

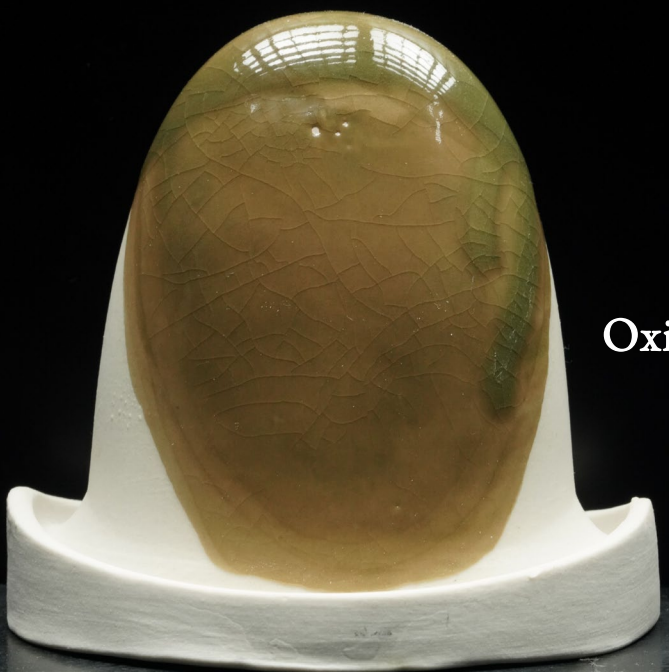
4321- Δ 10

Lab 2-Flux Capacity

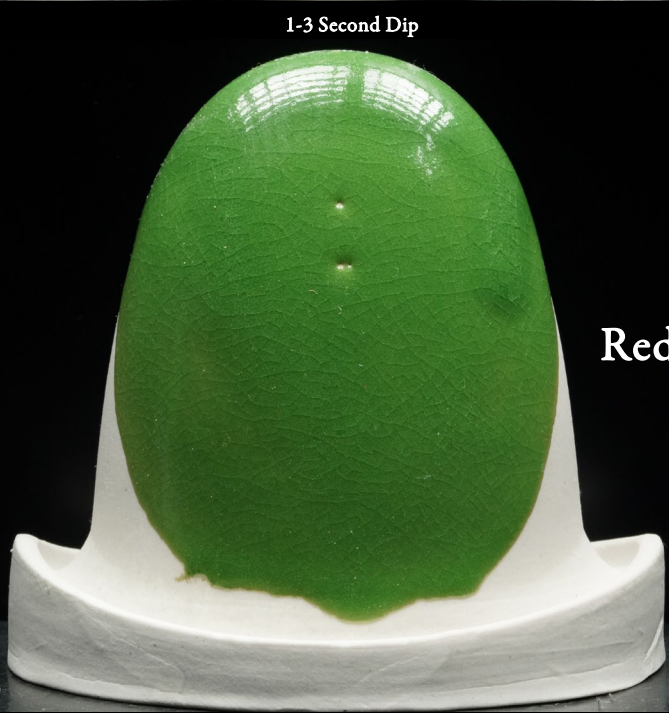
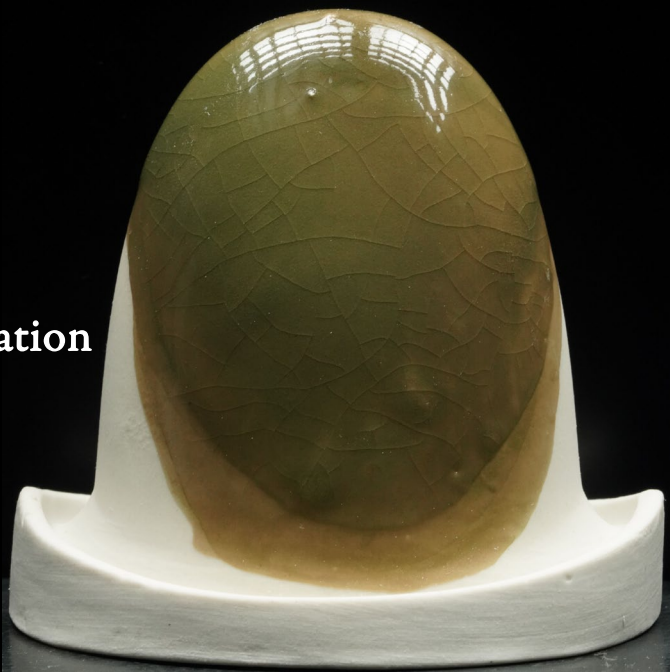
4321

Original
062322-1

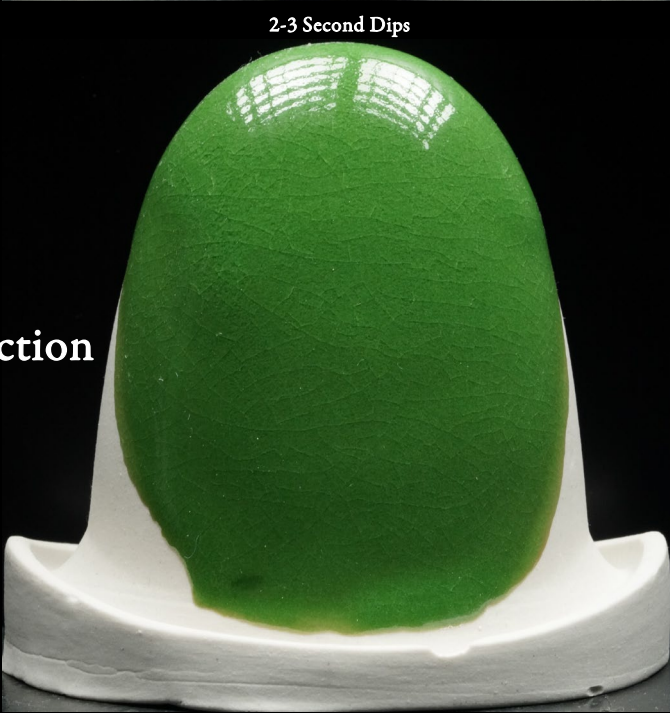
Neph Sy	40.00
Whiting	20.00
EPK	10.00
Flint	30.00
Chrome Oxide	1.00
Water	60



Oxidation

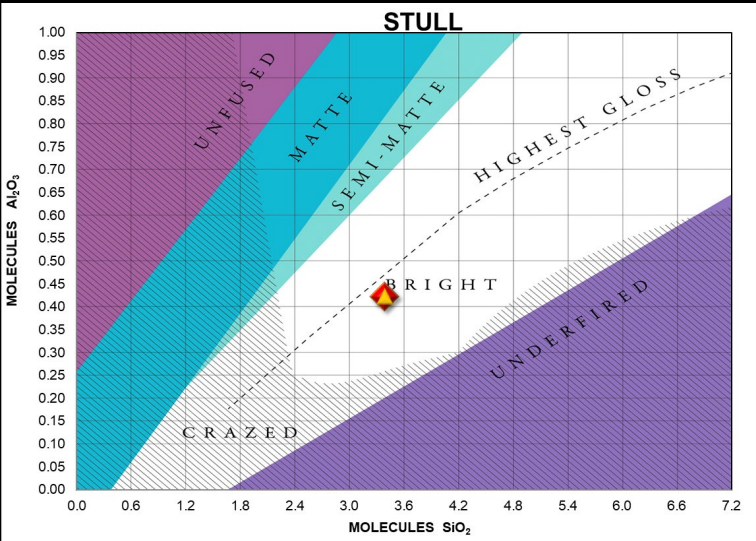


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 7.99 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.39	Collective "Al ₂ O ₃ " 0.42	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.00	CaO 0.70
B ₂ O ₃	Al ₂ O ₃ 0.42	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 7.99 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.39	Collective "Al ₂ O ₃ " 0.42	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.00	CaO 0.70
B ₂ O ₃	Al ₂ O ₃ 0.42	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 0.02	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



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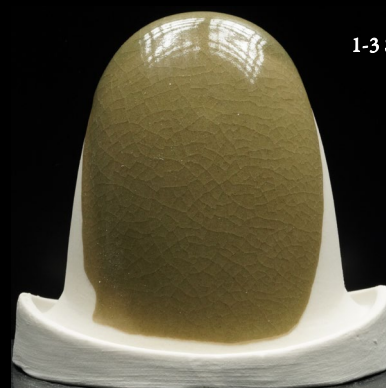
Lab 2-Alkali Metals-Oxidation



062322-1



062322-7



062322-8



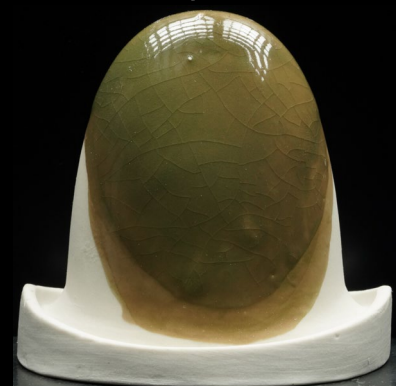
062322-9



062322-10



062322-11



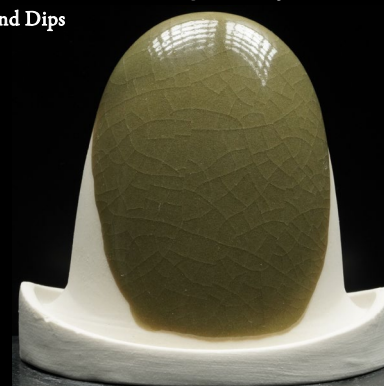
Original (NS)



w/Mahavir



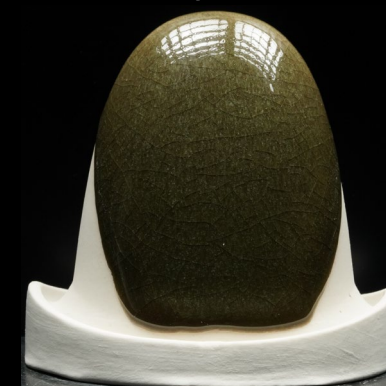
w/Custer



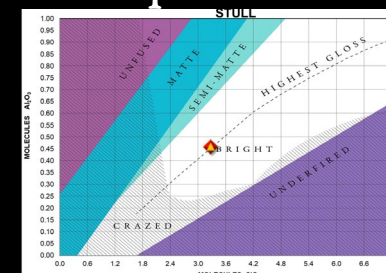
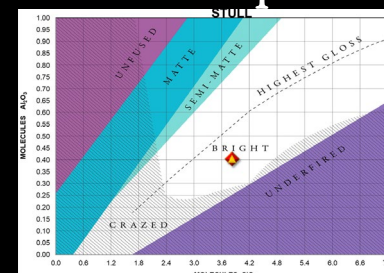
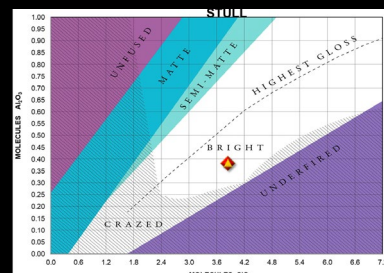
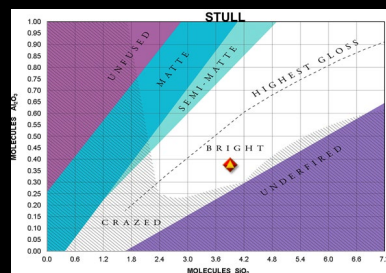
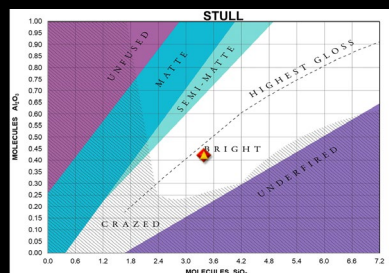
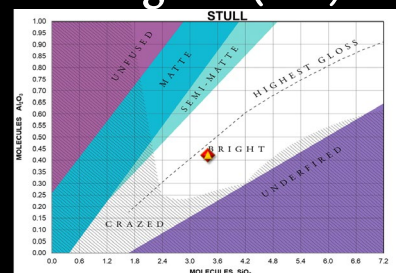
w/G200EU



w/Minspar



w/Spodumene



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Lab 2-Alkali Metals-Oxidation



062322-1



062322-13



062322-14



062322-15

1-3 Second Dip

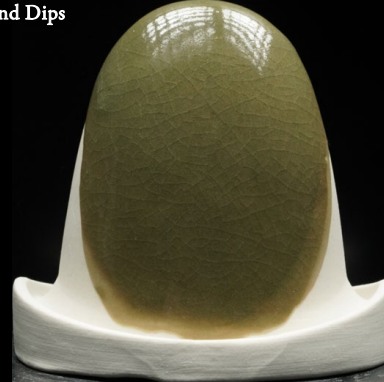
2-3 Second Dips



Original (NS)



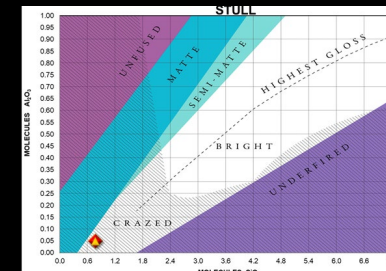
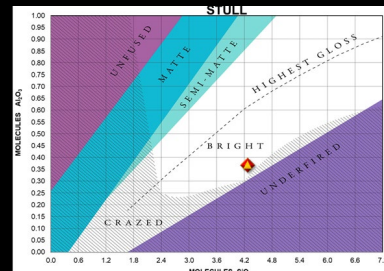
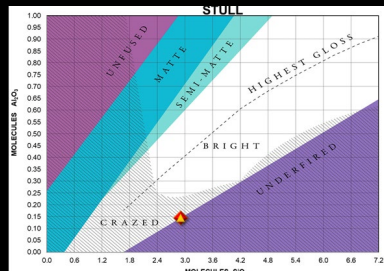
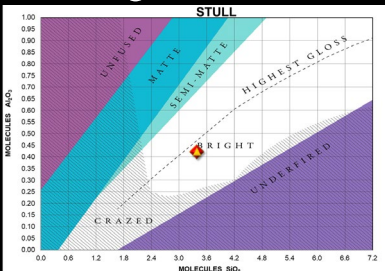
w/Frit 3110



w/Cornwall



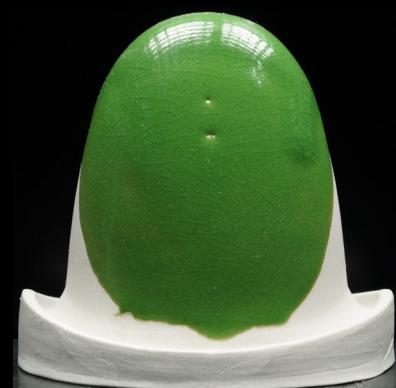
w/Lithium Carbonate



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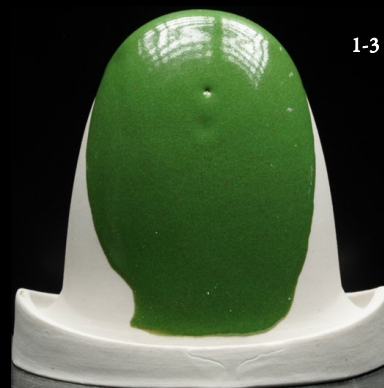
Lab 2-Alkali Metals-Reduction



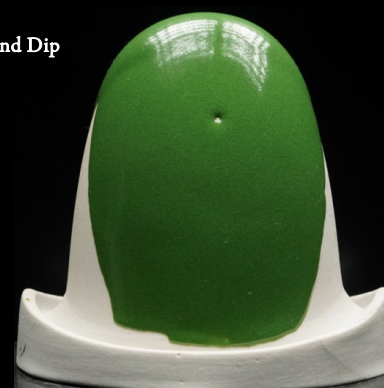
062322-1



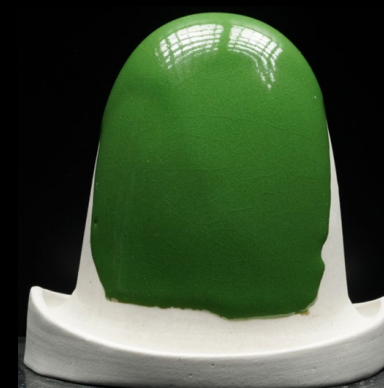
062322-7



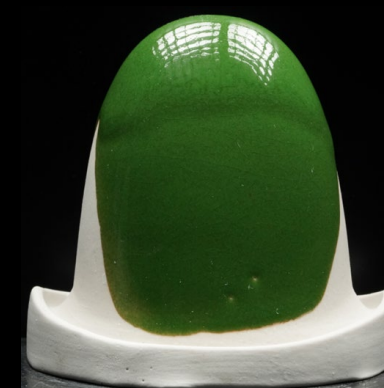
062322-8



062322-9



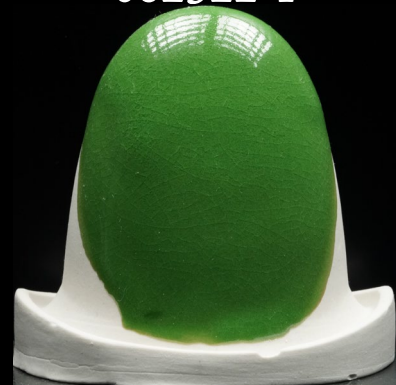
062322-10



062322-11

1-3 Second Dip

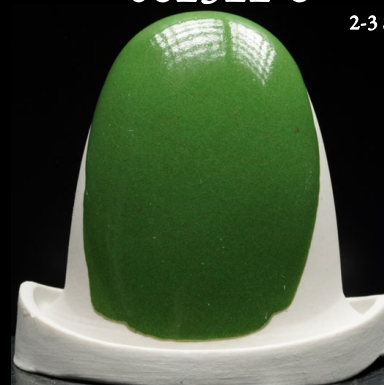
2-3 Second Dips



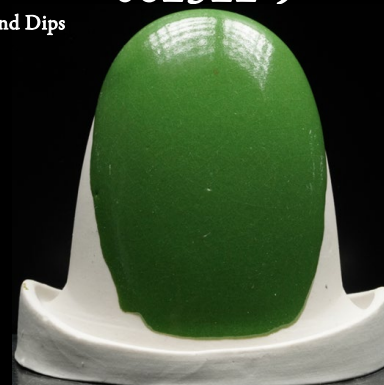
Original (NS)



w/Mahavir



w/Custer



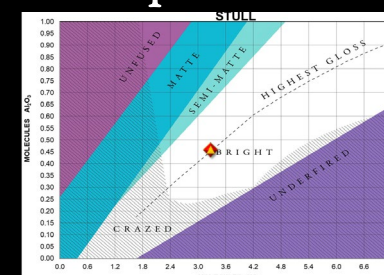
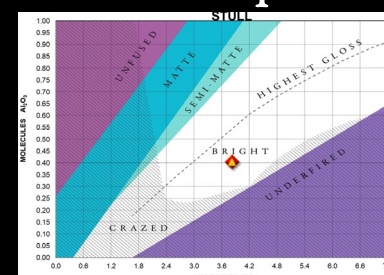
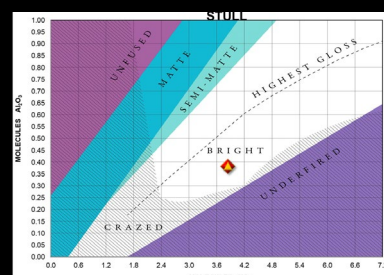
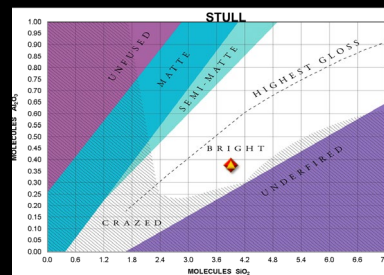
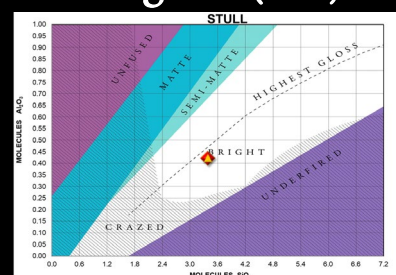
w/G200EU



w/Minspar



w/Spodumene



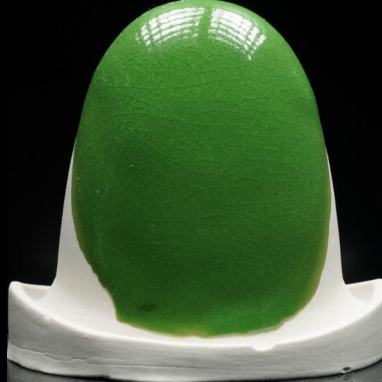
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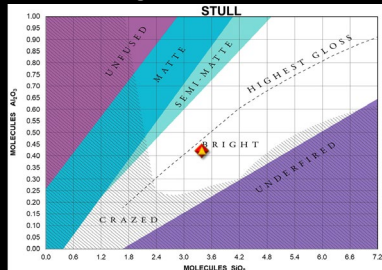
Lab 2-Alkali Metals-Reduction



062322-1



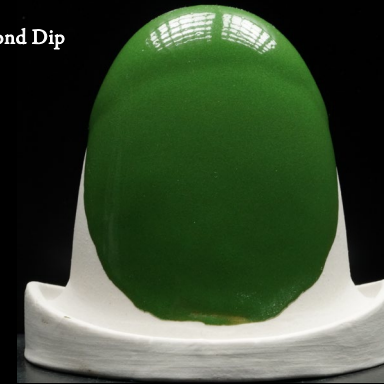
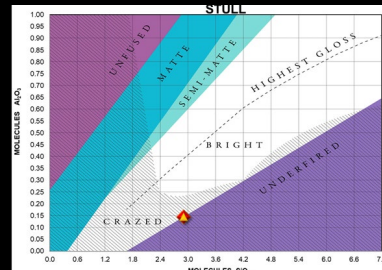
Original (NS)



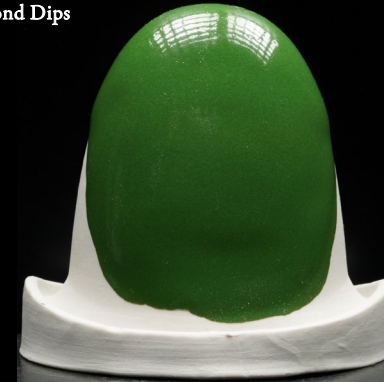
062322-13



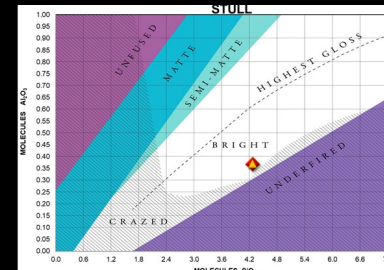
w/Frit 3110



062322-14



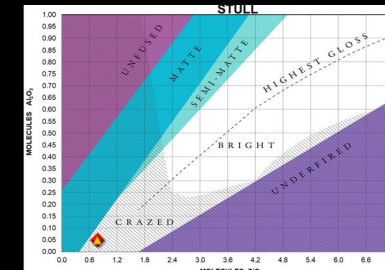
w/Cornwall



062322-15



w/Lithium Carbonate



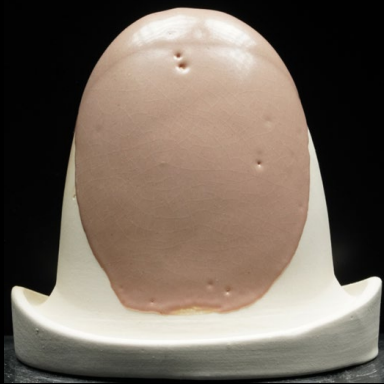
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Lab 2-Alkaline Earths-Oxidation



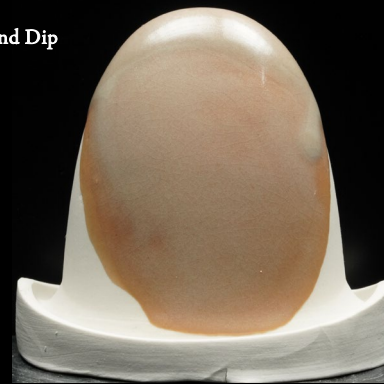
062322-1



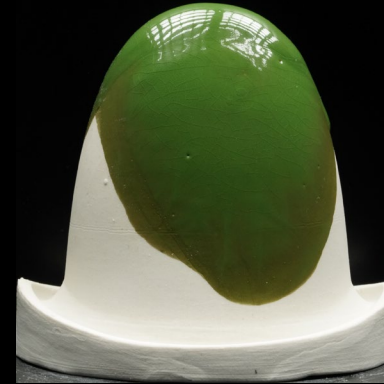
062322-16



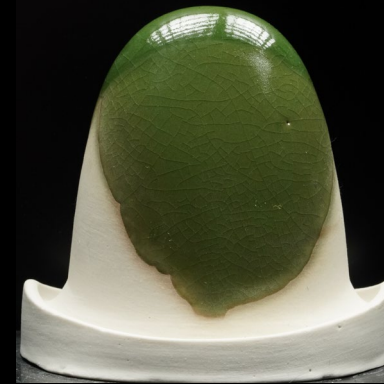
062322-17



062322-18



062322-19



062322-20

1-3 Second Dip



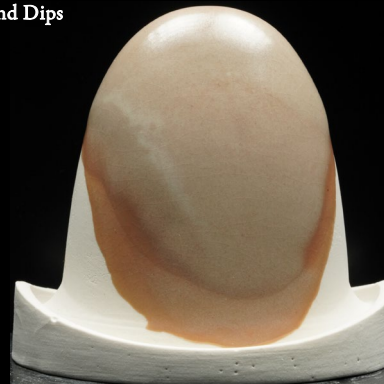
Original (Whiting)



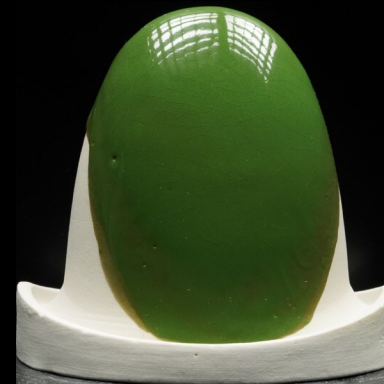
w/Talc



w/Mag Carb



w/Dolomite

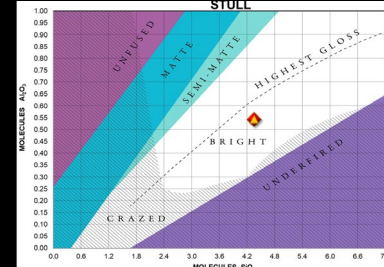
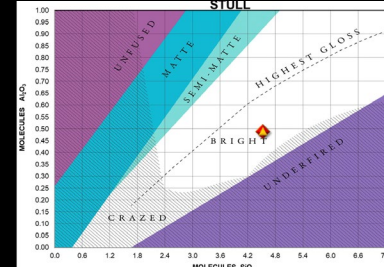
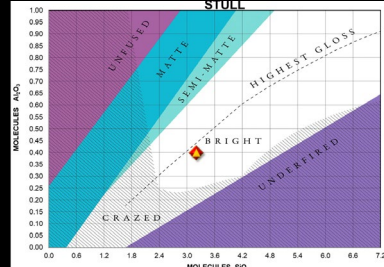
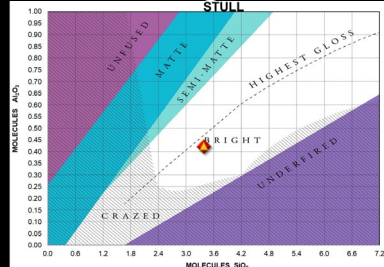
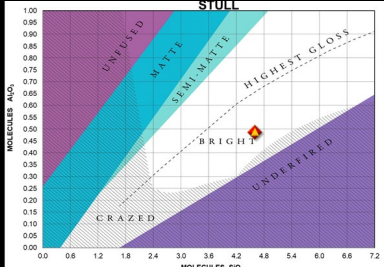
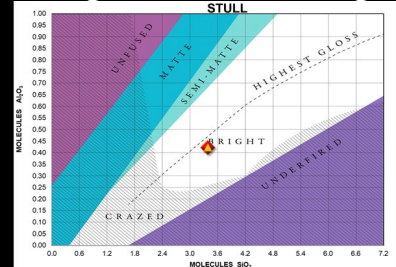


w/Wollastonite



w/Strontium Carb

2-3 Second Dips



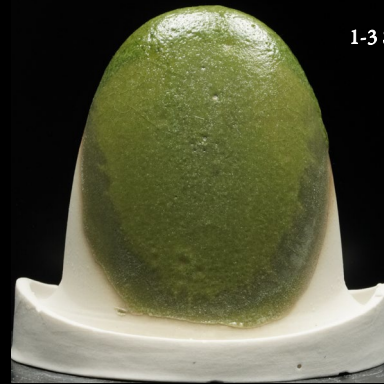
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Lab 2-Alkaline Earths-Oxidation



062322-1



062322-21



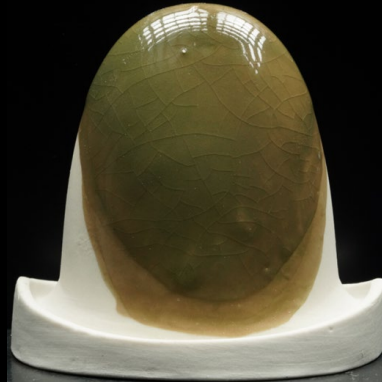
062322-22



062322-23

1-3 Second Dip

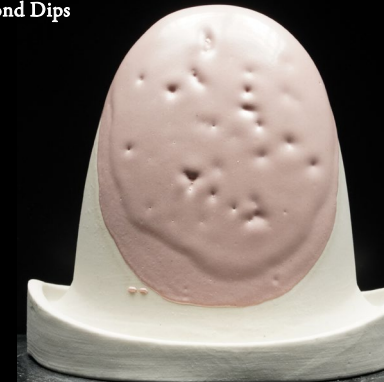
2-3 Second Dips



Original (Whiting)



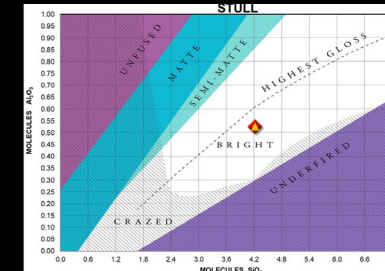
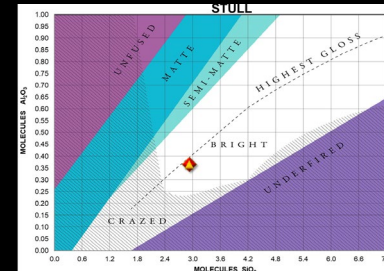
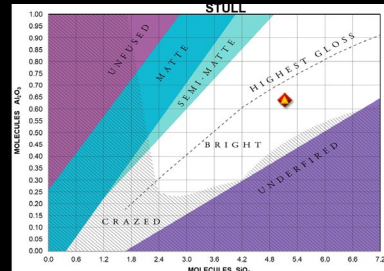
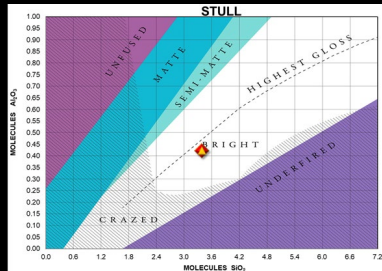
w/Barium Carb



w/Zinc Oxide



w/Bone Ash



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Lab 2-Alkaline Earths-Reduction



062322-1



062322-16



062322-17



062322-18



062322-19



062322-20



Original (Whiting)



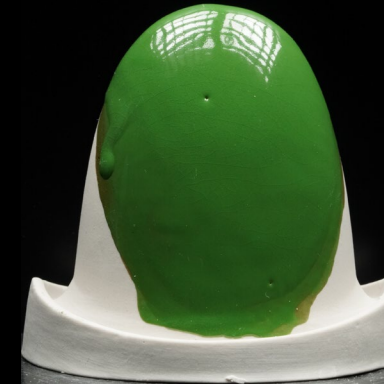
w/Talc



w/Mag Carb



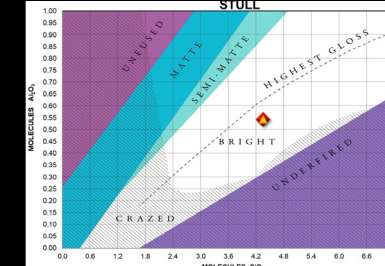
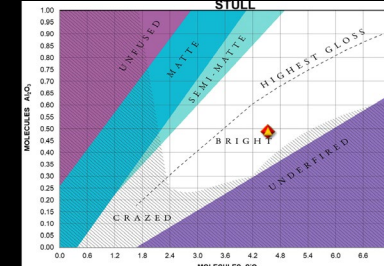
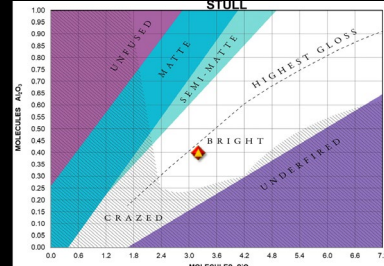
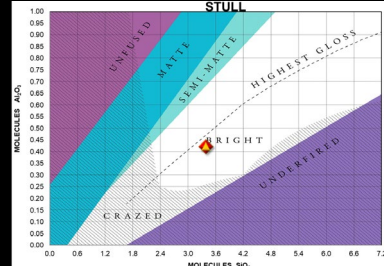
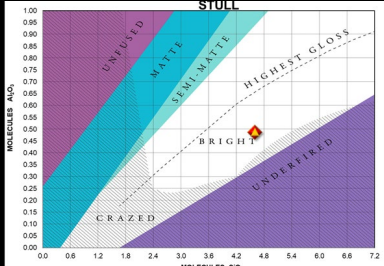
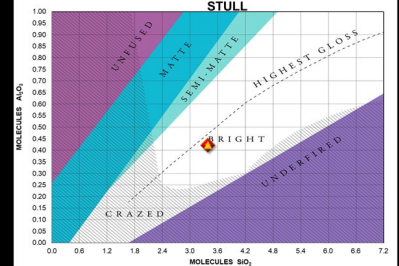
w/Dolomite



w/Wollastonite



w/Strontium Carb



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Lab 2-Alkaline Earths-Reduction



062322-1



062322-21



062322-22



062322-23

1-3 Second Dip

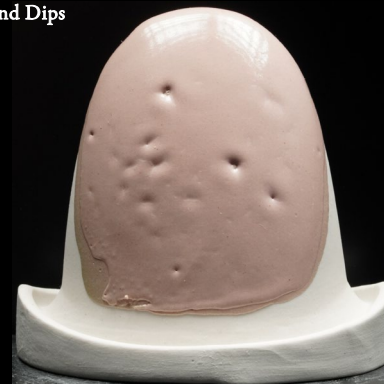
2-3 Second Dips



Original (Whiting)



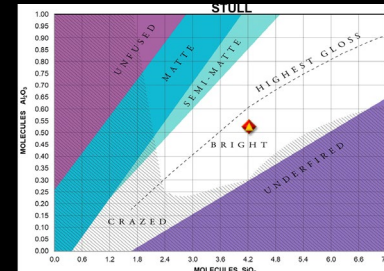
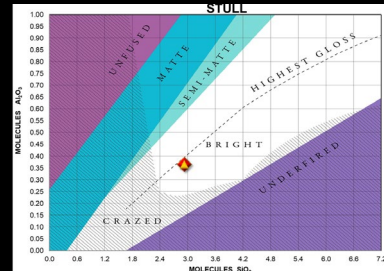
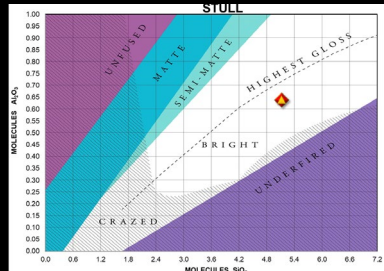
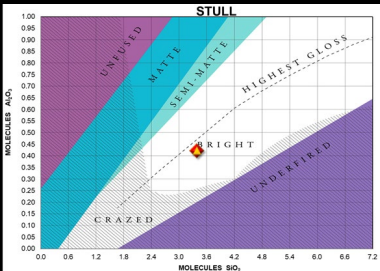
w/Barium Carb



w/Zinc Oxide



w/Bone Ash



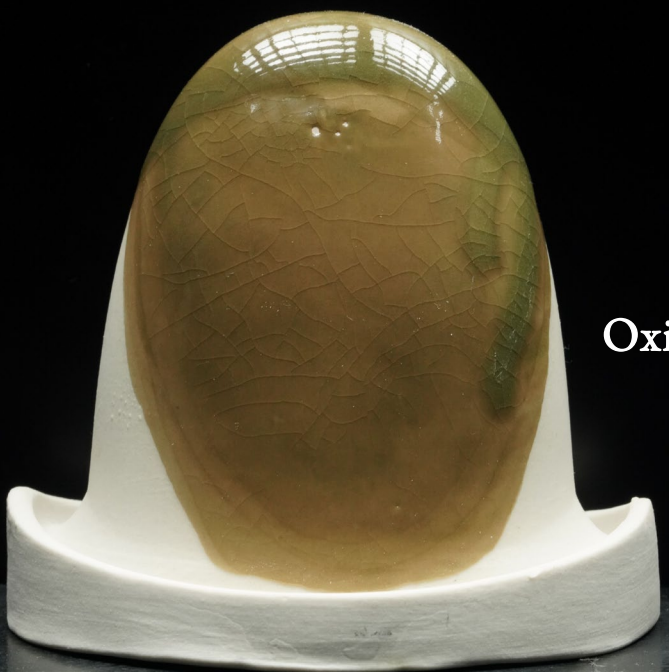
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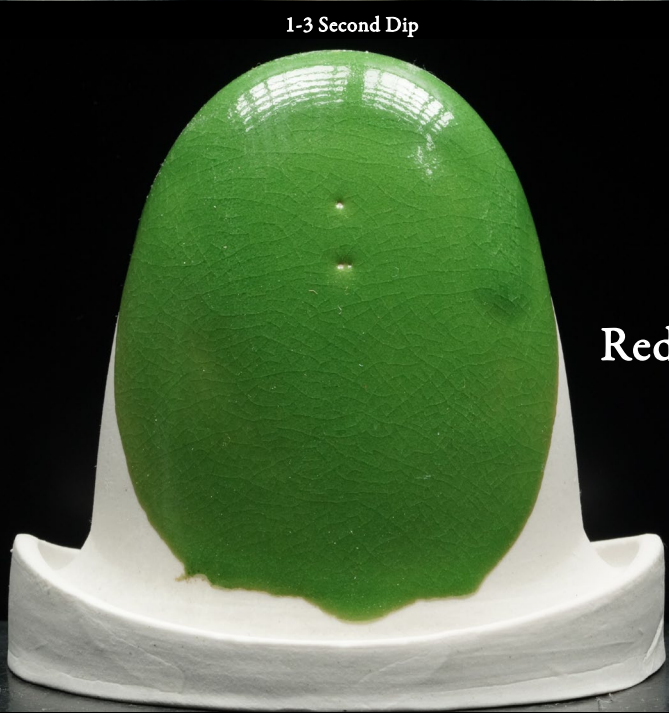
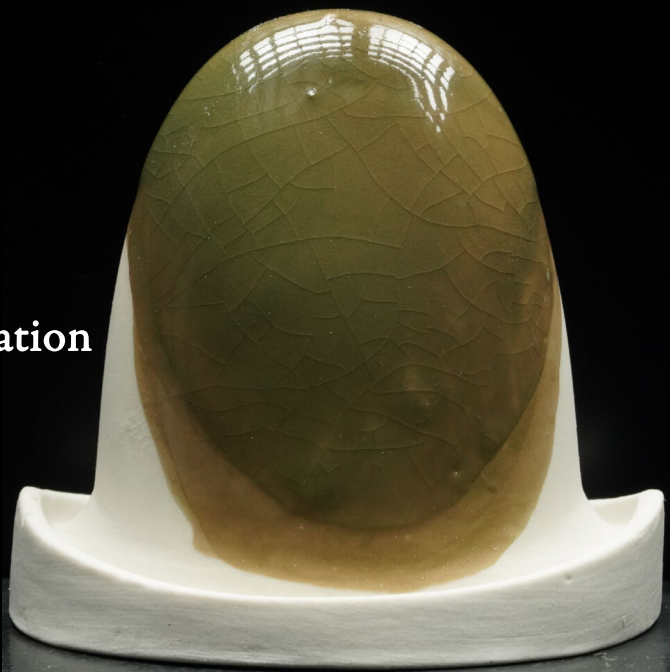
4321

Original
062322-1

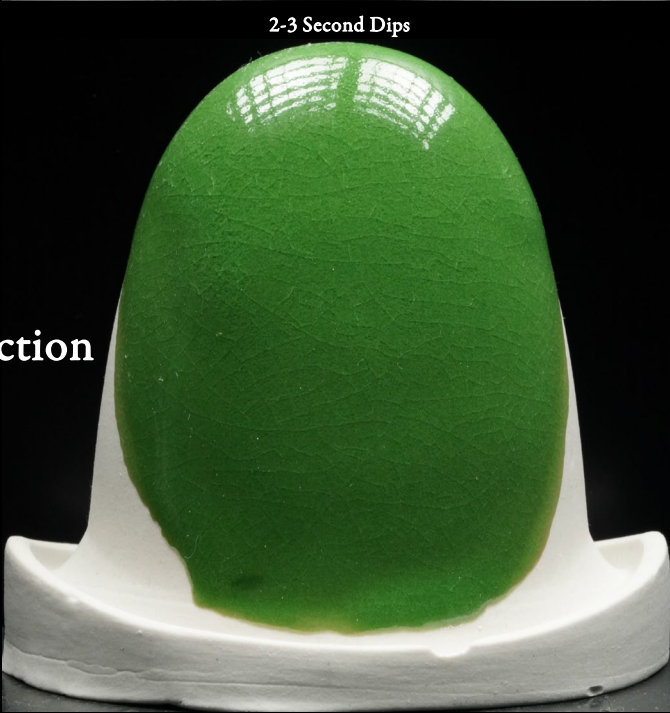
Neph Sy	40.00
Whiting	20.00
EPK	10.00
Flint	30.00
Chrome Oxide	1.00
Water	60



Oxidation

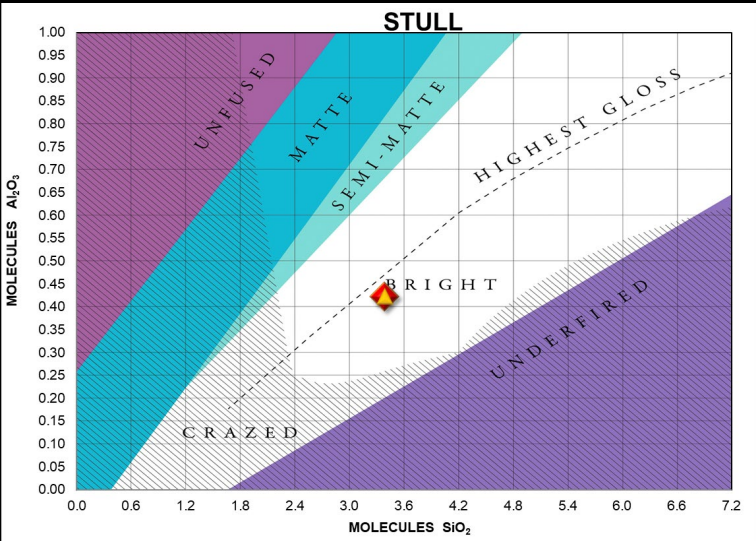


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 7.99 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.39	Collective "Al ₂ O ₃ " 0.42	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.00	CaO 0.70
B ₂ O ₃	Al ₂ O ₃ 0.42	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 7.99 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.39	Collective "Al ₂ O ₃ " 0.42	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.00	CaO 0.70
B ₂ O ₃	Al ₂ O ₃ 0.42	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 0.02	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

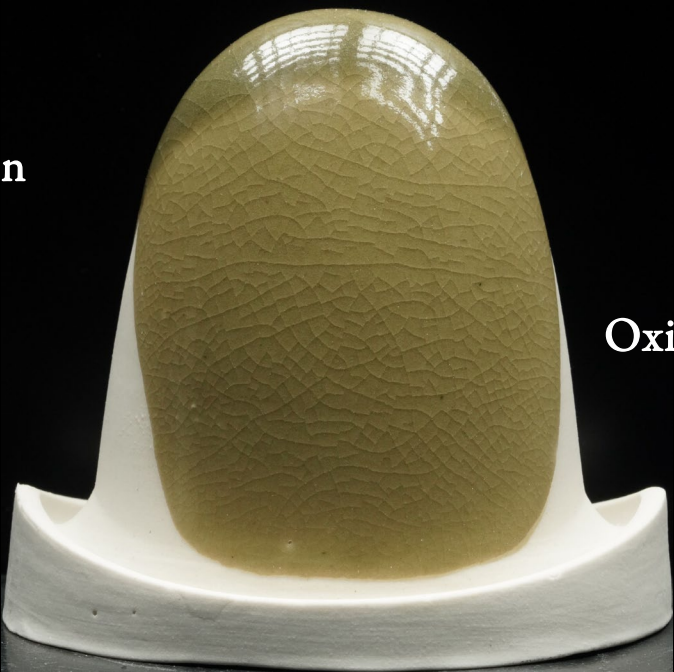


Ceramic
Materials
Workshop

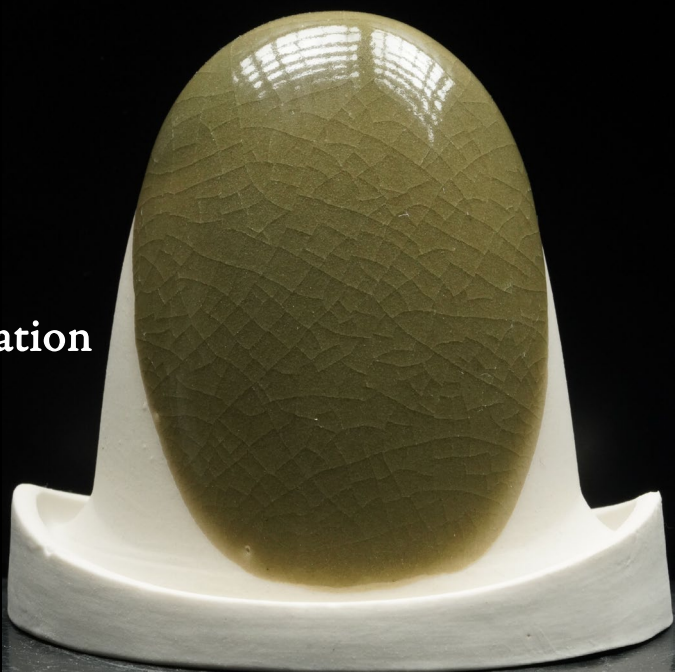
4321

Weight Substitution
Mahavir Feldspar
062322-7

Mahavir	40.00
Whiting	20.00
EPK	10.00
Flint	30.00
Chrome Oxide	1.00
Water	80



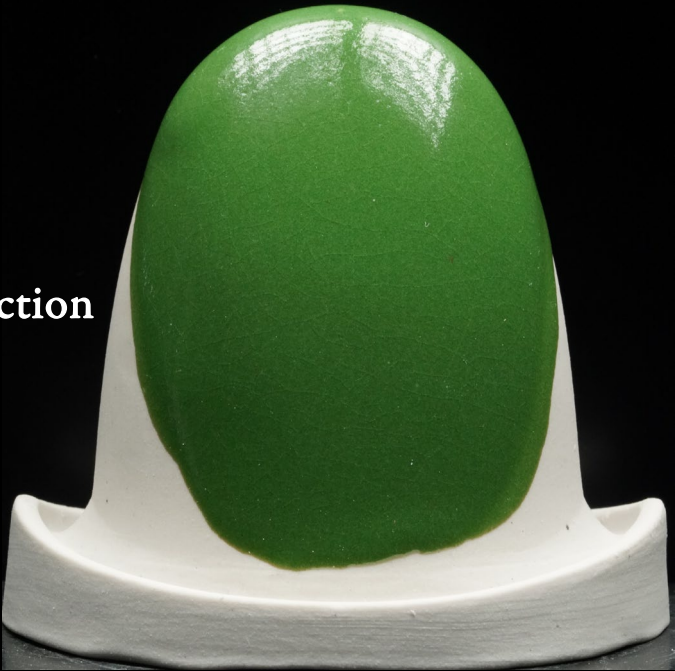
1-3 Second Dip



2-3 Second Dips

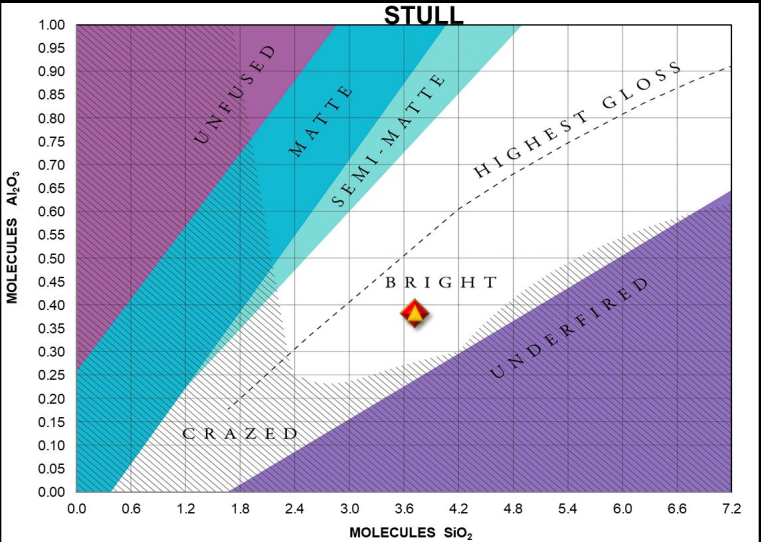


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 9.68 : 1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 3.72	Collective "Al ₂ O ₃ " 0.38	Na ₂ O 0.07	K ₂ O 0.18	MgO 0.01	CaO 0.73
B ₂ O ₃	Al ₂ O ₃ 0.38	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



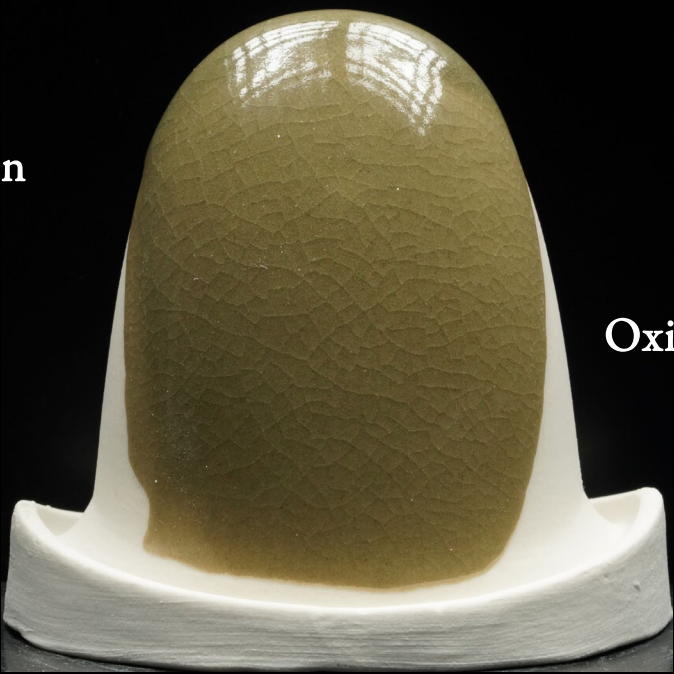
EUMF

SiO ₂ :Al ₂ O ₃ Ratio 9.68 : 1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 3.72	Collective "Al ₂ O ₃ " 0.38	Na ₂ O 0.07	K ₂ O 0.18	MgO 0.01	CaO 0.73
B ₂ O ₃	Al ₂ O ₃ 0.38	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 0.02	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

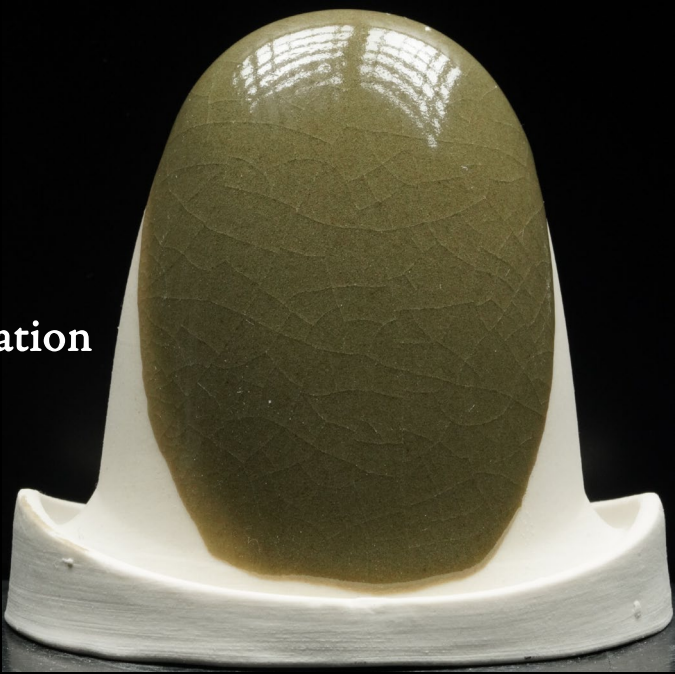
4321

Weight Substitution
Custer Feldspar
062322-8

Custer	40.00
Whiting	20.00
EPK	10.00
Flint	30.00
Chrome Oxide	1.00
Water	60

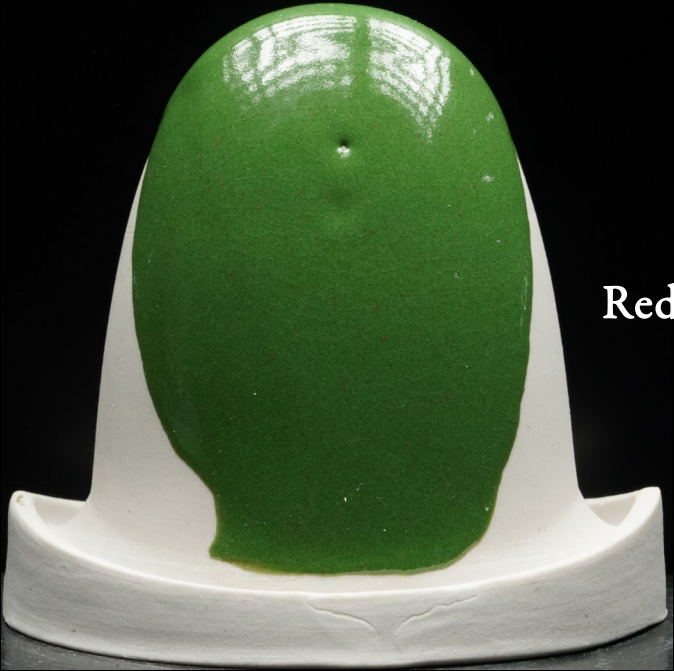


1-3 Second Dip

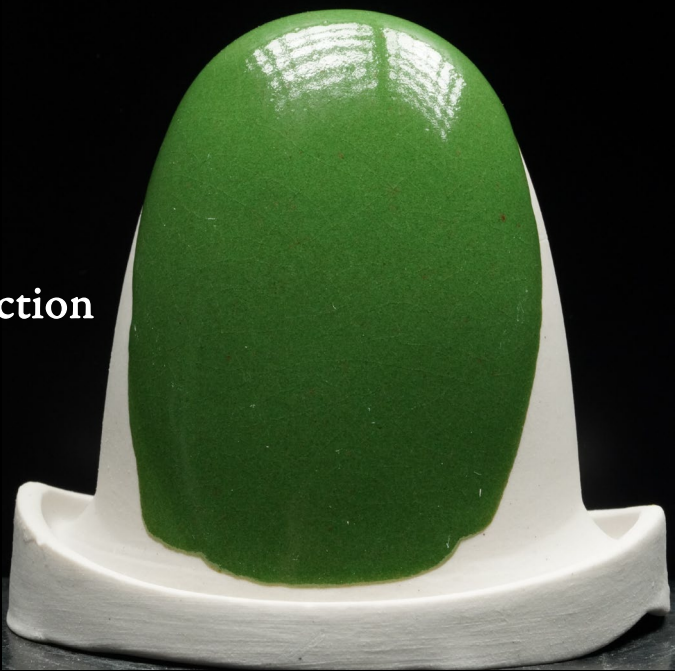


2-3 Second Dips

Oxidation



1-3 Second Dip

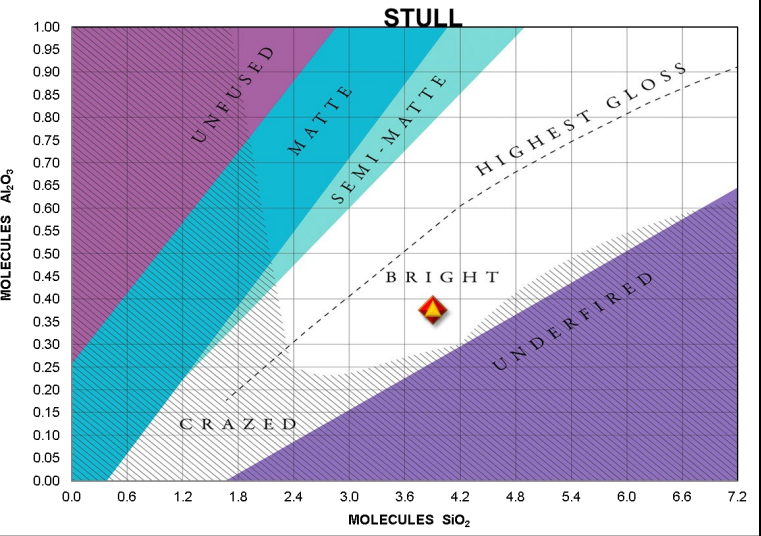


2-3 Second Dips

Reduction

UMF

SiO ₂ :Al ₂ O ₃ Ratio 10.28 :1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 3.91	Collective "Al ₂ O ₃ " 0.38	Na ₂ O 0.05	K ₂ O 0.17	MgO 0.00	CaO 0.76
B ₂ O ₃	Al ₂ O ₃ 0.38	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 10.28 :1		Alkali Metals 0.22		Alkaline Earths 0.78	
SiO ₂ 3.91	Collective "Al ₂ O ₃ " 0.38	Na ₂ O 0.05	K ₂ O 0.17	MgO 0.00	CaO 0.76
B ₂ O ₃	Al ₂ O ₃ 0.38	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 0.02	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

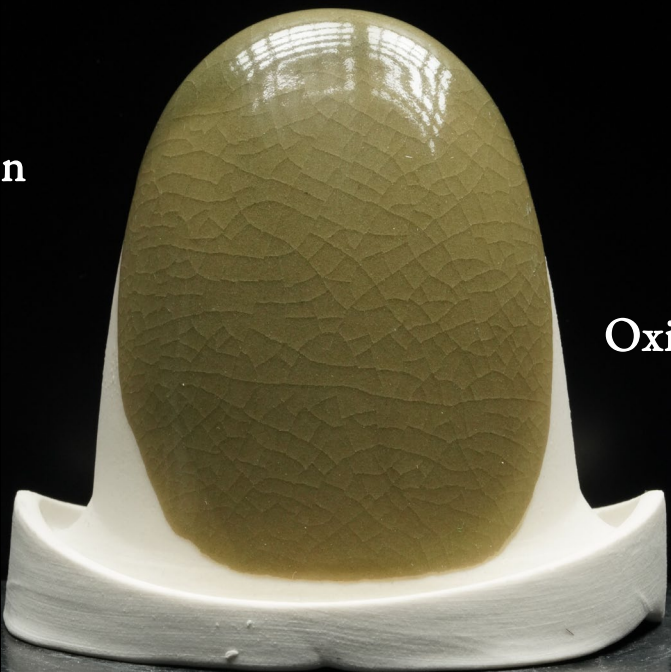


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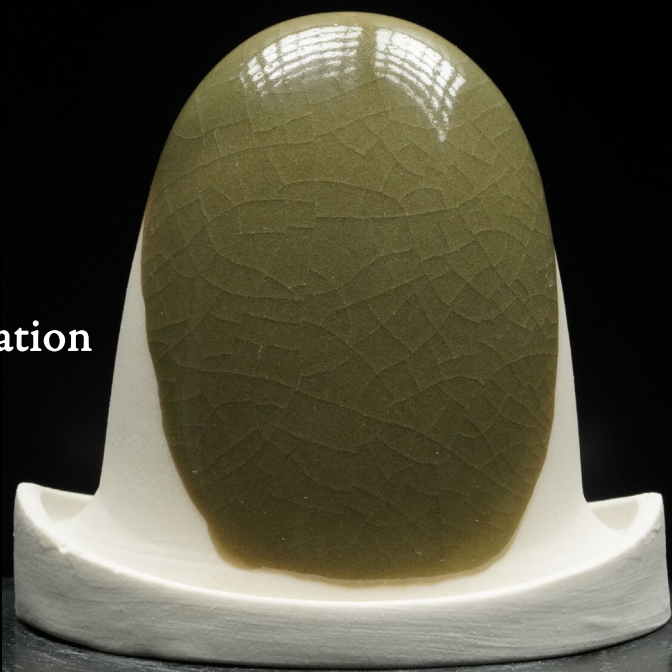
4321

Weight Substitution
G200 EU Feldspar
062322-9

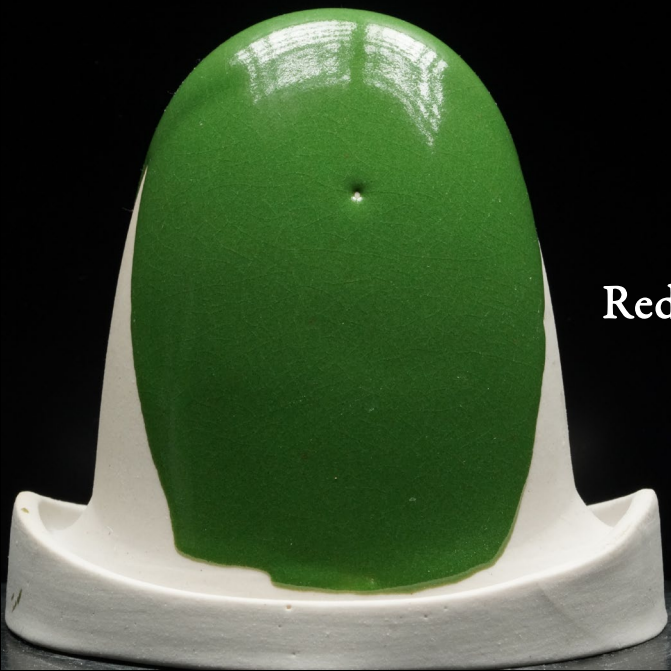
G200 EU	40.00
Whiting	20.00
EPK	10.00
Flint	30.00
Chrome Oxide	1.00
Water	60



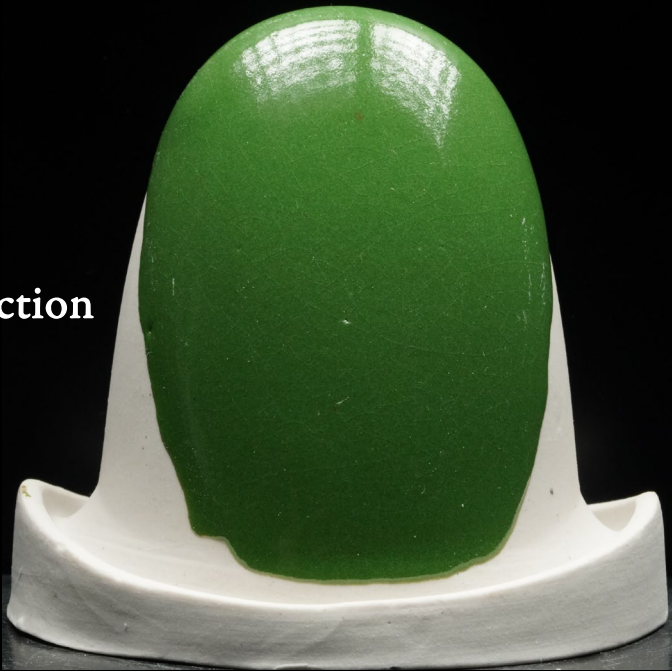
1-3 Second Dip



2-3 Second Dips



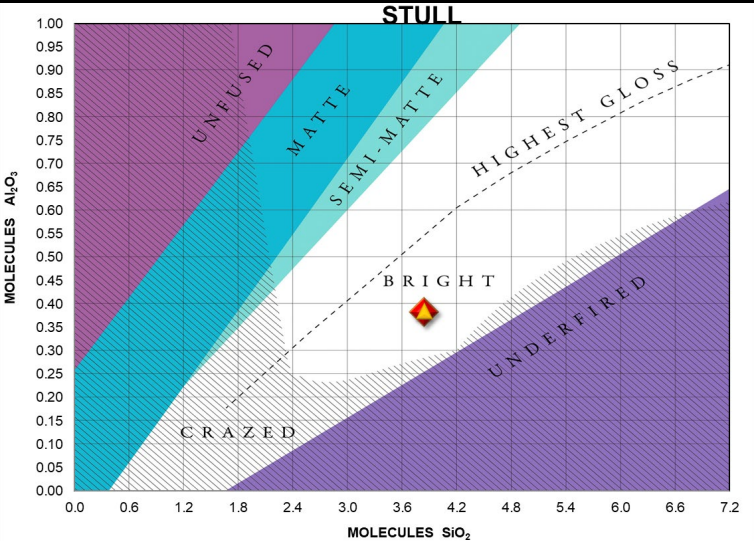
Reduction



Reduction

UMF

SiO ₂ :Al ₂ O ₃ Ratio 9.97 : 1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 3.84	Collective "Al ₂ O ₃ " 0.39	Na ₂ O 0.05	K ₂ O 0.18	MgO 0.00	CaO 0.76
B ₂ O ₃	Al ₂ O ₃ 0.38	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 9.97 : 1		Alkali Metals 0.23		Alkaline Earths 0.77	
SiO ₂ 3.84	Collective "Al ₂ O ₃ " 0.39	Na ₂ O 0.05	K ₂ O 0.18	MgO 0.00	CaO 0.76
B ₂ O ₃	Al ₂ O ₃ 0.38	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 0.02	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

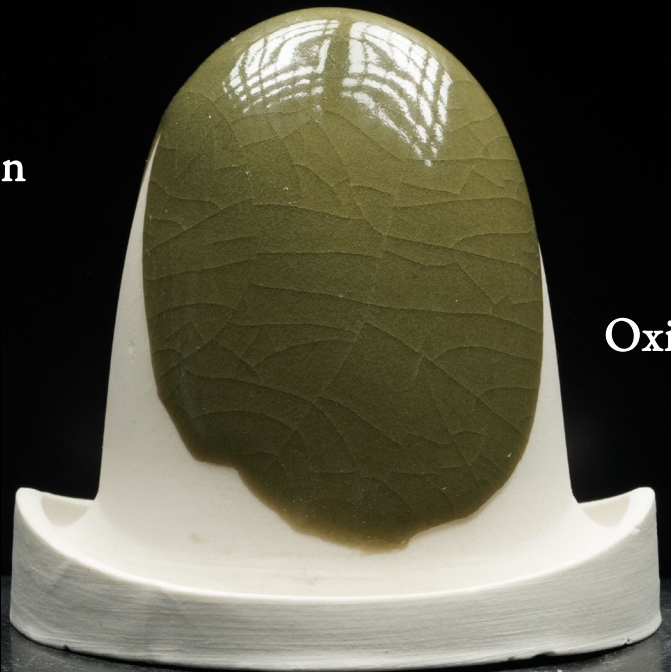


Ceramic
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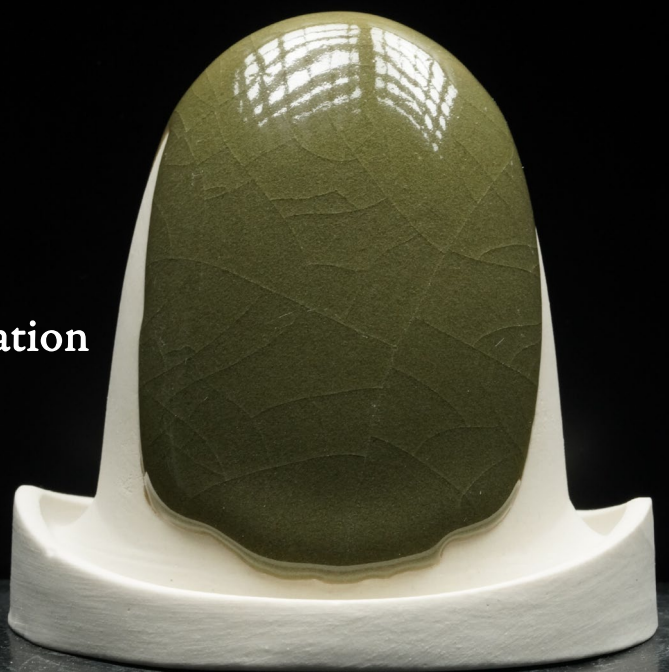
4321

Weight Substitution
Minspar Feldspar
062322-10

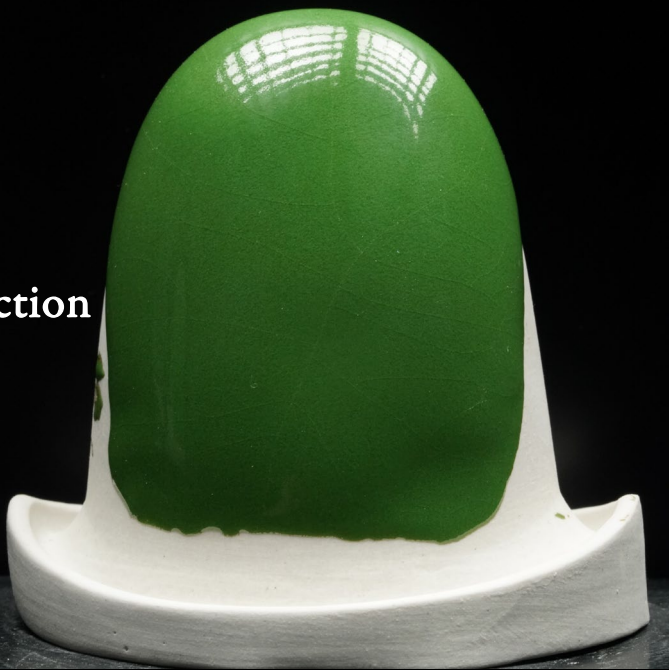
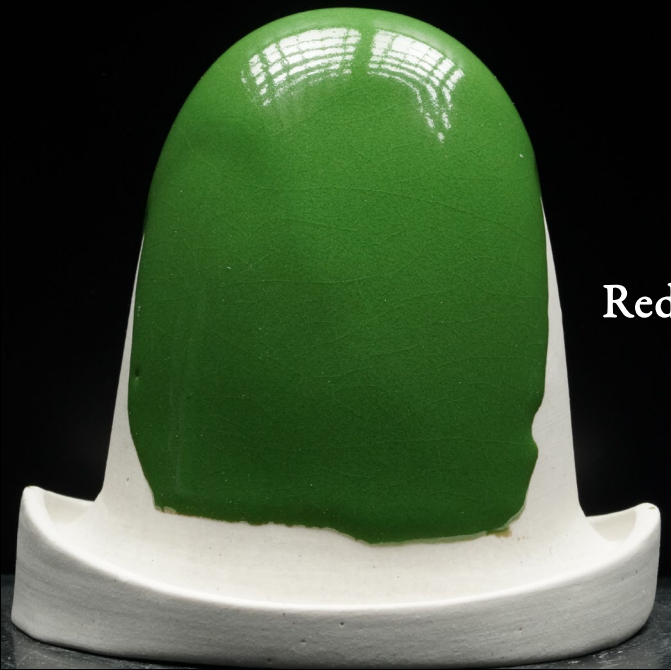
Minspar	40.00
Whiting	20.00
EPK	10.00
Flint	30.00
Chrome Oxide	1.00
Water	60



1-3 Second Dip



2-3 Second Dips

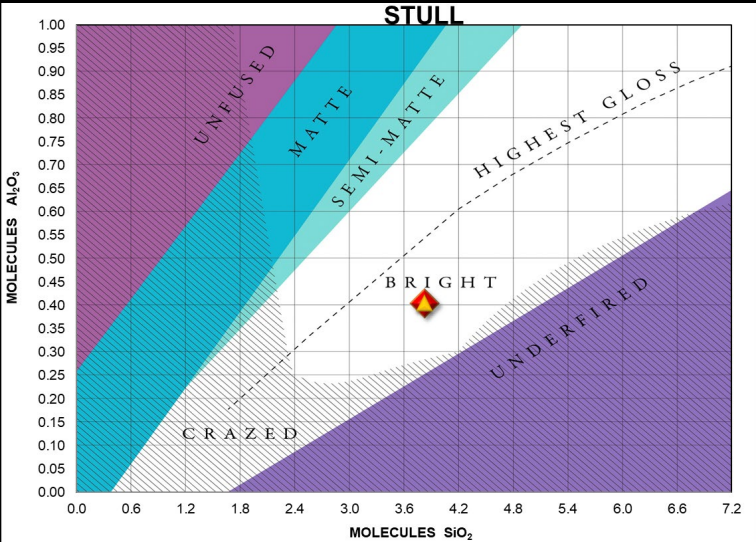


Oxidation

Reduction

UMF

SiO ₂ :Al ₂ O ₃ Ratio 9.41 : 1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 3.83	Collective "Al ₂ O ₃ " 0.41	Na ₂ O 0.15	K ₂ O 0.07	MgO 0.00	CaO 0.77
B ₂ O ₃	Al ₂ O ₃ 0.40	Li ₂ O	CuO	SrO 0.00	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 9.41 : 1		Alkali Metals 0.21		Alkaline Earths 0.79	
SiO ₂ 3.83	Collective "Al ₂ O ₃ " 0.41	Na ₂ O 0.15	K ₂ O 0.07	MgO 0.00	CaO 0.77
B ₂ O ₃	Al ₂ O ₃ 0.40	Li ₂ O	CuO	SrO 0.00	BaO 0.00
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃ 0.02	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



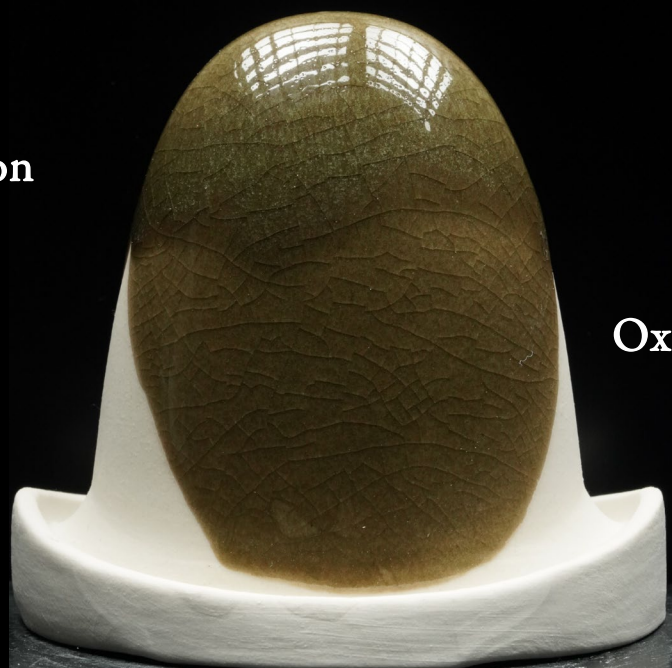
Ceramic
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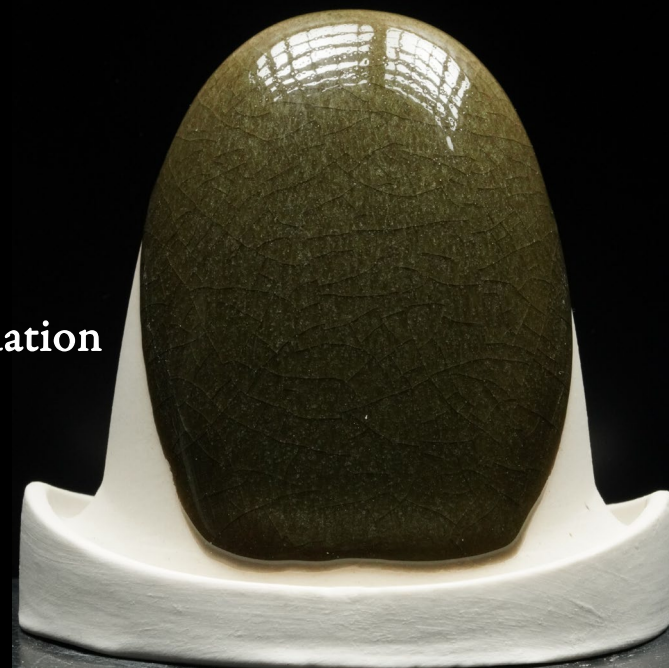
Weight Substitution
Spodumene

062322-11

Spodumene	40.00
Whiting	20.00
EPK	10.00
Flint	30.00
Chrome Oxide	1.00
Water	90

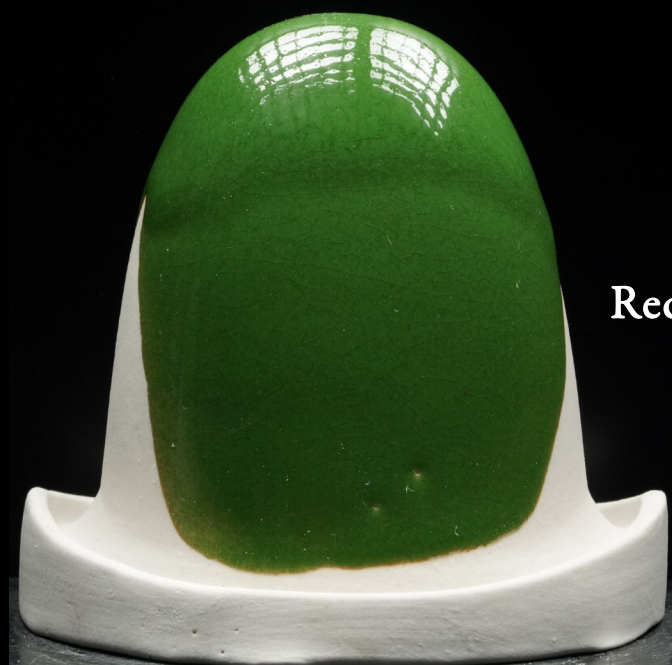


1-3 Second Dip

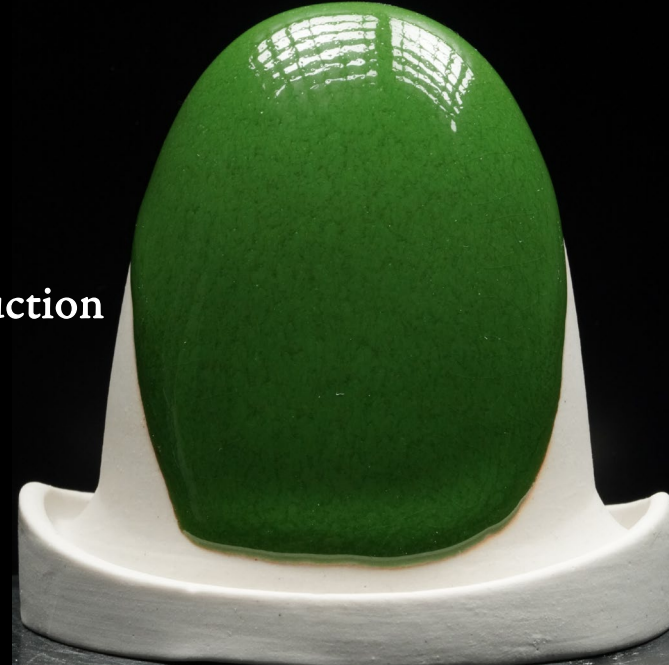


2-3 Second Dips

Oxidation

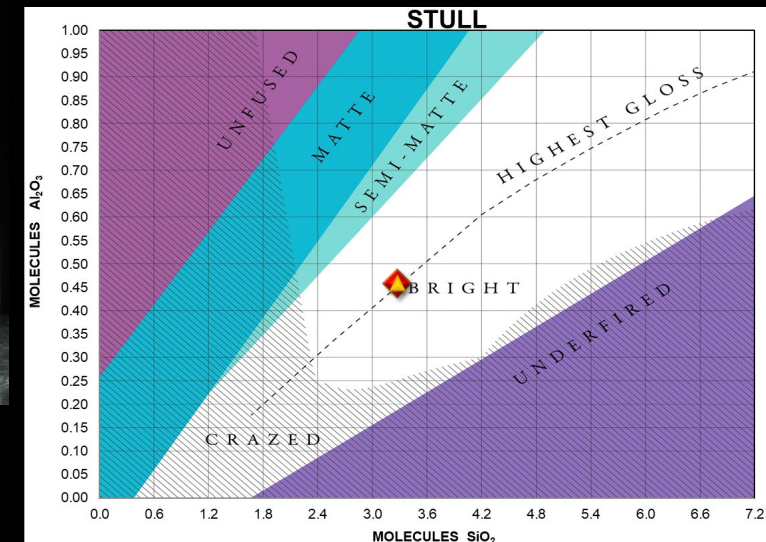


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 7.12 : 1		Alkali Metals 0.34		Alkaline Earths 0.66	
SiO ₂ 3.27	Collective "Al ₂ O ₃ " 0.46	Na ₂ O 0.00	K ₂ O 0.00	MgO 0.00	CaO 0.65
B ₂ O ₃	Al ₂ O ₃ 0.46	Li ₂ O 0.33	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 7.12 : 1		Alkali Metals 0.34		Alkaline Earths 0.66	
SiO ₂ 3.27	Collective "Al ₂ O ₃ " 0.46	Na ₂ O 0.00	K ₂ O 0.00	MgO 0.00	CaO 0.65
B ₂ O ₃	Al ₂ O ₃ 0.46	Li ₂ O 0.33	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃ 0.02	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

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Weight Substitution

Frit 3110

062322-13

3110	40.00
Whiting	20.00
EPK	10.00
Flint	30.00
Chrome Oxide	1.00
Water	60



1-3 Second Dip



2-3 Second Dips



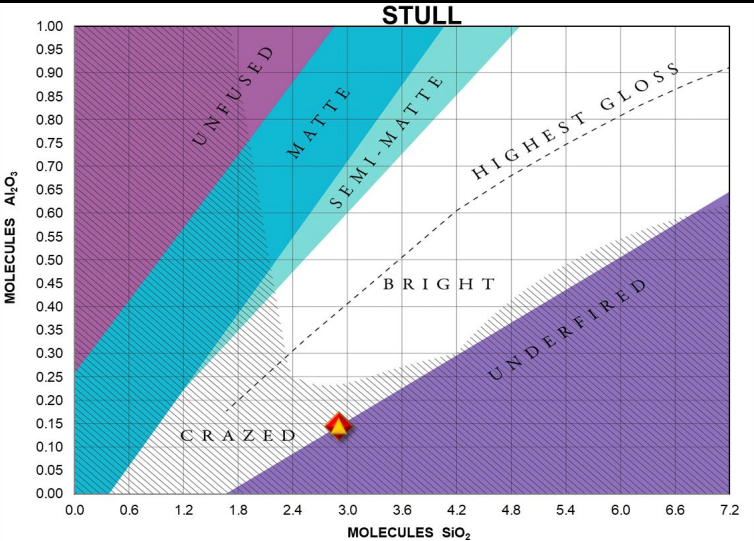
Reduction



Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 19.89 : 1		Alkali Metals 0.31		Alkaline Earths 0.69	
SiO ₂ 2.91	Collective "Al ₂ O ₃ " 0.15	Na ₂ O 0.28	K ₂ O 0.03	MgO 0.00	CaO 0.69
B ₂ O ₃ 0.04	Al ₂ O ₃ 0.14	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 19.89 : 1		Alkali Metals 0.31		Alkaline Earths 0.69	
SiO ₂ 2.91	Collective "Al ₂ O ₃ " 0.15	Na ₂ O 0.28	K ₂ O 0.03	MgO 0.00	CaO 0.69
B ₂ O ₃ 0.04	Al ₂ O ₃ 0.14	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃ 0.02	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

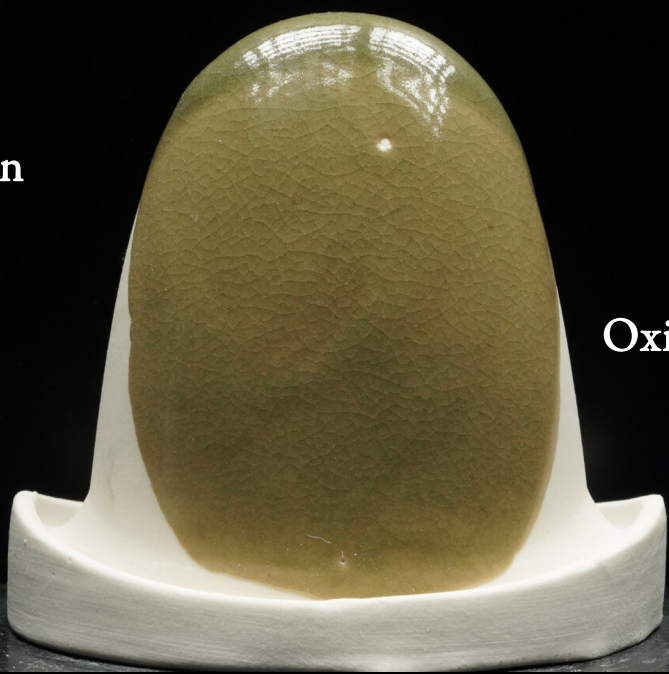


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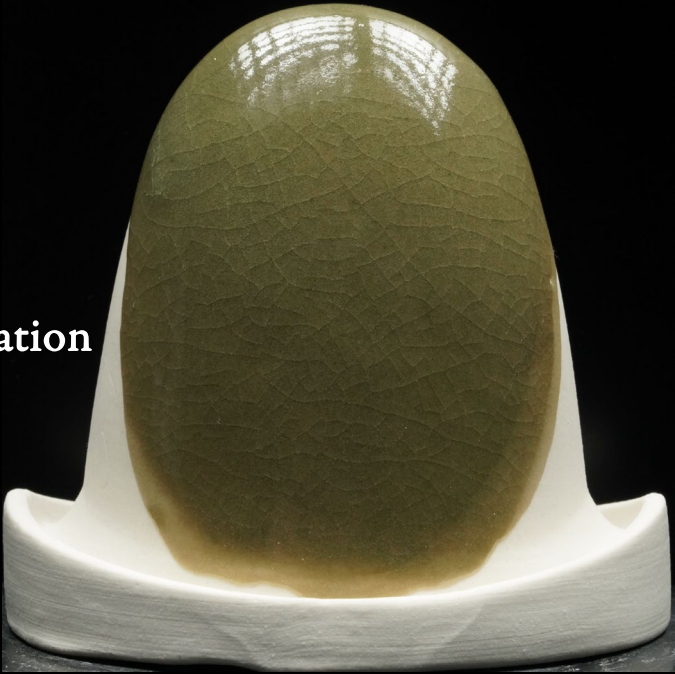
4321

Weight Substitution
Cornwall
062322-14

Cornwall	40.00
Whiting	20.00
EPK	10.00
Flint	30.00
Chrome Oxide	1.00
Water	60

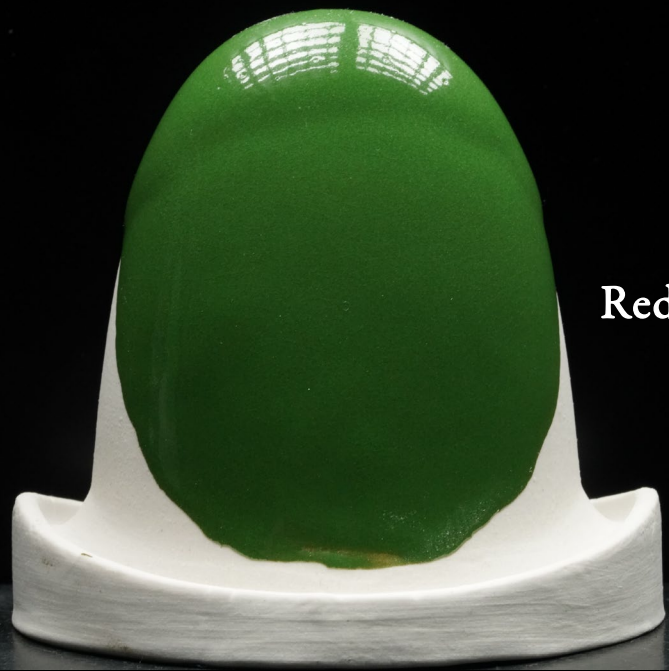


1-3 Second Dip

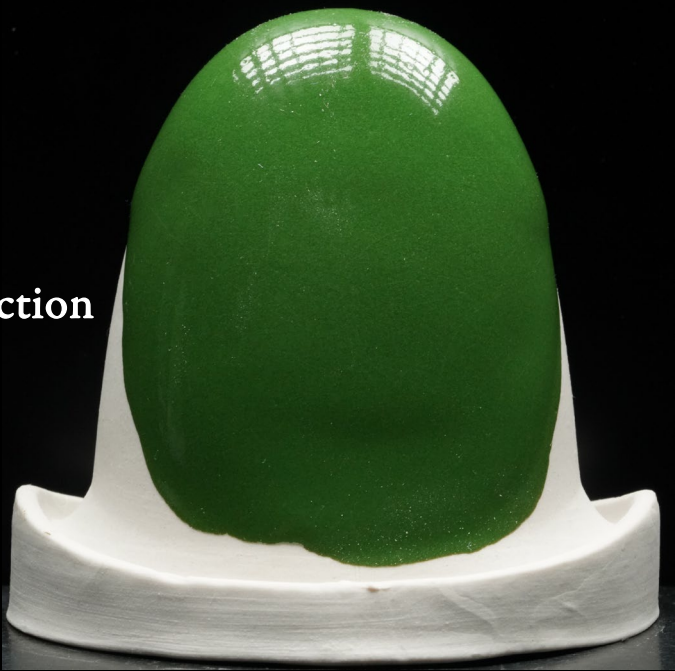


2-3 Second Dips

Oxidation



1-3 Second Dip

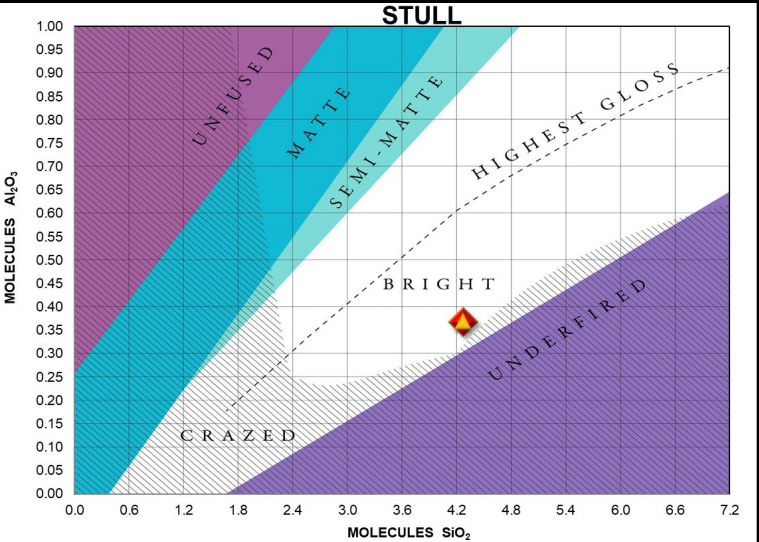


2-3 Second Dips

Reduction

UMF

SiO ₂ :Al ₂ O ₃ Ratio 11.53 : 1		Alkali Metals 0.14		Alkaline Earths 0.86	
SiO ₂ 4.27	Collective "Al ₂ O ₃ " 0.37	Na ₂ O 0.08	K ₂ O 0.06	MgO 0.01	CaO 0.84
B ₂ O ₃	Al ₂ O ₃ 0.37	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 11.53 : 1		Alkali Metals 0.14		Alkaline Earths 0.86	
SiO ₂ 4.27	Collective "Al ₂ O ₃ " 0.37	Na ₂ O 0.08	K ₂ O 0.06	MgO 0.01	CaO 0.84
B ₂ O ₃	Al ₂ O ₃ 0.37	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 0.03	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



Ceramic
Materials
Workshop

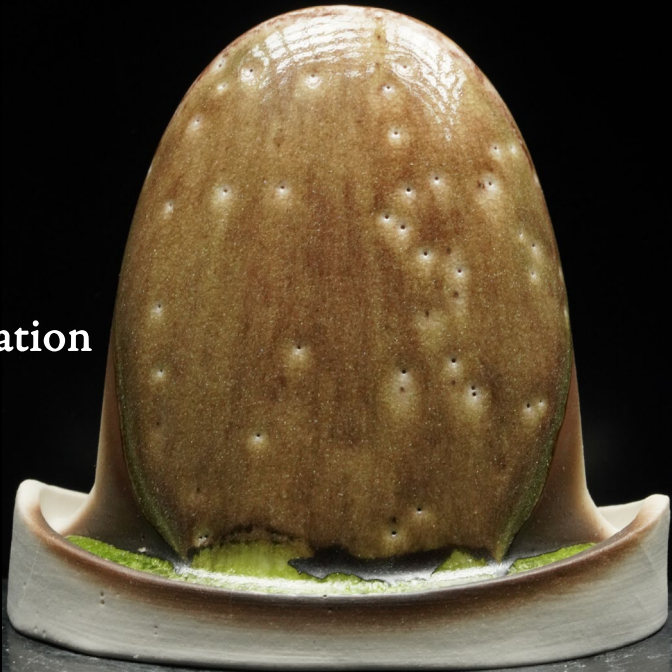
4321

Weight Substitution
Lithium Carbonate
062322-15

Lithium Carb	40.00
Whiting	20.00
EPK	10.00
Flint	30.00
Chrome Oxide	1.00
Water	60



1-3 Second Dip



2-3 Second Dips



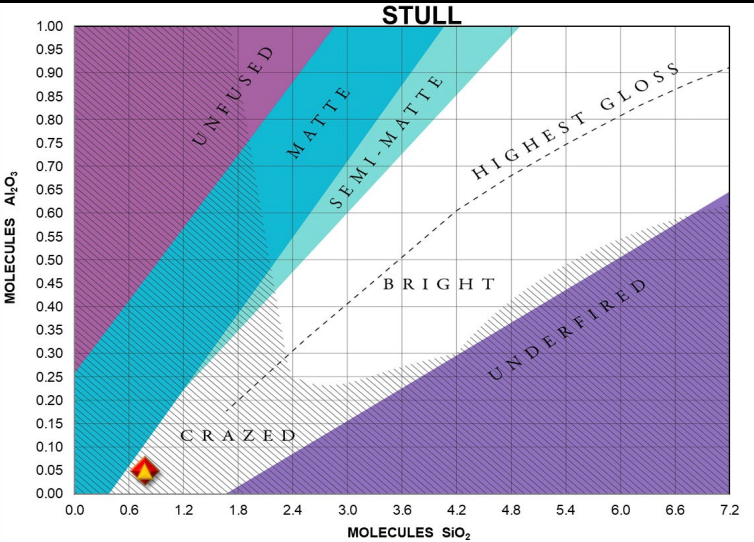
Reduction



Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 15.62 : 1		Alkali Metals 0.73		Alkaline Earths 0.27	
SiO ₂ 0.77	Collective "Al ₂ O ₃ " 0.05	Na ₂ O	K ₂ O 0.00	MgO 0.00	CaO 0.27
B ₂ O ₃	Al ₂ O ₃ 0.05	Li ₂ O 0.73	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 15.62 : 1		Alkali Metals 0.73		Alkaline Earths 0.27	
SiO ₂ 0.77	Collective "Al ₂ O ₃ " 0.05	Na ₂ O	K ₂ O 0.00	MgO 0.00	CaO 0.27
B ₂ O ₃	Al ₂ O ₃ 0.05	Li ₂ O 0.73	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.00
Cr ₂ O ₃ 0.01	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



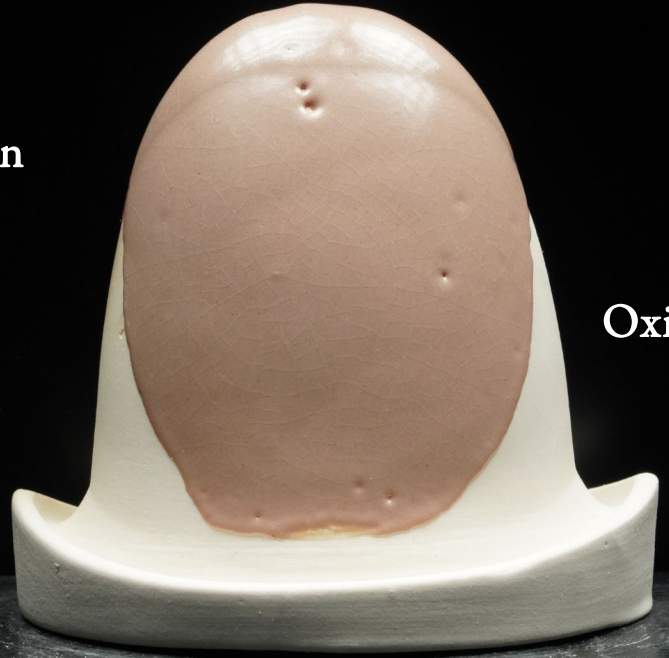
Ceramic
Materials
Workshop

4321

Weight Substitution
Talc

062322-16

Neph Sy	40.00
Talc	20.00
EPK	10.00
Flint	30.00
Chrome Oxide	1.00
Water	90

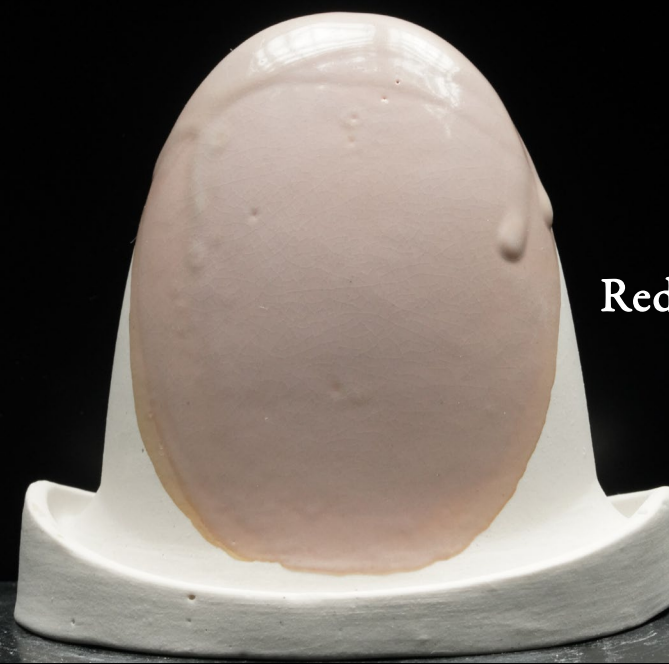


1-3 Second Dip



2-3 Second Dips

Oxidation



1-3 Second Dip

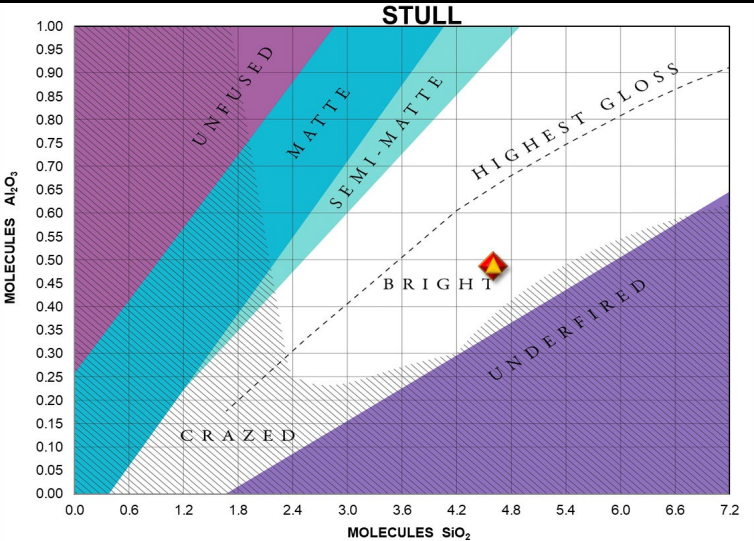


2-3 Second Dips

Reduction

UMF

SiO ₂ :Al ₂ O ₃ Ratio 9.39 : 1		Alkali Metals 0.34		Alkaline Earths 0.66	
SiO ₂ 4.60	Collective "Al ₂ O ₃ " 0.49	Na ₂ O 0.26	K ₂ O 0.08	MgO 0.58	CaO 0.06
B ₂ O ₃	Al ₂ O ₃ 0.49	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 9.39 : 1		Alkali Metals 0.34		Alkaline Earths 0.66	
SiO ₂ 4.60	Collective "Al ₂ O ₃ " 0.49	Na ₂ O 0.26	K ₂ O 0.08	MgO 0.58	CaO 0.06
B ₂ O ₃	Al ₂ O ₃ 0.49	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 0.03	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



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Weight Substitution
Magnesium Carbonate
062322-17

Neph Sy	40.00
Mag Carb	20.00
EPK	10.00
Flint	30.00
Chrome Oxide	1.00
Water	190



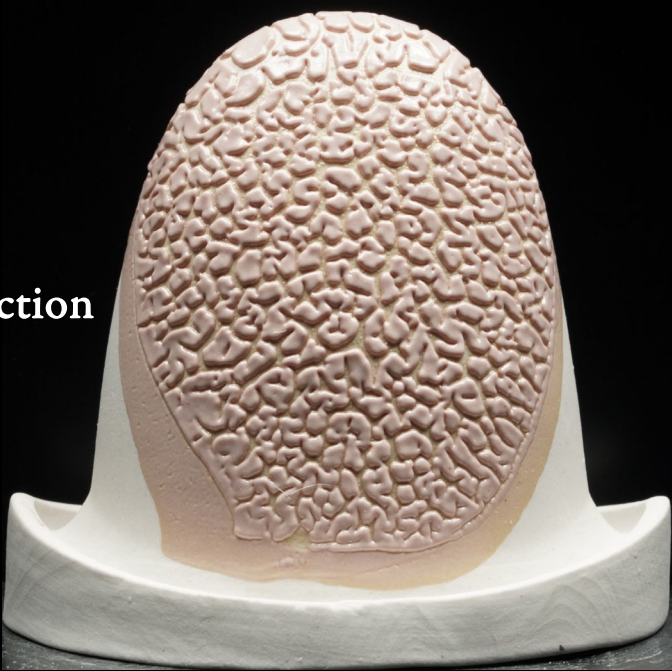
1-3 Second Dip



2-3 Second Dips



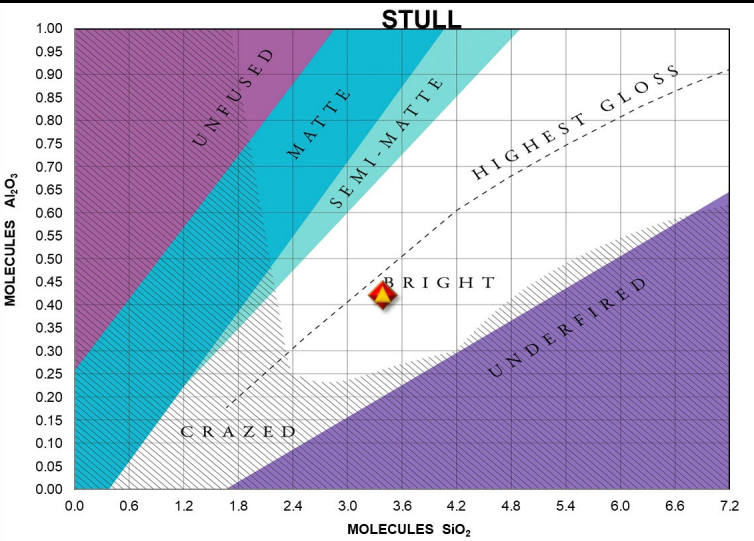
Reduction



Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 7.99 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.39	Collective "Al ₂ O ₃ " 0.42	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.00	CaO 0.70
B ₂ O ₃	Al ₂ O ₃ 0.42	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 7.99 : 1		Alkali Metals 0.29		Alkaline Earths 0.71	
SiO ₂ 3.39	Collective "Al ₂ O ₃ " 0.42	Na ₂ O 0.23	K ₂ O 0.07	MgO 0.00	CaO 0.70
B ₂ O ₃	Al ₂ O ₃ 0.42	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 0.02	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



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Weight Substitution
Dolomite
062322-18

Neph Sy	40.00
Dolomite	20.00
EPK	10.00
Flint	30.00
Chrome Oxide	1.00
Water	60



1-3 Second Dip



2-3 Second Dips

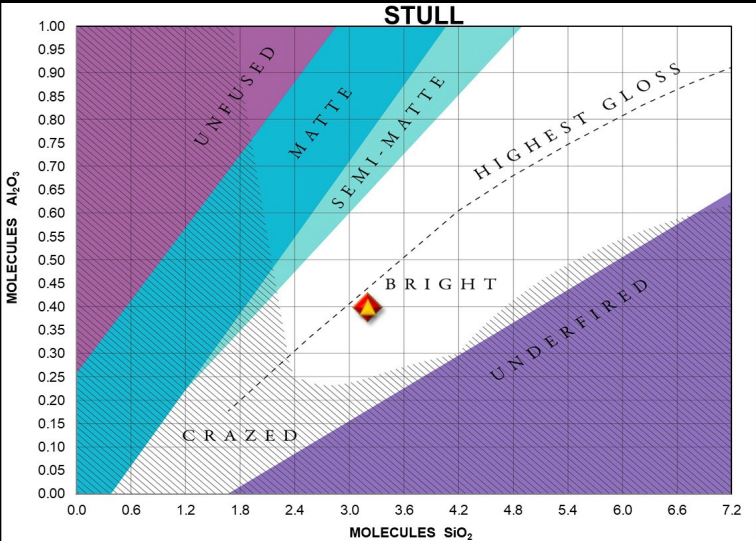


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.00 : 1		Alkali Metals 0.28		Alkaline Earths 0.72	
SiO ₂ 3.20	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.22	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	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 8.00 : 1		Alkali Metals 0.28		Alkaline Earths 0.72	
SiO ₂ 3.20	Collective "Al ₂ O ₃ " 0.40	Na ₂ O 0.22	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	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃ 0.02	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

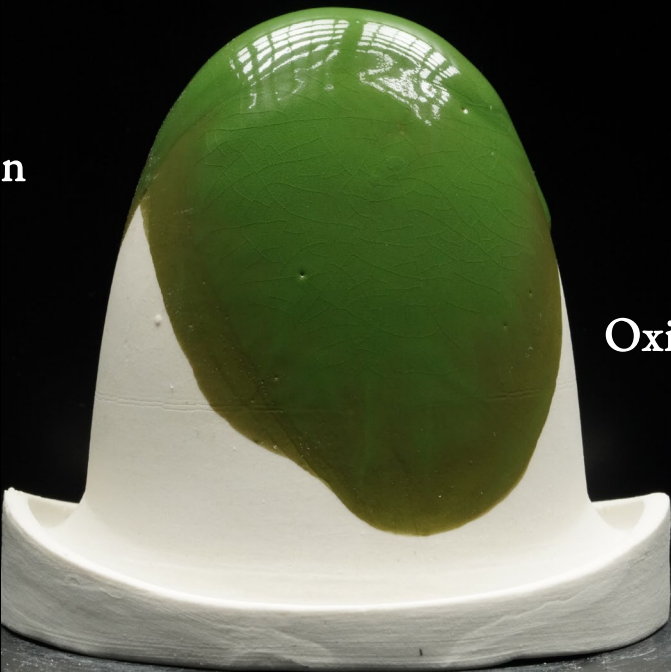


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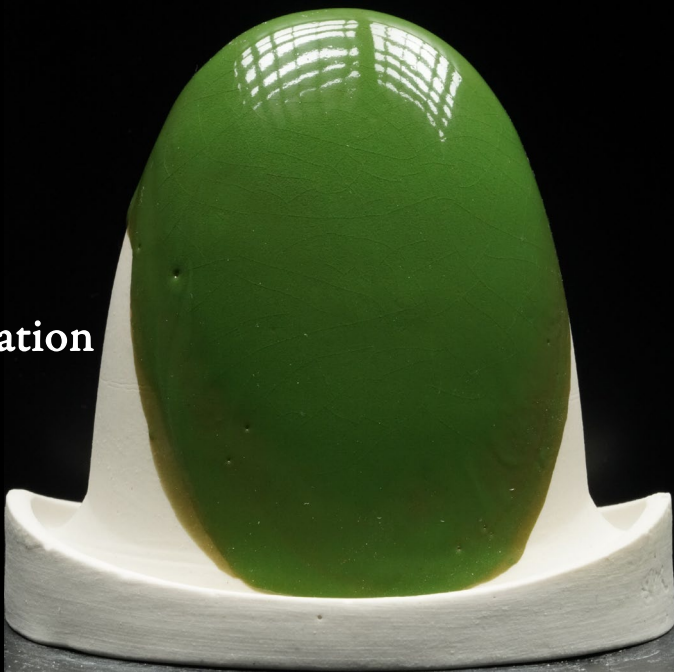
4321

Weight Substitution
Wollastonite
062322-19

Neph Sy	40.00
Wollastonite	20.00
EPK	10.00
Flint	30.00
Chrome Oxide	1.00
Water	60



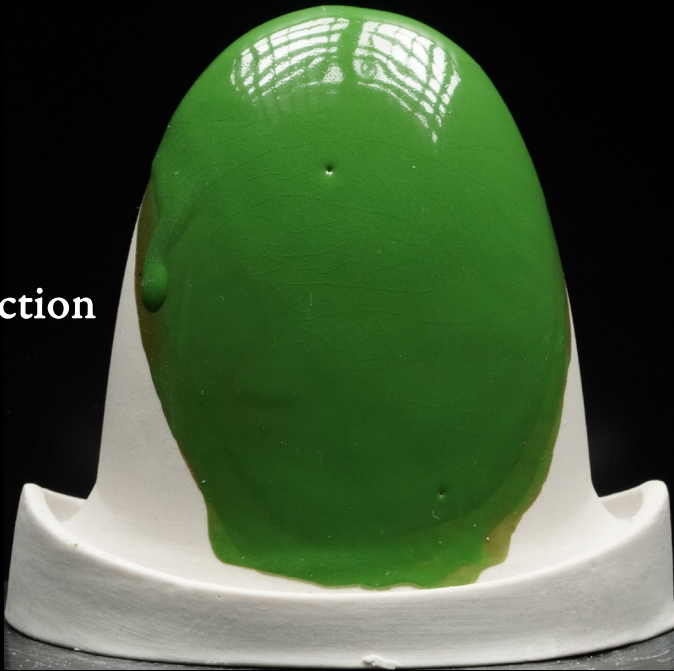
1-3 Second Dip



2-3 Second Dips



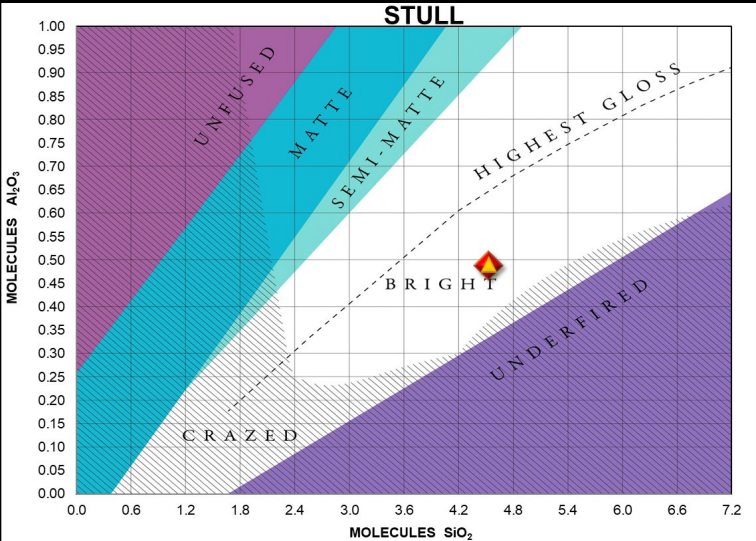
Reduction



Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 9.23 : 1		Alkali Metals 0.34		Alkaline Earths 0.66	
SiO ₂ 4.53	Collective "Al ₂ O ₃ " 0.49	Na ₂ O 0.26	K ₂ O 0.08	MgO 0.02	CaO 0.62
B ₂ O ₃	Al ₂ O ₃ 0.49	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 9.23 : 1		Alkali Metals 0.34		Alkaline Earths 0.66	
SiO ₂ 4.53	Collective "Al ₂ O ₃ " 0.49	Na ₂ O 0.26	K ₂ O 0.08	MgO 0.02	CaO 0.62
B ₂ O ₃	Al ₂ O ₃ 0.49	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 0.03	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

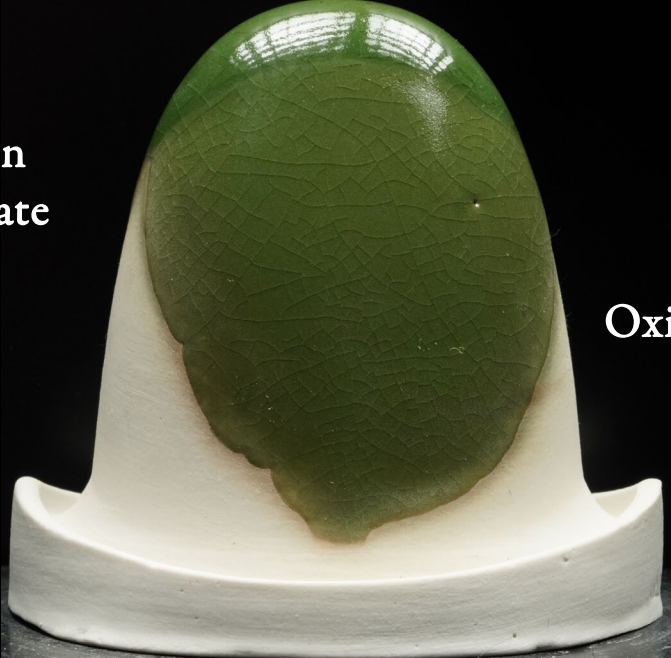


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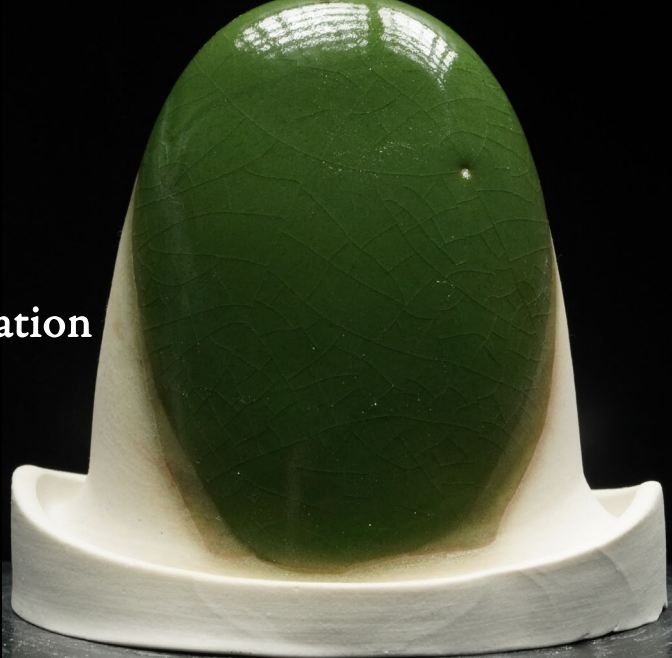
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Weight Substitution
Strontium Carbonate
062322-20

Neph Sy	40.00
Strontium Carb	20.00
EPK	10.00
Flint	30.00
Chrome Oxide	1.00
Water	60



Oxidation

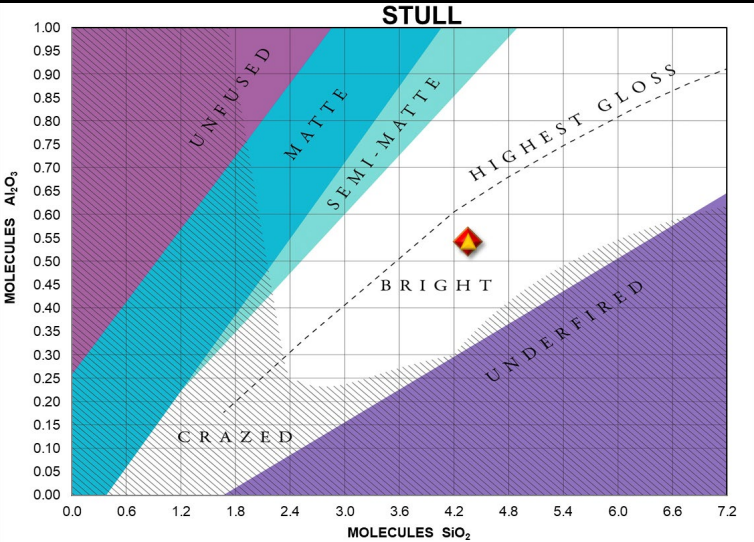


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.00 :1		Alkali Metals 0.38		Alkaline Earths 0.62	
SiO ₂ 4.35	Collective "Al ₂ O ₃ " 0.54	Na ₂ O 0.29	K ₂ O 0.08	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.54	Li ₂ O	CuO	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



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 8.00 :1		Alkali Metals 0.38		Alkaline Earths 0.62	
SiO ₂ 4.35	Collective "Al ₂ O ₃ " 0.54	Na ₂ O 0.29	K ₂ O 0.08	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.54	Li ₂ O	CuO	SrO 0.60	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃ 0.03	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



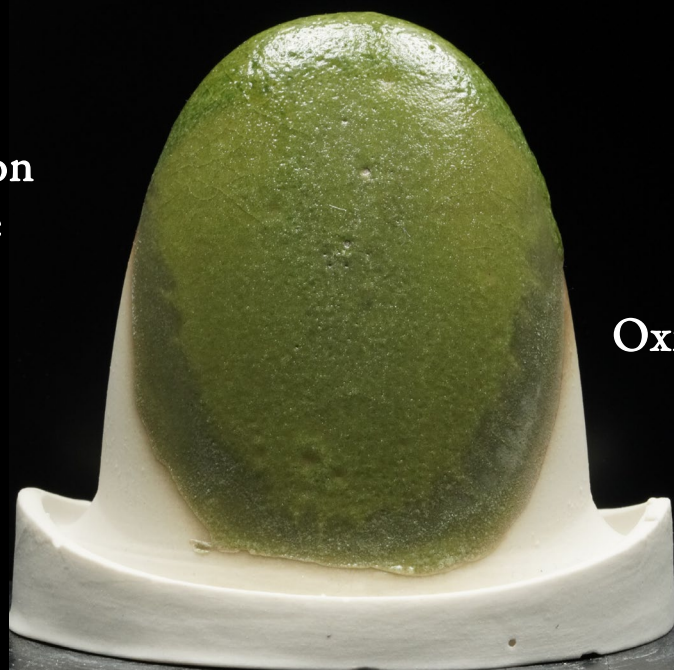
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Weight Substitution
Barium Carbonate

062322-21

Neph Sy	40.00
Barium Carb	20.00
EPK	10.00
Flint	30.00
Chrome Oxide	1.00
Water	60

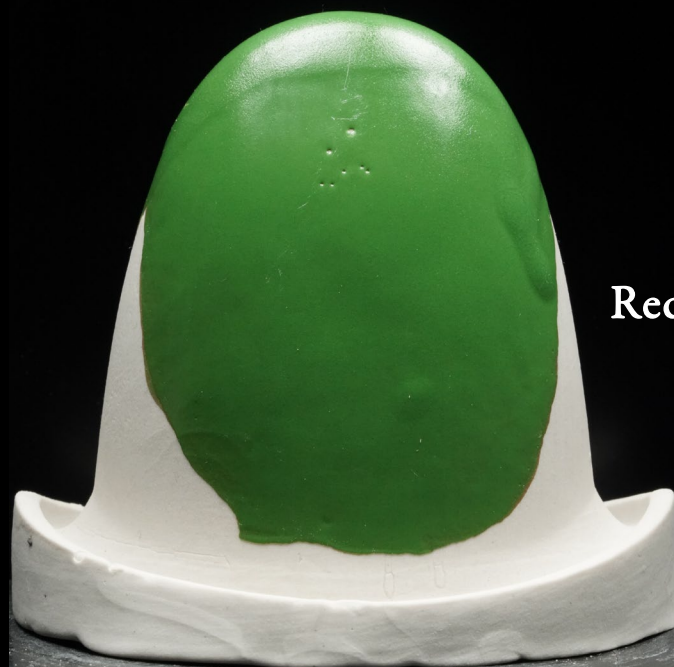


1-3 Second Dip

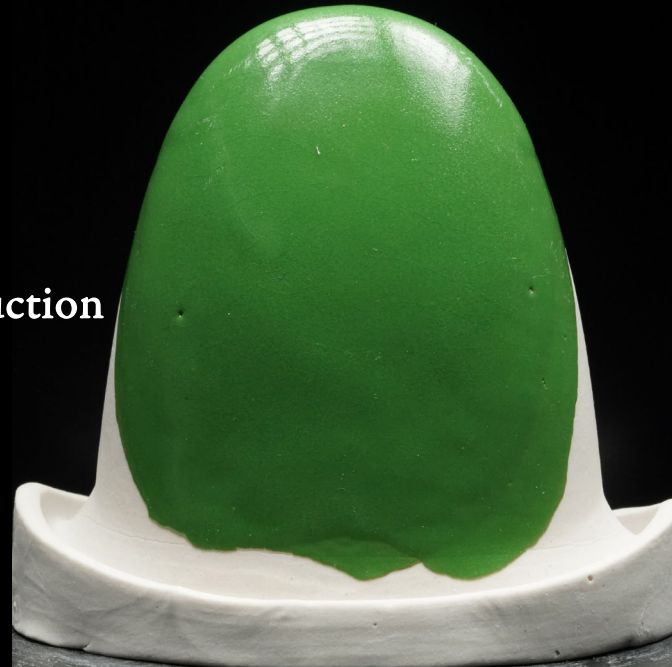


2-3 Second Dips

Oxidation

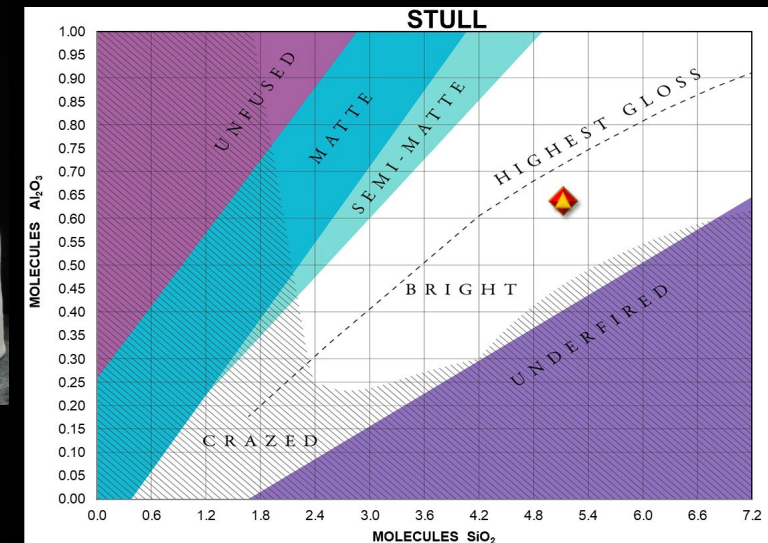


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.00 : 1		Alkali Metals 0.44		Alkaline Earths 0.56	
SiO ₂ 5.13	Collective "Al ₂ O ₃ " 0.64	Na ₂ O 0.35	K ₂ O 0.10	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.64	Li ₂ O	CuO	SrO	BaO 0.53
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 8.00 : 1		Alkali Metals 0.44		Alkaline Earths 0.56	
SiO ₂ 5.13	Collective "Al ₂ O ₃ " 0.64	Na ₂ O 0.35	K ₂ O 0.10	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.64	Li ₂ O	CuO	SrO	BaO 0.53
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO	FeO 0.01
Cr ₂ O ₃ 0.03	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



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Weight Substitution
Zinc Oxide
062322-22

Neph Sy	40.00
Zinc Oxide	20.00
EPK	10.00
Flint	30.00
Chrome Oxide	1.00
Water	60



1-3 Second Dip



2-3 Second Dips

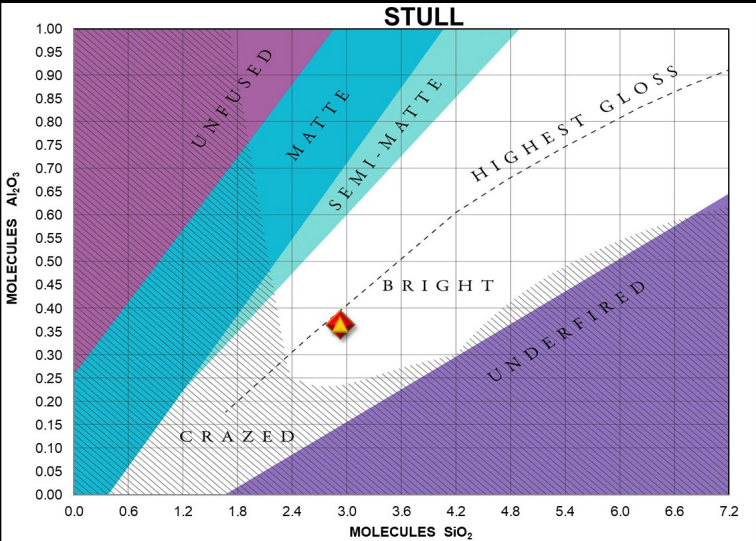


Reduction



UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.00 : 1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.93	Collective "Al ₂ O ₃ " 0.37	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃	ZrO ₂	P ₂ O ₅		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 8.00 : 1		Alkali Metals 0.25		Alkaline Earths 0.75	
SiO ₂ 2.93	Collective "Al ₂ O ₃ " 0.37	Na ₂ O 0.20	K ₂ O 0.06	MgO 0.00	CaO 0.01
B ₂ O ₃	Al ₂ O ₃ 0.36	Li ₂ O	CuO	SrO	BaO
TiO ₂ 0.00	NiO	Bi ₂ O ₃	SnO ₂	ZnO 0.73	FeO 0.01
Cr ₂ O ₃ 0.02	ZrO ₂	P ₂ O ₅		MnO ₂	CoO

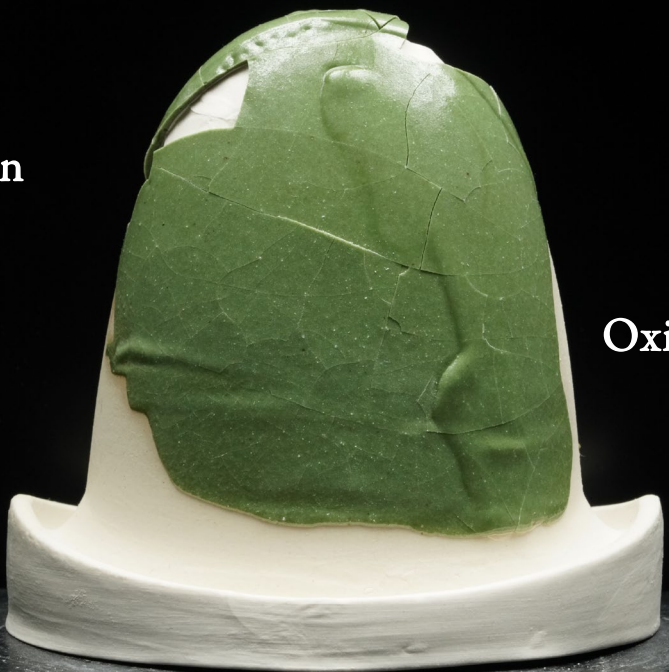


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Weight Substitution
Bone Ash
062322-23

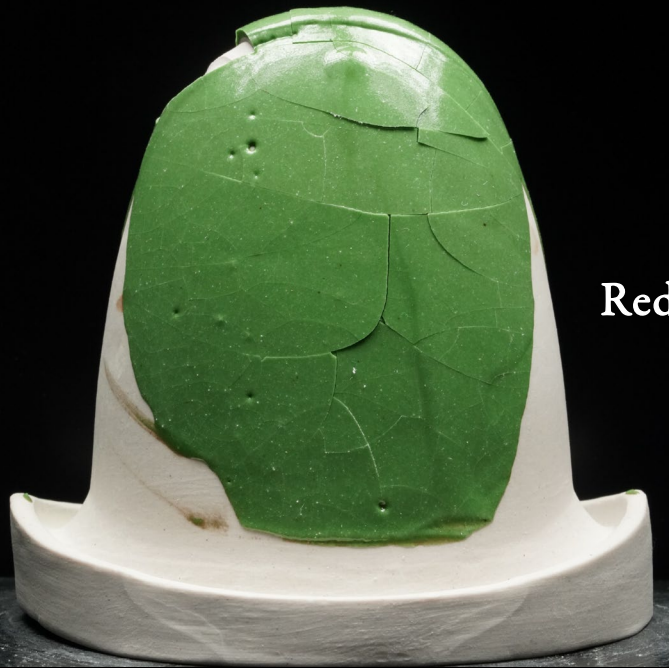
Neph Sy	40.00
Bone Ash	20.00
EPK	10.00
Flint	30.00
Chrome Oxide	1.00
Water	60



1-3 Second Dip



2-3 Second Dips



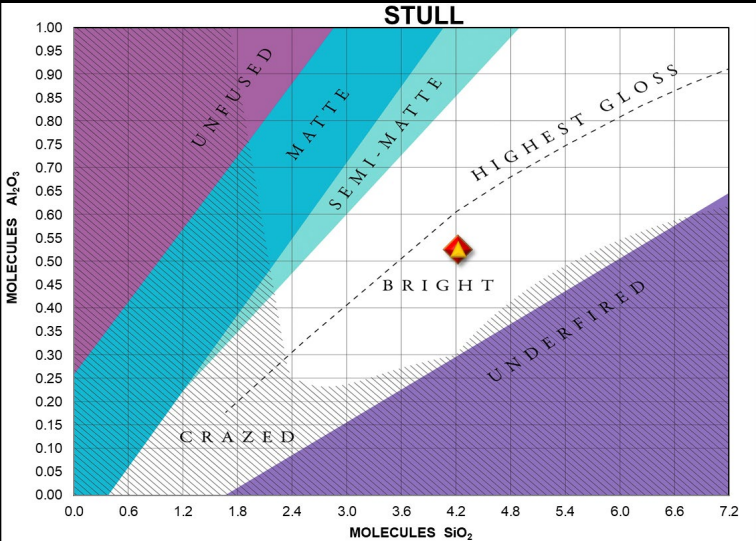
Reduction



Oxidation

UMF

SiO ₂ :Al ₂ O ₃ Ratio 8.00 : 1		Alkali Metals 0.37		Alkaline Earths 0.63	
SiO ₂ 4.22	Collective "Al ₂ O ₃ " 0.53	Na ₂ O 0.28	K ₂ O 0.08	MgO 0.00	CaO 0.62
B ₂ O ₃	Al ₂ O ₃ 0.52	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 0.34		MnO ₂	CoO



EUMF

SiO ₂ :Al ₂ O ₃ Ratio 8.00 : 1		Alkali Metals 0.37		Alkaline Earths 0.63	
SiO ₂ 4.22	Collective "Al ₂ O ₃ " 0.53	Na ₂ O 0.28	K ₂ O 0.08	MgO 0.00	CaO 0.62
B ₂ O ₃	Al ₂ O ₃ 0.52	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 0.03	ZrO ₂	P ₂ O ₅ 0.34		MnO ₂	CoO



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