

At Tyrol Feb 7th,2023

Tokyo thermochemical ind.co.,ltd

Measurement of thermal insulative function

Implement place : Bakery Tyrol's bread baking oven door

Area size for painting : 9 5 c m X 9 5 c m

Date of painting Jul 28th, 2022		Measuring temp date Jul 29th,2022			Date of measurement Feb 6th,2023		Measurement of coating thickness for each painting process(μ m)						
Place for temp measurement		Surface temperature($^{\circ}$ C)			Surface temperature($^{\circ}$ C)		Primer A2101BK3S	After 1 time Middle coat A1601GR01S	Middle coating itself	After 2 time Middle coat A1601GR01S	Middle coating itself	After top coat A2101SL01M	Top coat itself
		Before painting	After painting	Temp difference	After 6month from painting	Temp difference							
Upper part (row)of oven Inside temp About 180 $^{\circ}$ C	A	56.8	50.5	6.3	45.4	11.4	17	549	532	1254	705	1289	35
	B	61.7	53.1	8.6	47.2	14.5	11	630	619	1064	434	1121	57
	C	76.5	68.5	8.0	60.9	15.6	23	680	657	1014	334	1094	80
	D	86.9	76.8	10.1	73.6	13.3	29	720	691	1287	567	1336	49
	E	81.3	72.8	8.5	68.2	13.1	20	650	630	1178	528	1269	91
Middle part (row)of oven	F	77.0	68.6	8.4	61.8	15.2	23	750	727	1322	572	1394	72
	G	88.6	73.3	15.3	64.6	24.0	27	690	663	1297	607	1377	80
	H	76.9	66.8	10.1	60.7	16.2	23	565	542	1315	750	1368	53
lower part (row)of oven Inside temp About 170 $^{\circ}$ C	I	60.3	51.7	8.6	47.8	12.5	21	563	542	1181	618	1235	54
	J	62.4	50.9	11.5	48.3	14.1	19	510	491	1289	779	1378	89
	K	69.0	59.2	9.8	55.4	13.6	21	509	488	1147	638	1206	59
	L	75.6	65.1	10.5	62.6	13.0	22	580	558	1141	561	1195	54
	M	72.1	64.5	7.6	62.8	9.3	27	486	459	1083	597	1144	61
Average coating thickness/Temp		72.7	63.2	9.5	58.4	14.3	21.8	606.3	584.5	1197.8	591.5	1262.0	64.2
Way of painting							Roller	Brush(water dilution 10%)		Trowel (no dilution)		Brush	

○Please refer to next page for checking place where is measured temp

○Setting temp of bread baking 200 $^{\circ}$ C○Pretreatment for base material \Rightarrow Remove burnt deposits with a scraper, degrease and wash with IPA, and roughen with No. 100 sandpaper.

Bread baking oven door(Place for temp measurement)



After painting thermal insulation paint on bread baking oven door



Painting work step movie https://youtu.be/b_SSbZzIXdo

Owner's comment and review <https://youtu.be/hlYIJs1EUbU> (Japanese now, If you need to see, let me have time to prepare)

Evaluation after conducting painting : We received very favorable comment that this time painting works to make baking work in midsummer easier much more from owner.

Aug 10th,2022 Although the decreasing of surface temp is around 10°C, If someone stand in the front of door ,the thermal radiation was reduce, so could feel cool wind from Air conditioner well. Thermosin heat insulation paint has effect to improve working environment under high temp.

Evaluation after 6month : Although workplace is quite cold in early morning at midwinter , the heat in oven become not easily to down,

Feb 6th,2023 Once open the oven door , become warmer in soon well , the work in early morning become easier.

And, When baking bread repeatedly, the starting and reaching to required temp become faster so the work efficiency is improved.

He consider that is helpful especially because recently the electric fee is rising.

Conclude