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 2.29	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.21	K ₂ O 0.06	MgO 0.03	CaO 0.67
B ₂ O ₃	Al ₂ O ₃ 0.40	Li ₂ O	CuO 0.02	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.02
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

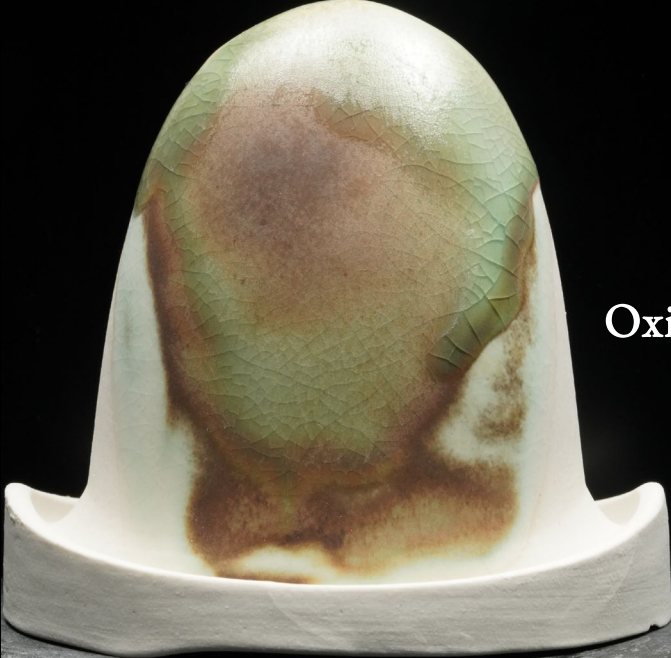


Ceramic
Materials
Workshop

Katz Matte

Chemical Match
Whiting
062522-47

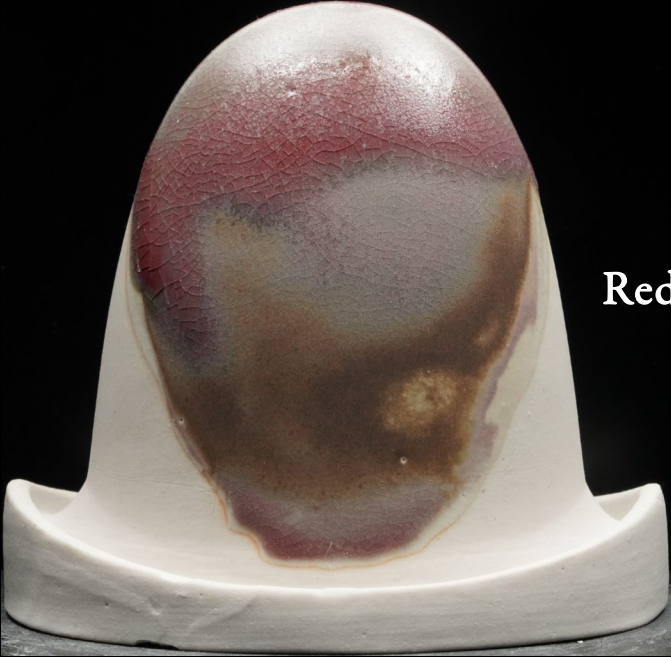
Neph Sy	49.79
Whiting	27.01
EPK	13.65
Flint	9.56
Copper Carbonate	1.01
Water	60



1-3 Second Dip



2-3 Second Dips

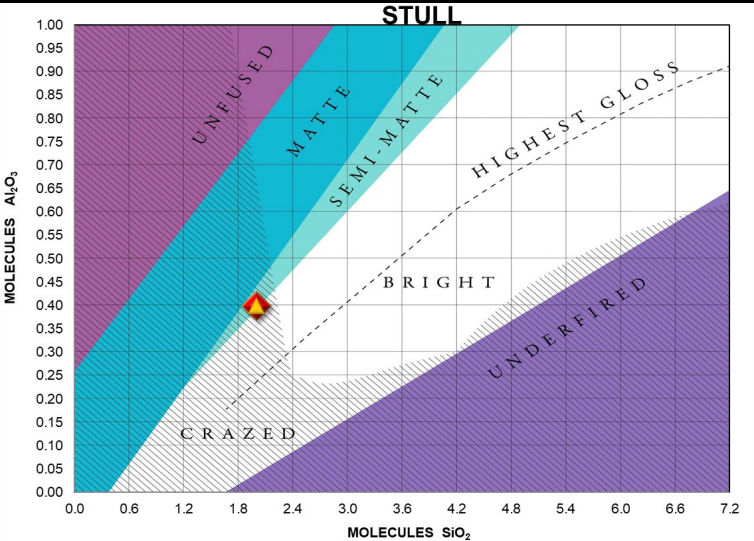


Reduction

Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 5.00 : 1		Alkali Metals 0.28		Alkaline Earths 0.72	
SiO ₂ 2.04	Collective "Al ₂ O ₃ " 0.41	Na ₂ O 0.22	K ₂ O 0.06	MgO 0.00	CaO 0.71
B ₂ O ₃	Al ₂ O ₃ 0.41	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.00 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 2.00	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.21	K ₂ O 0.06	MgO 0.00	CaO 0.70
B ₂ O ₃	Al ₂ O ₃ 0.40	Li ₂ O	CuO 0.02	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

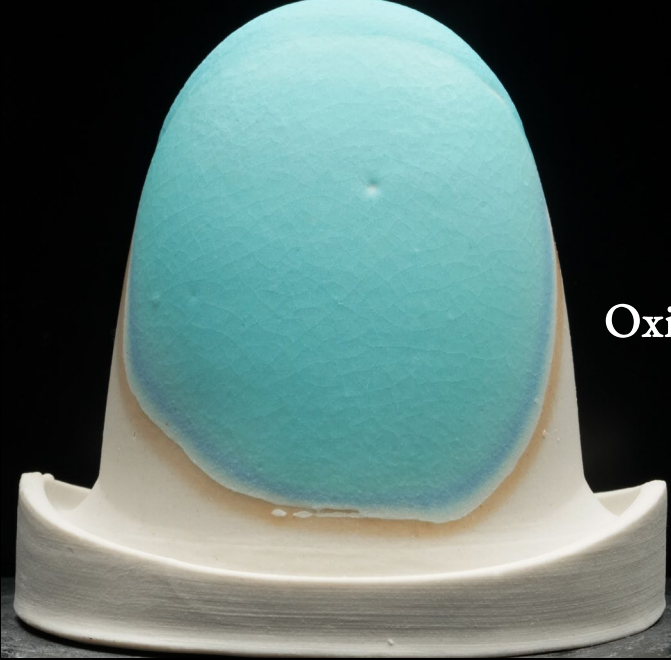


Ceramic
Materials
Workshop

Katz Matte

Chemical Match
Barium Carbonate
062522-48

Neph Sy	38.44
Barium Carb	42.14
EPK	11.39
Flint	8.03
Copper Carbonate	1.01
Water	60



1-3 Second Dip



2-3 Second Dips



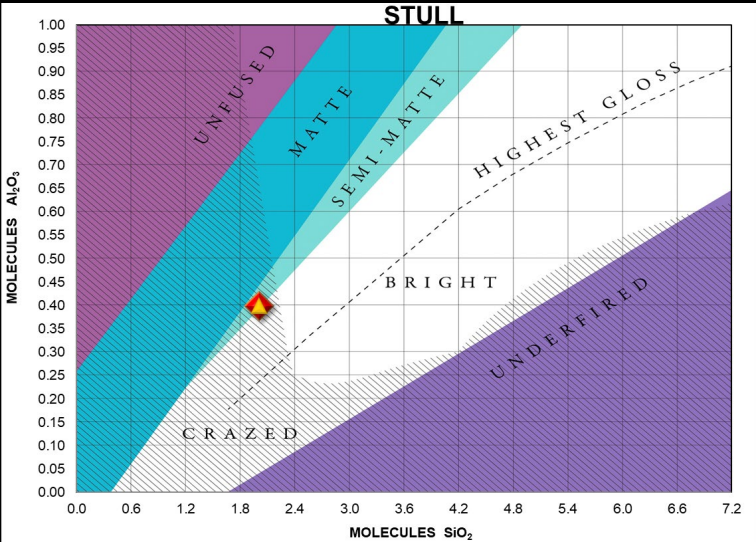
Reduction



Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 5.02 : 1		Alkali Metals 0.27		Alkaline Earths 0.73	
SiO ₂ 2.06	Collective "Al ₂ O ₃ " 0.41	Na ₂ O 0.21	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.41	Li ₂ O	CuO	SrO	BaO 0.71
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.02 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 2.01	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.21	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.40	Li ₂ O	CuO 0.03	SrO	BaO 0.69
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

Katz Matte

Chemical Match
Zinc Oxide
062522-49

Neph Sy	51.07
Zinc Oxide	23.20
EPK	15.29
Flint	10.43
Copper Carbonate	1.01
Water	60



1-3 Second Dip



2-3 Second Dips



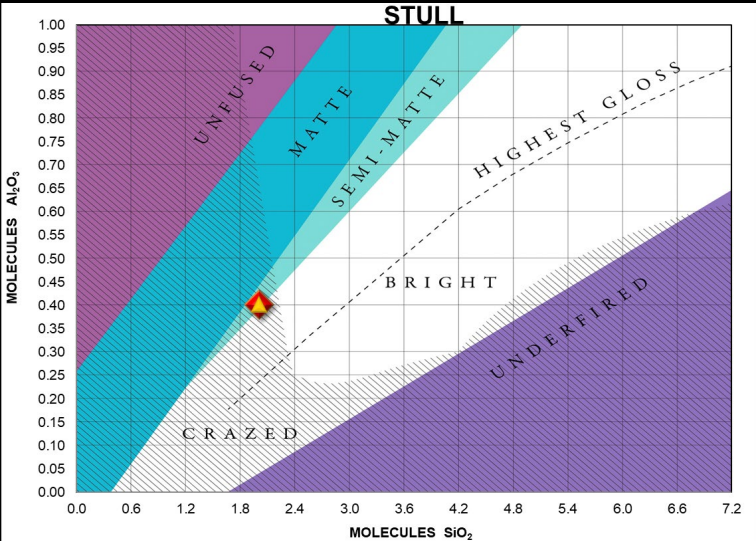
Reduction



Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 4.99 : 1		Alkali Metals 0.27		Alkaline Earths 0.73	
SiO ₂ 2.05	Collective "Al ₂ O ₃ " 0.41	Na ₂ O 0.21	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.41	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.71	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 4.99 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 2.01	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.21	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.40	Li ₂ O	CuO 0.02	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.70	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

Katz Matte

Chemical Match
Bone Ash
062522-50

Neph Sy	43.66
Bone Ash	34.25
EPK	13.11
Flint	8.97
Copper Carbonate	1.01
Water	60



1-3 Second Dip



2-3 Second Dips

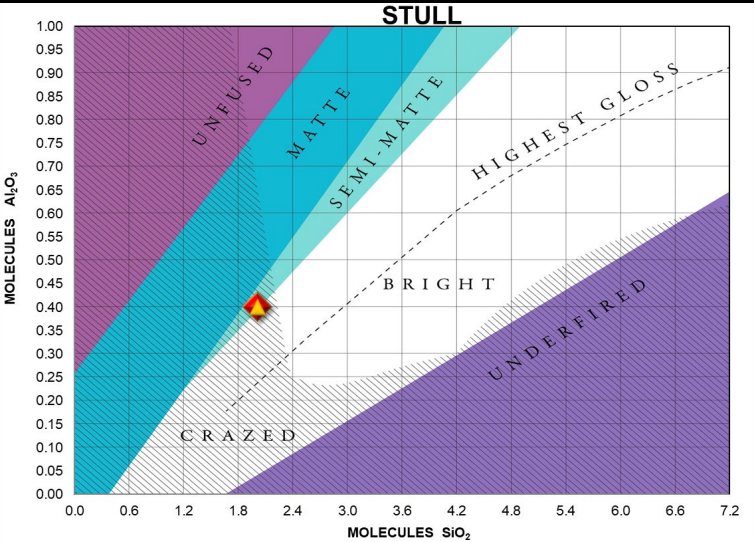


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 5.01 : 1		Alkali Metals 0.27		Alkaline Earths 0.73	
SiO ₂ 2.06	Collective "Al ₂ O ₃ " 0.41	Na ₂ O 0.21	K ₂ O 0.06	MgO 0.00	CaO 0.72
B ₂ O ₃	Al ₂ O ₃ 0.41	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅ 0.39		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 5.01 : 1		Alkali Metals 0.29		Alkaline Earths 1.71	
SiO ₂ 2.01	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.21	K ₂ O 0.06	MgO 0.00	CaO 0.70
B ₂ O ₃	Al ₂ O ₃ 0.40	Li ₂ O	CuO 0.02	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅ 0.38		MnO ₂ TRUE	CoO



Ceramic
Materials
Workshop