

Expansion Alloys Guide



TYPE	ALLOY No.									Main Chemical Components
	China	Russia	France Imphy	Germany VAC	UK Telcan	USA Magnetics Carpenter	Japan Sumitomo	ASTM UNS No.	ASTM Spec No.	
Glass Sealing and controlled expansion Alloys	4J28	28X	LTM(FR)	FR-25(GER) VaCovito25(GER)	Croloy27(UK) 26Cr-Fe(UK)	FR-28 Carpenter 27 Glass Sealing "27" Alloy 27	Cr28(JPN)	K92801	F256	FeCr28
	4J29	29HK 29HK-BИ	Dilver P0 Dilver P1	Vacon 12 Silvar 48(GER)	Nilo K (UK) Teleseal	Kovar Rodar Techallony Glasseal29-17	KV-1(JPN) KV-2(JPN) KV-3(JPN)	K94610	F15	FeNi29Co17
Glass Sealing and Metal-to-Ceramic Sealing Alloys	4J42	42H	Dumet42 N42(FR)	Vacodil 42 Nilo42(GER)	Nilo 42(UK)	Glass sealing 42 Uniseal 42 42 Alloy	D(JPN) YEF42(JPN) NSD(JPN)	K94100	F30	FeNi42
	4J45	46H	Fe-Ni42(FR) N48(FR)	Vacodil 46	Nilo45	CarPerterG Niromet 46 Ferrovac 46 Ni 46 Alloy		K94600	F30	FeNi45 FeNi46
	4J50	50H	N50(FR)	Vacovit 500(GER)	Nilo51(UK)	52 Alloy FeNi50	NS-1(JPN)	N14052	F30	FeNi50
	4J49	49HXP	FeNi46Cr5	Vacovit 465 Vacovit 485		Carpenter 456		K95150	F31	FeNi47Cr6
	4J6(4J06)	H42 X 6	ASV(426) Ni42Cr6	Vacovit 426 NiCr426	Nilo 45(UK)	42Ni-6Cr Carpenter426 Sylvania4 Sealmet 4	NRS-1(JPN) YEF-426(JPN) SNC(JPN)	K94760	F31	FeNi42Cr6
Metal-to-Ceramic Sealing Alloys	4J33	33Hk(Ni33Co17)					KV-4(Ni33Co17)	K94630	F1466	FeNi33Co15 FeNi29Co17
	4J34	31HK(Ni31Co20)		Vacon20(Ni28Co20)		Ceramvar (Ni27Co25)		K94620	F1466	FeNi27Co25
Low Thermal Expansion Alloys	4J32	32HKД 32HK-BИ	Invar(FR) Surperieur (FR)			Super-Invar32-5 Super Nilvar	SI (JPN)	K93500	F1684	FeNi32Co4Cu
	4J36	36H 36H-BИ	Invar Standard Fe-Ni36	Vacodil 36 Nilos36(GER)	Invar (UK) Nilo 36 (UK) 36Ni(UK)	Invar 36 Nilvar Unipsan36	PD(JPN) Cactus LE(JPN)	K93600 / K93603 / K93050	F1684	FeNi36