

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 Glass™ recommends using kilns with top, side, and bottom heating

CELSIUS FIRING SCHEDULE (Ramps are for 6" or larger open face firings on shelves)

Target Temps >>	HEATING						ANNEALING AND COOLING								Min Total
	Step 1		Step 2		Step 3 [†]		Step 4		Step 5		Step 6		Step 7		
	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)	
	149° C		538° C		To desired Peak Temp (See Peak Temp Table)		510° C		413° C		278° C		42° C		
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