

Re-firing Thick, Previously Fired Work: 1-8-inches (25-203 mm) in Celsius

For work 1" (25 mm) thick and up, and over 24" (61 cm) in any direction, Oceanside recommends using kilns with top, side, and bottom heating

CELSIUS FIRING SCHEDULE (Ramps are for 6" or larger open face firings on shelves)															
HEATING							ANNEALING AND COOLING								
Target Temps >>	Step 1		Step 2		Step 3 [†]		Step 4		Step 5		Step 6		Step 7		Min Total
	149° C		538° C		To desired Peak Temp (See Peak Temp Table)		510° C		413° C		278° C		42° C		
Max Thickness	Ramp (Rate /Hr)	Hold (Minutes)	Ramp (Rate /Hr)	Hold (Minutes)	Ramp (Rate /Hr)	Hold (Minutes)	Ramp (Rate /Hr)	Hold (Minutes)	Ramp (Rate /Hr)	Hold (Minutes)	Ramp (Rate /Hr)	Hold (Minutes)	Ramp (Rate /Hr)	Hold (Minutes)	Min Total
25 mm	28° C	40	28° C	100	103° C	Per Peak Temp Table	AFAP*	220 (3.6 hrs)	14° C	0	25° C	0	83° C	0	43 (1.8 days)
38 mm	21° C	60	21° C	150	83° C	Per Peak Temp Table	AFAP	360 (6 hrs)	6.7° C	0	13° C	0	42° C	0	68 (2.8 days)
51 mm	14° C	80	14° C	180	69° C	Per Peak Temp Table	AFAP	480 (8 hrs)	3.9° C	0	7.8° C	0	23° C	0	105 (4.4 days)
76 mm	10° C	120	10° C	225	56° C	Per Peak Temp Table	AFAP	720 (12 hrs)	1.7° C	0	3.3° C	0	10° C	0	193 (8.1 days)
102 mm	6.7° C	160	6.7° C	270	42° C	Per Peak Temp Table	AFAP	960 (16 hrs)	0.8° C	300 (5 hrs)	1.7° C	0	5° C	0	350 (14.6 days)
127 mm	5° C	200	5° C	305	38° C	Per Peak Temp Table	AFAP	1200 (20 hrs)	0.7° C	375 (6.3 hrs)	1.3° C	60 (1 hour)	4° C	0	444 (18.5 days)
152 mm	3.3° C	240	3.3° C	340	33° C	Per Peak Temp Table	AFAP	1440 (24 hrs)	0.4° C	450 (7.5 hrs)	0.8° C	150 (2.5 hrs)	2.5° C	0	666 (27.8 days)
178 mm	2.5° C	280	2.5° C	375	31° C	Per Peak Temp Table	AFAP	1680 (28 hrs)	0.3° C	525 (8.8 hrs)	0.7° C	225 (3.8 hrs)	1.9° C	0	870 (36.3 days)
203 mm	2° C	320	2° C	405	28° C	Per Peak Temp Table	AFAP	1920 (32 hrs)	0.2° C	600 (10 hrs)	0.4° C	300 (5 hrs)	1.3° C	0	1271 (52.9 days)
Note that data has been estimated for 127 mm, 152 mm, 178 mm, and 203 mm thicknesses					[†] For drop slumps cut Step 3 Ramp Rate in half		*AFAP means As Fast As Possible								

FIRING STEP DEFINITIONS /OBJECTIVES	
Step 1	Start heat up of pre-fired cold glass, shelf, mold and kiln. Soak to distribute heat evenly.
Step 2	Heat pre-fired glass components to softening point. Hold to distribute heat evenly.
Step 3	Fire to desired peak temperature. Hold to desired finish.
Step 4	Lower to upper annealing point, dropping quickly to minimize devit. Hold to distribute the heat evenly.
Step 5	Annealing ramp: cool to below the strain point. Hold.
Step 6	First cooling Ramp. Hold.
Step 7	Second Cooling Ramp. Open kiln when kiln interior is at room temperature.

PEAK TEMPERATURE TABLE - OPEN FACE MOLDS			
This guide is intended as a starting point. Variations of 25° F (13.9° C) or more are expected for specific needs and circumstances, such as kiln type, rate of ramp-up, soak (hold) length, thickness of work or mold, etc. All other factors being equal. Oceanside Compatible glass will require a peak temperature about 25° F (13.9° C) below COE 90 (Bullseye) glass.			
Activity	Temp F	Temp C	Hold time
Bending (uni-directional)	1100°	538°	1-20 minutes
Shallow Drop	1200°	649°	1-20 minutes
Slumping with molds	1225°	663°	1-30 minutes
Medium drop (sinks)	1250°	677°	1-20 minutes
"Sugar" Firing or Tack Fuse	1300°	704°	1-20 minutes
Pâte de Verre	1325°	718°	1-30 minutes
Fuse to stick	1350°-1375°	732°-745°	10-45 minutes
Maximum Temperature if Under 1/4-inch Thickness			
Fuse flat with smooth edges	1420°-1450°	771°-778°	15-90 minutes
Fill Bas-Relief molds - wavy edges	1450°-1475°	788°-802°	15-90 minutes
Fill sharp mold details - irregular edges	1475°-1500°	802°-816°	90-300 minutes