

Operating Instructions

YETI EXPANSION Plus®

Crown and Bridge Investment Material

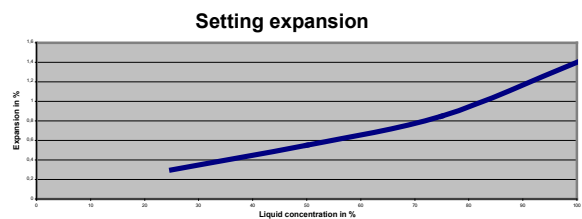
YETI EXPANSION Plus is a phosphate-bound precision investment material for all precious, metal to ceramic, non precious alloys and pressable ceramics. YETI EXPANSION Plus can be used as Speed investment or the traditional way by using the Preheating progress (not for press over metal).

Setting expansion	1,50 %	Flow capability	13cm
Thermal Expansion	1,60 %	Working time (20-22 °Grad)	4-7 min
Total expansion	3,10 %	Pressure	4,2 MPa

Following mixture proportions of powder to water or liquid should be understand as approximate values. They can be strongly influenced by storage conditions, working temperature, mixing units and air moisture.

Physical properties (100% Liquid-Concentration) EN ISO 9694 (1998)

YETI EXPANSION Plus Powder	YETI EXPANSION Plus Liquid/dist. Water
1x 100g	24 ml
2x 100g	48 ml
1x 160g	38 ml



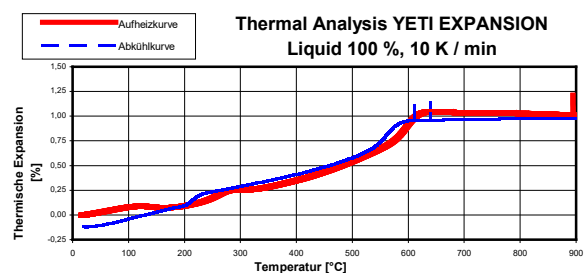
Expansion

YETI EXPANSION Plus Investment will be mixed with the YETI EXPANSION Plus Liquid as mentioned in the below table. The Expansion of the investment can be controlled by the quantity of the distilled water mixed with the EXPANSION Plus liquid. The total liquid quantity (100g=24ml / 160=38ml) must not be exceeded. The Expansion of YETI EXPANSION Plus is even to the metal contraction according to the below table depending on the type of alloy or pressable ceramics used by the technician. For large alloy bridges lower expansion is recommended.

Higher is the concentration of the special liquid, higher is the total expansion of the investment.

Alloy	Mixing Ratio	
	100 g	160 g
Crown and Bridge / Wax	Water/ Liquid 100 g	Water/ Liquid 160 g
Precios metal alloy	18 ml	29 ml
Concentrate	6 ml	9 ml
Palladium Based alloys	12 ml	19 ml
Concentrate	12 ml	19 ml
Co-Cr alloys	7 ml	11 ml
Concentrate	17 ml	27 ml
Ni-Cr alloy	9 ml	14 ml
Concentrate	15 ml	24 ml
For a stronger friction in NEM works, Wax Works / Telescopes		Water Liquid 20 ml 18 ml

Pressable ceramics	Mixing ration	
	100g Liquid/ Water	160g Liquid/Water
Inlay	12 / 12 ml	19 / 19 ml
Veneer	14 / 10 ml	22 / 16 ml
PoM Press over Metal for speed way only		
100g K&B/PoM	9 ml water / 15 ml liquid	
160g K&B/PoM	14 ml water / 24 ml liquid	



Dokument:	Erstellt am/von:	geändert am/von:	Revision:	freigegeben am/von:	Seitenzahl:
BA	13.07.2012/TB	25.03.2019/CJ	1	25.03.2019/TB	Seite 1 von 3

Operating Instructions

YETI Expansion Plus is characterized by its maximal possible Expansion and is useable specially for non precious alloys and pressable ceramics.

STORAGE

The storage of the powder and the special liquid must be done at a normal room temperature (21°C). In case the special liquid for investment is stored in a temperature below 5 °C, it will be subjected to be frozen and will not be suitable to be used. Storage shelf life YETI EXPANSION Plus Powder and YETI EXPANSION Plus Liquid is 24 Months.

Packing

Item Nr.: 956-0100 YETI EXPANSION Plus Powder - 5,0 kg (50x100 g)
Item Nr.: 956-1000 YETI EXPANSION Plus Liquid - 1000 ml bottle
Item Nr.: 956-0000 YETI EXPANSION Plus Powder + Liquid - 5,0 kg (50x100 g) + 1000 ml

Item Nr.: 956-0160 YETI EXPANSION Plus Powder - 20,0 kg (125x160 g)
Item Nr.: 956-1001 YETI EXPANSION Plus Liquid - 1000 ml bottle
Item Nr.: 956-0020 YETI EXPANSION Plus Powder + Liquid - 20,0 kg (125x160 g) + 4000 ml

Operating Instructions

Best and steady results are obtained when storing and working at a constant room temperature of 23°C (min. 19°C).

The mixing bowls must not be dry and not suitable for mixing gypsum. The mixing units might have an influence on the quality and your work, for that reason they must be regularly checked.

Preparation

Debubblizer can be used, (Yeti 142-0000) but it is not obligatory. Be sure that the wax is totally dry before start working.

Flask System

Use a wet flask liner and coat totally the metal casting flasks. Use a double coat liner when using a X9 flask.

Mixing

First fill in the liquid and then the powder and mix by hand with a clean spatula (not a gypsum spatula). Put under vacuum for 60 seconds without using the mixing machine. Then the Investment must be mixed for 60 seconds under the vacuum.

Setting Time

The working time (23 °C) is 6 Minutes since starting the mixing procedure. The setting time must be carried out under small Vibration. Stop the filling and the usage of the vibrator when the metal ring is full, and let the casting flask sets for about 20 minutes.

Deflasking

After a setting time of 15 Min. at 23° C and having the flasks cool down deflask prudently.

Preheating temperatures

Adjust your oven at the necessary temperature depending on the type of alloy used, and place the flask with the sprue former downwards on the corrugated base plate of the preheating furnace. We suggest to preheat the furnace to 900°C.

Use a sharp knife to scratch the surface of the investment in the upper part of the flask.

700-750°C	for Gold Cast Alloys
800-850°C	for Metal to Ceramic Alloys / Pressable ceramics
900° C	For Non precious Alloys

Rapid Firing

Yeti Expansion Plus is ideal for fast heat methodology (Speed). To take advantage of this time benefit, we generally recommend the speed technique.

Only flasks with the following sizes X1 - X6 are allowed to a High-Speed Burnout.

According to the alloy type and after the setting time of the investment (20 min.), place the flask directly in the furnace at the final temperature.

Holding time at final temperature X1 for 40 min. X3 for 50 min. X6 for 60 min.

Dokument:	Erstellt am/von:	geändert am/von:	Revision:	freigegeben am/von:	Seitenzahl:
BA	13.07.2012/TB	25.03.2019/CJ	1	25.03.2019/TB	Seite 2 von 3

Operating Instructions

Preheating methode

Heating process	Heating rate	x 3	x 6	x 9
1. Holding step 250°C	4-6°C/Min.	40 min.	50 min.	60 min.
2.- Holding step 570°C	6-7°C/Min.	30 min.	40 min.	50 min.
Final temp. 900°C	8-9°C/Min.	40 min.	50 min.	60 min.

Casting/Cooldown

Upon removal from oven, independent from the way of casting, centrifuge, vacuum pressing, open flame, immediatly cast according to alloy manufacturer's instructions. Place the flask with the sprue former in the upper direction to allow a rapid cool down of the YETI EXPANSION Plus in a room temperature.

Important recommendations

The investment material contains Quartz. Do not BREATH DUST ! May cause delayed lung injury.
The above given instructions correspond to the actual technical status. We assure a very high top quality of our products, any claim must be only made up on the quality of our merchandise.

Dokument:	Erstellt am/von:	geändert am/von:	Revision:	freigegeben am/von:	Seitenzahl:
BA	13.07.2012/TB	25.03.2019/CJ	1	25.03.2019/TB	Seite 3 von 3