

Survey of alloys tested by VITA in combination with VITA VM 13

Please pay attention to the relevant explanations included in the information on the use prior to the use!

High Gold Content Alloys				
Alloy name	Manufacturer / Distribution^{a)}	CTE [$10^{-6} \cdot K^{-1}$] * 25-600 °C (25-500 °C)	Cooling *	Cooling **
Adorbond P 200+	Ador	14,6 (14,3)	--	N
Adorbond P 400	Ador	14,3 (14,6)	--	N
Adorbond S	Ador	14,1 (13,5)	--	N
Adornova P500	Ador	14,6 (14,4)	--	N
Argedent 90	Argen	15,0 (14,7)	S	S
Argedent Bio Yellow PF	Argen	14,5 (14,3)	N	S
Argedent Yellow 2	Argen	14,5 (14,3)	N	N
Bio PontoStar XL	Bego	14,4 (14,2)	N	S
Esteticor Lumina PF	Cendres & Métaux	14,6 (14,2)	N	N
Esteticor Avenir	Cendres & Métaux	14,6 (14,3)	N	S
Esteticor Helvetica	Cendres & Métaux	14,8 (14,5)	S	S
Esteticor Prestige	Cendres & Métaux	14,3 (14,0)	N	N
Esteticor Special	Cendres & Métaux	13,9 (13,7)	N	N
V-Classic	Cendres & Métaux	14,4 (14,1)	N	N
V-Gnathos Plus	Cendres & Métaux	14,6 (14,3)	S	S
Degudent U	DeguDent	14,0 (13,8)	N	N
Degudent Kiss	DeguDent	14,3 (14,1)	N	N
BiOcclus Kiss	DeguDent	14,4 (14,2)	S	N
Orplid Keramik 3	Hafner	14,5 (14,3)	S	N
Orplid Keramik 4	Hafner	14,3 (14,1)	N	N
Herador NH	Heraeus	14,1 (13,9)	F	N
G75	Puppo Iori	14,7 (14,4)	S	S

Gold Reduced Alloys				
Alloy name	Manufacturer / Distribution^{a)}	CTE [$10^{-6} \cdot K^{-1}$] * 25-600 °C (25-500 °C)	Cooling *	Cooling **
Adorbond G	Ador	14,3 (14,2)	--	N
Adornova Light	Ador	14,9 (14,7)	--	N
Argedent 65 SF	Argen	14,4 (14,1)	N	S
Argedent 52	Argen	14,4 (14,2)	N	S
Argedent 52 SF	Argen	14,1 (13,9)	F	N
Argedent Euro	Argen	14,4 (14,1)	N	N
Herabond N	Heraeus	14,5 (14,2)	S	N

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Alloy name	Manufacturer / Distribution ^{a)}	CTE [$10^{-6} \cdot K^{-1}$] * 25-600 °C (25-500 °C)	Cooling *	Cooling **
V-Deltaloy	Cendres & Métaux	14,5 (14,3)	N	S
V-Delta Spezial	Cendres & Métaux	14,7 (14,5)	S	S
K520	INCOMET	(13,6)	--	N
45 Plus	Puppo Iori	14,3	--	N
Penta Gamma	Puppo Iori	14,0	--	N

Palladium Base Alloys (Palladium Content up to 80%)				
Alloy name	Manufacturer / Distribution ^{a)}	CTE [$10^{-6} \cdot K^{-1}$] * 25-600 °C (25-500 °C)	Cooling *	Cooling **
Argelite 55	Argen	15,0 (14,8)	S	S
Argelite 80 SF+	Argen	14,3 (14,1)	N	N
BegoPal 300	Bego	14,0 (13,8)	--	N
Pangold Keramik N2	Hafner	14,2 (14,1)	N	N
Albabond B	Heraeus	(13,5)	F	N
PAL KERAMIT 3	NOBIL METAL	14,8 (14,5)	--	N
Gamma Cast	Puppo Iori	14,8	--	S
Style Plus	Puppo Iori	14,3	--	S

Base Metal Cast Alloys				
Alloy name	Manufacturer / Distribution ^{a)}	CTE [$10^{-6} \cdot K^{-1}$] * 25-600 °C (25-500 °C)	Cooling *	Cooling **
System KN	Adentatec	14,0	S	N
Adorbond CC	Ador	14,0 (13,9)	--	N
System NE	Adentatec	14,8	S	N
Argeloy NP Be Free	Argen	14,4 (14,1)	N	N
Argeloy NP V	Argen	14,0 (13,6)	N	N
Argeloy NP Star	Argen	14,1	N	N
Auverbond Plus	BCS Cervos	(13,9)	--	N
Wirobond C	Bego	14,2 (14,0)	S	S
Wiron 99	Bego	14,0 (13,8)	N	S
Wirocer plus	Bego	14,0 (13,8)	N	N
Wirobond 280	Bego	14,2 (14,0)	N	S
Wirobond SG	Bego	14,3 (14,1)	S	S
Gialloy CB/N	BK Giuliani	14,0	N	N
Gialloy CB	BK Giuliani	14,1	S	S

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Alloy name	Manufacturer / Distribution^{a)}	CTE [$10^{-6} \cdot K^{-1}$] * 25-600 °C (25-500 °C)	Cooling * *	Cooling ** **
Esteticor Biennor CF	Cendres & Métaux	14,2 (13,8)	N	N
Starloy soft	DeguDent	14,9	S	S
Splendido-270	Dentale Kompetenz	--	--	S
Stella-280	Dentale Kompetenz	14,6	--	S
Nice-188	Dentale Kompetenz	14,1	--	N
Nimbo 180	Dentale Kompetenz	14,0 (13,7)	--	N
Magia 300	Dentale Kompetenz	14,6 (14,0)	--	N
remanium 2000+	Dentaurum	(14,0)	S	S
remanium star	Dentaurum	(14,1)	S	S
remanium CS	Dentaurum	(14,0)	N	N
remanium CSe	Dentaurum	(14,0)	N	N
remanium segura	Dentaurum	(14,4)	S	N
remanium star CL	Dentaurum	(14,1)	--	S
Biodur	DSF Diamon	(14,3)	S	N
Niadur	DSF Diamon	(14,1)	S	S
Biodur Soft	DSF Diamon	14,7 (14,4)	--	N
FINOBOND NF	FINO ^{a)}	14,4	S	S
FINOBOND NF SUPERIOR	FINO ^{a)}	(14,4)	S	S
FINOFRAME CoCr	FINO ^{a)}	14,1	--	S
FINOBOND 280 SUPERIOR	FINO ^{a)}	(14,1)	--	S
KERAGEN	Eisenbacher	14,1	S	S
KERA NC	Eisenbacher	14,1	--	N
KERA 501	Eisenbacher	14,3	--	S
KERA N	Eisenbacher	14,1	--	N
KERA C	Eisenbacher	14,1	--	N
Nicrodur B	Eukamed	14,0 (13,8)	--	N
Ceralloy	Eukamed	(14,2)	--	N
Girobond Soft	Girrbach	14,2 (14,0)	N ¹ /S ²	N
Girobond NB	Girrbach	(14,6)	S ²	S
Cara process NEM	Heraeus	--	--	N

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Alloy name	Manufacturer / Distribution^{a)}	CTE [$10^{-6} \cdot K^{-1}$] * 25-600 °C (25-500 °C)	Cooling *	Cooling **
I Bond NF	Interdent	14,0 (13,9)	--	S
I Bond 02	Interdent	14,0 (13,9)	--	N
Lukachrom C	Lukadent	14,0 (13,9)	--	N
Lukachrom N	Lukadent	14,4 (13,9)	--	N
Lukachrom FH	Lukadent	14,4 (14,7)	--	N
Durabond	Matech	13,8-14,0	N	N
Hi Bond	Matech	14,1	N	N
Hi Bond Plus	Matech	14,2	N	N
Magnum Nitens	Mesa	14,7 (14,5)	N/S***	S
Magnum Clarum	Mesa	14,0 (13,7)	--	N
Magnum Lucens	Mesa	14,8 (14,6)	--	N
Magnum Fulgens	Mesa	14,9 (14,4)	--	S
Magnum Ceramic Co	Mesa	14,6 (14,1)	--	S
Magnum Ceramic S	Mesa	14,1 (13,7)	--	N
PX C60	PX Précinox SA	14,4 (14,1)	--	N
Okta-C	SAE Dental ^{a)}	(14,3)	--	S
Oranium Ceramic	SAFINA	14,2 (14,0)	--	S
Microlit isi	Schütz	14,1	--	S
SHERIDIUM	SHERA	14,5	S	S
SHERADENT	SHERA	14,5	N	N
SHERAALLOY-E	SHERA	14,8	S	S
Keralloy KB	SILADENT	14,6 (14,1)	S	S
Keralloy ECO	SILADENT	14,2 (14,0)	S	S
Keramic CO NP 1	SODIDENT	14,1	--	N
Keramic NI NP 3	SODIDENT	14,1	--	N
Starbond COS	S&S Scheftner	14,0	--	N
Starbond NI	S&S Scheftner	14,0	--	N

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Base Metal Discs				
Alloy name	Manufacturer / Distribution ^{a)}	CTE [$10^{-6} \cdot K^{-1}$] * 25-600 °C (25-500 °C)	Cooling *	Cooling **
Stella CAM	Dentale Kompetenz	14,6 (14,1)	--	S
Magia CAM	Dentale Kompetenz	14,6 (14,0)	--	N
Remanium Star	Dentaurum	(14,1)	S	S
Keragen	Eisenbacher	14,1	S	S
Coron	Etkon	(14,1)	S	N
InCoris	infiniDent ^{a)}	--	--	S
DISKBOND NF	Interdent	--	--	N
NobelProcera Base Metal Alloy Cobalt Chromium	Nobel Biocare	(14,1)	--	S
Zenotec NP	Wieland	(14,4)	--	N
Chrom-Cobalt	Zirkonzahn	(14,1)	--	S
Coritec CoCr	Imes-Icore ^{a)}	--	--	S
KeraDisc-New	Eisenbacher	14,1 (14,5)	--	S
Compartis	DeguDent	14,3 (14,6)	--	S
Starbond Easy Disc	S&S Scheftner	14,6 (14,3)	--	S ³⁾
Mogucera C Disc	S&S Scheftner	14,8 (14,5)	--	S

Base Metal, laser sintered				
Alloy name	Manufacturer / Distribution ^{a)}	CTE [$10^{-6} \cdot K^{-1}$] * 25-600 °C (25-500 °C)	Cooling *	Cooling **
Remanium Star	Dentaurum	(14,1)	S	S
EOS CoCr SP2	EOS	14,2-14,5 (13,9-14,3)	S	S
Wirocer plus	Bego	14,0 (13,8)	N	N
Starbond Easy Powder 30	S&S Scheftner	14,7 (14,5)	--	S ³⁾
Starbond CoS Powder 30	S&S Scheftner	14,0 (--)	--	S

Base Metal densely sintered				
Alloy name	Manufacturer / Distribution ^{a)}	CTE [$10^{-6} \cdot K^{-1}$] * 25-600 °C (25-500 °C)	Cooling *	Cooling **
Ceramill Sintron	Amann Girrbach	14,4 (14,1)	--	S
InCoris CC	Sirona a)	--	--	S
Sintermetall	Zirkonzahn	--	--	S

* according to the information of the alloy manufacturers

¹⁾ up to 3 units normal cooling

³⁾ only in combination with Non Precious Bonder

^{a)} Distribution

** based on sample tests performed by VITA

²⁾ more than 3 units slow cooling

-- there are no details from the alloy manufacturer available

Cooling: F = fast N = normal S = slow

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Information on the use

Attention! Important information!

Information must be read prior to the use!

This survey only intends to provide help for the selection of alloys **without any obligation on the part of VITA. VITA Zahnfabrik will not assume any liability** for the safety and efficiency of the combination of VITA VM 13 and the alloys listed in the survey and for any damage resulting from lack of suitability of the alloy for processing with VITA VM 13 and from any product modifications or quality defects of the alloy in use. The same shall apply to damage resulting from improper handling or processing as well for damage resulting from inappropriate or faulty working instructions for the alloys for which VITA Zahnfabrik will not assume any liability either.

The information provided in this survey refers exclusively to the compatibility of the CTE of the listed alloy with VITA VM 13 for the fabrication of veneers. Any evaluation of the quality of the respective metal-ceramic bond shall not be made in this survey.

The results are exclusively based on sample testing of veneering. VITA Zahnfabrik has no influence on variations in quality in different charges of the alloys and product modifications by the manufacturers.
Prior to processing VITA VM 13 with one of the alloys listed in this survey, the user must verify the suitability of the alloy for processing with VITA VM 13!

In the sample tests of firing results and thermal stability performed by VITA Zahnfabrik the alloys listed in this survey produced good results in combination with VITA VM 13. We expressly point out that these tests **were only sample tests** (at least 6 single crowns and 1 three-unit bridge).

If perfect results were obtained in the tests, the respective alloys were included in our list.

Thermal fatigue resistance, however, also depends on the size of the object, structure, hardness, thermal conductivity of the alloy in use, percentage of old metal, casting quality and, in particular, on the firing procedure so that it can not be concluded that the use of the alloys listed will always ensure perfect results.

Additionally, the coefficient of thermal expansion (CTE) of all alloys listed was determined. In some cases the CTE values provided by the alloy manufacturers may differ from our measurement results. Our result of the CTE measurement formed the basis for the firing cycles in the tests performed by VITA Zahnfabrik. After firing, all restorations were assessed visually prior to thermal fatigue resistance testing. Then all restorations were tested for thermal fatigue resistance.

Experience gathered over numerous years has shown that the use of alloys with a CTE between 14 - 14.4, measured at 25-600 °C, allows to achieve very good results. If the CTE value of the alloy is higher, the temperature range between 900 °C to 700 °C must not be passed in less than three minutes during the cooling phase. However, this does not apply each alloy. In individual cases successful firing performed by VITA Zahnfabrik may differ from the recommendations of the alloy manufacturers.

If you have any questions or problems, please call the VITA Hotline, Tel.: (+49) 7761 / 562-222.

Any illustrations and written information are without obligation and not binding and do not include any undertaking as to characteristics.

This alloy list does not claim to be complete.

After the publication of this survey any previous versions become obsolete.

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