



REDIES

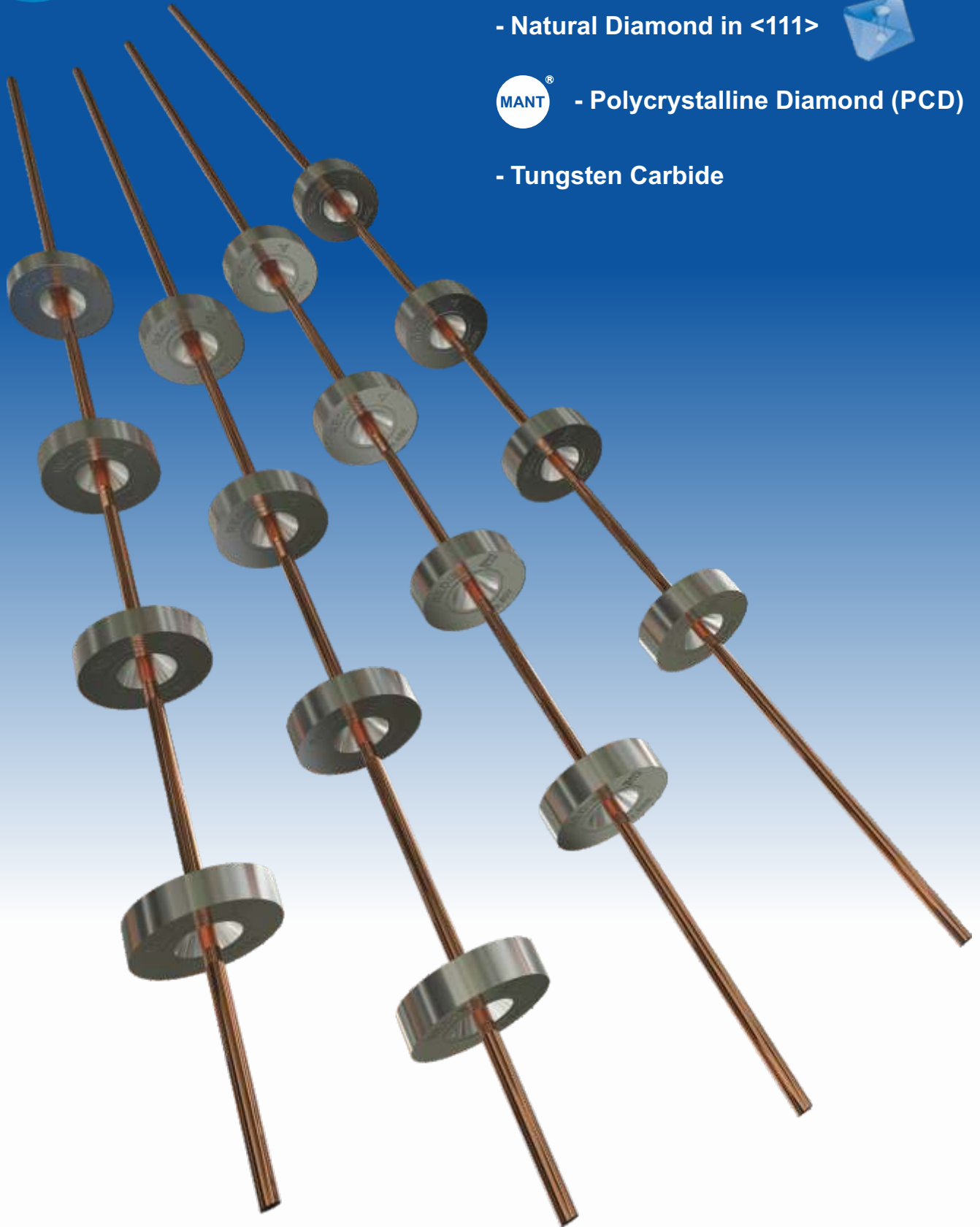
REDIES wire drawing dies made from

- Natural Diamond in $\langle 111 \rangle$



- Polycrystalline Diamond (PCD)

- Tungsten Carbide

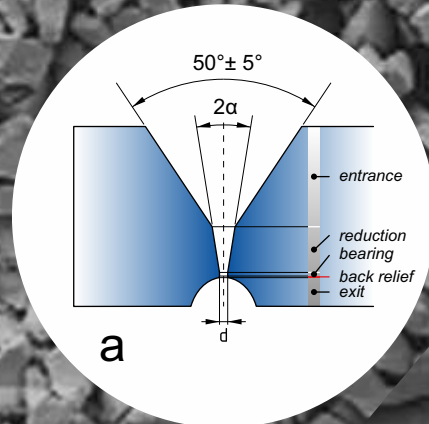


**Advantageous products need
the right materials**

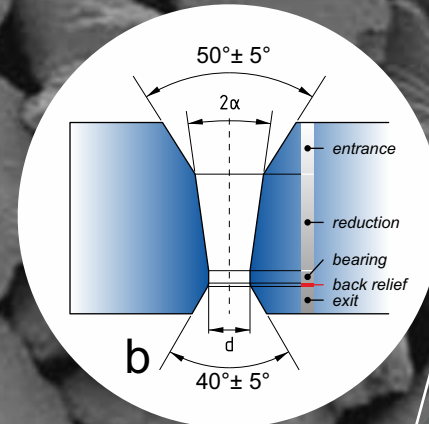


Perfection & Competence in Diamond

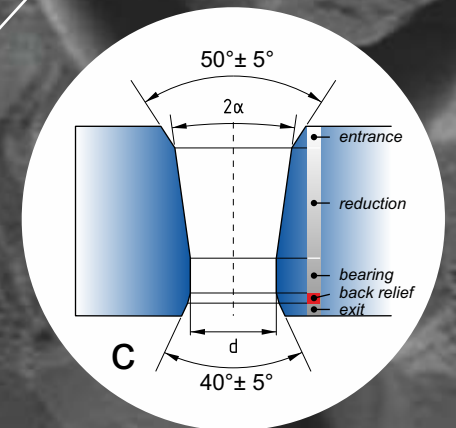
1 μm



5 μm



25 μm



In the background you can see SEM-micrographs of the 3 main diamond powder types for our product PCD MANT. The blocky grain structure and narrow grainsize bandwidth is characteristic.

In a high-pressure liquid phase sinter process, this diamond material (ca. 92%) together with liquefied cobalt (ca. 8%) is converted into a highly interconnected diamond aggregation with significant wear resistance. The MANT PCD.

That's why we say: **Advantageous products need the right materials.** Further information can be found at www.mant.com

Generally speaking: the smaller the grain, the smoother the wire surface, the bigger the grain, the higher the tool durability.
And thus: the smoother the wire surface, the smaller the grain size of the PCD should be chosen.

The circles above illustrate typical drawing die geometries ranging from fine over medium to coarse.

We offer 1- μm granularity for wire diameters up to 2 mm (D-18). The target applications are fine and ultra-fine wire (Geometry a). This granularity can be used for tinned and copper-coated wires and to substitute natural diamond dies. PCD tools stay round longer and keep their shape longer.

Wire drawing dies made with 5- μm granularity offer a good compromise between resulting surface smoothness and tool-durability, considering that dies "grow" when being repolished from a smaller to a higher diameter. They are typically used for wire with up to 4 mm thickness (D-24, Geometry b).

MANT PCD blanks with 25- μm granularity are used for all wire diameters from 0.05 mm up to 30 mm (special-sizes made to order), not only for big wire sizes (Geometry c). For more than 10 years, the product MSD-14-025 has been used for stainless steel wire in sizes ranging from 0.2 mm up to 1.2 mm - wherever longevity is most important.

New in 2018: thermostable, **tungsten carbide supported** MANT PCD in sizes D-15 and D-18. Now also with 25 μm granularity. Especially for high speed drawing steel wire.

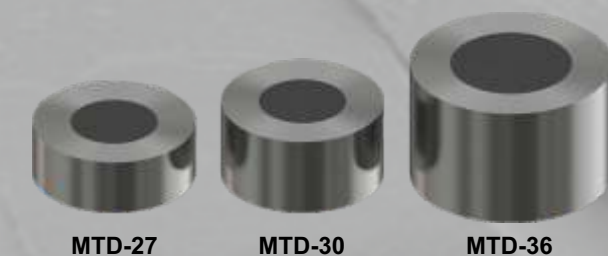
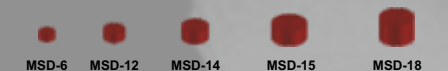
Ask us!

MANT Polycrystalline diamond blanks

Self supported						
Type	PC Diamond d x H in mm	Max. recomm. Die size in mm (65 % for FE-materials)	Grain size available			
			1 μm	5 μm	25 μm	40 μm
MSD-6	2,5 x 1,0	0,5	x	x	x	
MSD-12	3,2 x 1,5	1,0	x	x	x	
MSD-14	4,0 x 2,0	1,2	x	x	x	
MSD-15	5,2 x 2,5	1,5	x	x	x	x
MSD-18	5,2 x 3,5	2,0	x	x	x	

red = also thermostable available

Tungstencarbide supported						
Type	PC Diamond d x H in mm	Total blanc D in mm	Max. Recomm. Die size in mm 65 % for FE-materials	Grain size available		
				1 μm	5 μm	25 μm
MTD-12	1,8 x 1,5	4,0	0,8			x
MTD-15	4,2 x 2,3	9,7	1,8	x	x	x
MTD-18	4,2 x 2,9	9,7	2,3	x	x	x
MTD-21	7,1 x 4,1	14,0	3,5		x	x
MTD-24	7,1 x 5,1	14,0	4,5		x	x
MTD-27	13,0 x 8,5	24,1	6,0			x
MTD-30	13,0 x 12,0	24,1	7,5			x
MTD-31	15,2 x 12,0	26,0	9,0			x
MTD-33	15,2 x 15,1	26,6	11,2			x
MTD-36	18,2 x 18,5	30,0	12,7			x



Repolishing by REDIES ...

.. all manufacturers

.. your geometry and sizes

.. your data

Open data structures in the spirit of INDUSTRY 4.0

NUMMER	KERN	WDRUCHIM	NEUPREIS	HERSTELLER	ERF_DATUM	SATZ	STANDORT	DATUM	ANZ_POLIER	VORDURCHIM	ISTDURCHIM	LEISTUNG
226797	DIA	0.26359	0.00000	THIELMANN	8/3/2015	REP	REC080917	9/12/2017	1.00000	0.00000	0.26359	1883.00000
172456	DIA	0.20000	0.00000	BALLOFFET	11/29/2001	REP	REC080917	9/12/2017	2.00000	0.25099	0.26359	6969.00000
226722	DIA	0.26359	0.00000	THIELMANN	8/3/2015	REP	REC080917	9/12/2017	1.00000	0.00000	0.26359	1883.00000
824017	DIA	0.20000	0.00000	BALLOFFET	3/13/2007	REP	REC080917	9/12/2017	3.00000	0.23839	0.26359	10431.00000
826783	DIA	0.20000	0.00000	BALLOFFET	3/13/2007	REP	REC080917	9/12/2017	4.00000	0.23839	0.26359	10431.00000
826784	DIA	0.20000	0.00000	BALLOFFET	3/13/2007	REP	REC080917	9/12/2017	4.00000	0.23839	0.26359	10431.00000
J064767	MAOMO	0.00000	0.00000	BALLOFFET	7/12/2012	REP	REC080917	9/12/2017	3.00000	0.25799	0.26359	4790.00000
234426	DIA	0.26359	0.00000	THIELMANN	6/22/2016	REP	REC080917	9/12/2017	1.00000	0.00000	0.26359	2748.00000
473537	DIA	0.00000	0.00000	BERLIN	8/9/2001	REP	REC080917	9/8/2017	1.00000	0.25299	0.30000	35548.00000
390700	DIA	0.22599	0.00000	FORTEK	8/14/2001	REP	REC080917	9/8/2017	3.00000	0.28999	0.30000	44253.00000
425211	DIA	0.00000	0.00000	BERLIN	8/9/2001	REP	REC080917	9/8/2017	1.00000	0.25299	0.30000	35548.00000
425463	DIA	0.00000	0.00000	BERLIN	8/9/2001	REP	REC080917	9/8/2017	1.00000	0.25299	0.30000	40909.00000
425481	DIA	0.00000	0.00000	BERLIN	8/9/2001	REP	REC080917	9/8/2017	1.00000	0.25299	0.30000	40909.00000
425489	DIA	0.00000	0.00000	BERLIN	8/9/2001	REP	REC080917	9/8/2017	1.00000	0.25299	0.30000	40909.00000
45879	DIA	0.00000	0.00000	BERLIN	8/9/2001	REP	REC080917	9/8/2017	1.00000	0.25299	0.30000	35348.00000
047347	DIA	0.24400	0.00000	BALLOFFET	5/10/2004	REP	REC080917	9/8/2017	3.00000	0.25099	0.30000	36843.00000
416816	DIA	0.20299	0.00000	UKD	8/9/2001	REP	REC080917	9/8/2017	4.00000	0.27900	0.33199	28280.00000
094348	DIA	0.25299	0.00000	PHILIPS	8/9/2001	REP	REC080917	9/8/2017	2.00000	0.27900	0.33199	22919.00000
F047174	DIA	0.30199	0.00000	BALLOFFET	7/20/2009	REP	REC080917	9/8/2017	1.00000	0.30199	0.33199	52450.00000
H005549	DIA	0.00000	0.00000	BALLOFFET	1/20/2011	REP	REC080917	9/8/2017	4.00000	0.31900	0.33199	63846.00000
F045889	DIA	0.30199	0.00000	BALLOFFET	7/20/2009	REP	REC080917	9/8/2017	1.00000	0.30199	0.33199	52450.00000
399610	DIA	0.24899	0.00000	FORTEK	8/9/2001	REP	REC080917	9/8/2017	3.00000	0.27399	0.33199	22919.00000
637930	DIA	0.25000	0.00000	FORTEK	10/1/1997	REP	REC080917	9/8/2017	2.00000	0.29600	0.33199	32875.00000
14148	DIA	0.00000	0.00000	BALLOFFET	5/3/2002	REP	REC080917	9/8/2017	1.00000	0.24899	0.33300	28280.00000
3163360	NATUR	0.10000	0.00000	PHILIPS	9/10/1997	REP	REC080417	9/8/2017	9.00000	0.34009	0.36500	167516.00000
51602	DIA	0.34700	0.00000	HERKEL	4/19/2016	REP	REC080917	9/8/2017	1.00000	0.34700	0.36500	29774.00000
7490360	DIA	0.21670	0.00000	ESTEVEIS	12/18/1997	REP	REC080917	9/8/2017	6.00000	0.33300	0.36500	132195.00000
160459	DIA	0.19799	0.00000	BALLOFFET	11/9/2001	REP	REC080917	9/8/2017	5.00000	0.33199	0.36500	142152.00000
7456360	DIA	0.19699	0.00000	ESTEVEIS	12/18/1997	REP	REC080917	9/8/2017	5.00000	0.33199	0.36500	110996.00000
R5290274	NATUR	0.22610	0.00000	RBZ	2/3/2003	REP	REC080917	9/8/2017	4.00000	0.34009	0.36500	176861.00000
623524	DIA	0.19050	0.00000	FORTEK	11/27/1997	REP	REC080917	9/8/2017	6.00000	0.33500	0.36500	90334.00000
F047595	DIA	0.30199	0.00000	BALLOFFET	7/20/2009	REP	REC080917	9/8/2017	2.00000	0.32300	0.36500	87967.00000
20176	DIA	0.09499	0.00000	BALLOFFET	7/17/1998	REP	REC080417	9/8/2017	7.00000	0.35100	0.40200	22914.00000
28517	DIA	0.17399	0.00000	BALLOFFET	10/10/1997	REP	REC080917	9/8/2017	6.00000	0.34999	0.40200	219565.00000
R80205	ND	0.28999	0.00000	BRELKE	11/18/2007	REP	REC080917	9/8/2017	3.00000	0.25089	0.40200	90491.00000
59683	DIA	0.00000	0.00000	BALLOFFET	8/10/2001	REP	REC080917	9/8/2017	1.00000	0.36700	0.40200	20221.00000
607738	DIA	0.20000	0.00000	BALLOFFET	2/5/2001	REP	REC080917	9/8/2017	4.00000	0.35100	0.40200	192512.00000
56233	DIA	0.17799	0.00000	BERLIN	8/9/2001	REP	REC080917	9/8/2017	1.00000	0.36800	0.40200	140057.00000
836418	DIA	0.21670	0.00000	ESTEVEIS	8/25/1997	REP	REC080917	9/8/2017	5.00000	0.35100	0.40200	75651.00000
K38835	DIA	0.21670	0.00000	ESTEVEIS	8/25/1997	REP	REC080917	9/8/2017	4.00000	0.35000	0.40200	217490.00000
550100	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	62500.00000
608015	NATUR	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	128417.00000
608016	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	67400.00000
F04800	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	128417.00000
608017	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	67400.00000
608018	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	128417.00000
608019	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	67400.00000
608020	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	128417.00000
608021	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	67400.00000
608022	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	128417.00000
608023	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	67400.00000
608024	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	128417.00000
608025	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	67400.00000
608026	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	128417.00000
608027	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	67400.00000
608028	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	128417.00000
608029	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	67400.00000
608030	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	128417.00000
608031	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	67400.00000
608032	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	128417.00000
608033	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	67400.00000
608034	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	128417.00000
608035	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	67400.00000
608036	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	128417.00000
608037	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	67400.00000
608038	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	128417.00000
608039	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	67400.00000
608040	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	128417.00000
608041	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	67400.00000
608042	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	128417.00000
608043	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	67400.00000
608044	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	128417.00000
608045	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	67400.00000
608046	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	128417.00000
608047	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	67400.00000
608048	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	128417.00000
608049	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	67400.00000
608050	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	128417.00000
608051	DIA	0.20100	0.00000	UNIKWISSEN	10/28/1997	REP	REC080917	9/8/2017	6.00000	0.33000	0.41200	67400.00000
608052	DIA	0.20100	0.00000	UNIKWISSEN	10/28/							