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TRANSLATION OF DOCUMENT NO. NIK- 13 976.
OFFICE OF CHIEF OF COUNSEL FOR WAR CRIMES

H a r d m e t a l M a n u f a c t u r e

W i d i a

Operational Report

Business Year 1935/36.

To the Fried. Krupp A.G.

(page 2 of original)

C O N T E N T

		Page
A.	Rate of Exploitation and Changes in the Works Complement	1 - 2
B.	Production, by amount and by value	3
C.	Products, Deliveries	4 - 5
D.	Stores	6
E.	New Installations	7 - 8
F.	Progress	9 - 10
G.	Costs	11 - 13
H.	Plant Results	14
J.	Statistics	15 - 21

(page 3 of original)

A. Rate of Exploitation and Changes in the Works Complement.

When the Widia plant was moved from screw plant I at Seelzerstrasse to the assembly shop of screw plant II (Cash Register Construction), according to orders received, a monthly maximum capacity of 2500 kg of finished Widia metal, converted into Widia N-units, with triple shifts had been laid down as a basis. However, this capacity was surpassed as early as in May 1935 by the increase in incoming orders. In the course of the business year therefore the accepted maximum capacity per month was increased to approx. 3300 kg of Widia N-units by completion of the plant installations by virtue of application No. 783 dated 5 July 1935 (135 000,- RM).

The average monthly production during the year of report amounted to 3710 kg, converted into Widia N-units.

The average monthly production was: (in quantities)

3007 kg hard metal (incl. drill tips etc)
471 kg mixtures ready for pressing for England and Italy,
497 kg mixtures ready for pressing for Special manufacture .

In addition another 457 kg finished special material per month were produced. In order to be able to produce the mixture ready for pressing for the special production needed in this business year and having regard to the increased receipt of orders, apart from filling current Widia orders and the orders of mixtures ready for pressing for England and Italy, overtime and sunday work had to be put in to a considerable extent. In order to further be able to comply in special production with the delivery demands by the government which from February 1936 to the end of the year of report increased from 131 kg to 1831 kg per month, also in this case, in addition to the increase in employees from 250 to 379 men, a considerable amount of overtime and sunday work was necessary. Since a further increase in the special production is impossible due to lack of space, and since the premises at present housing special production have to be released again for the Widia main production, a new building is to be erected, in which special production is to be brought up to 4350 kg per month.

(page 4 of original)

A. Rate of exploitation and changes in the Works Complement. (Continued).

	on 30 Sept. 1934	1935	1936
Workers	179	250	379
Employees	18	33	41
Leading officials	2	5	7
	199	288	427

(page 5 of original)

B. Production.

Code figure	Quality	1933/34 kg	1934/35 kg	1935/36 kg	Comparison to the previous year plus or minus in %
701	N	3844,1	10994,5	13773,2	plus 25,3 %
702	H	2413,0	3269,3	5551,0	" 69,8 %
703	S	154,8	56,5	--	
704	G	17,6	160,4	253,6	" 58,1 %
705	X	2618,4	859,9	457,6	min. 46,8 %
706	E	100,3	233,2	1175,8	plus 404,2 %
707	N K	171,0	177,1	279,7	" 57,9 %
710	N P	296,9	444,1	653,2	" 47,1 %
715	X X	294,8	5993,2	12257,9	" 104,5 %
708	Drill tips	26,2	--	--	
712	" "	568,3	187,7	334,0	" 77,9 %
713	" "	250,8	163,9	92,2	min. 43,7 %
716	" "	968,3	1998,6	2427,5	plus 27,9 %
711	Waste II	475,1	481,0	5,3	min. 98,9 %
718	" or pre-sintering	--	53,3	13,0	" 75,6 %
717	B66 for balls	--	2528,6	1910,3	" 24,5 %
714	B32 material	--	--	30,3	
719	B V	--	24,1	7566,1	
720	B V II	--	--	4,0	
		17199,6	27525,4	46784,7	plus 70,0 %

(page 5 of original cont'd)

Furthermore intermediate products	are equivalent to finished Widia metal of		approx.
1933/34 5 465,4 kg	2 459,6		
1934/35 13 508,2 kg		5 322,5	
1935/36 28 270,0 kg			14 135,3
Total :	19 659,2	32 847,9	60 920,0 plus 35,5%
Production value according to price list	RM 1 494542,-	RM 2 310640,-	RM 4 763839,-

(page 6 of original)

C. Products and Deliveries.

The products of the Widia plant in the year of report are:

Widia N for the machining of cast iron, bronce, aluminium etc.
" H " " " " chilled castings, moulded castings and tempered steel
" G for wood working (plywood etc.)
" E " case-hardened parts
" NK " the fine-linishing of cast iron and the machining of electrode-carbons
" NP " the tipping of pickaxes.
" KX " machining of steel, cast-steel, rustless steel, manganese carbide steel etc.
" X " special cases of machining steel such as cutting keyways, punching etc.
Drill tips for the working ends of tools for deep boring
Leftovers II) for own use (Balls for grinding)
B 66)
Special material

The deliveries for the year of report amount in quantities to 47 217 kg.

These deliveries comprise the following:

Widia N,H,G,E,NK,	19 999,9 kg	- 42,4%	of the total deliveries
" X	441,8 "	- 0,9%	" "
" KX	11 947,1 "	- 25,2%	" "
" NP	593,2 "	- 1,3%	" "
Verdur	172,8 "	- 0,4%	" "
Diaweld B II	55,5 "	- 0,1%	" "
Drill tips etc.	2 858,4 "	- 6,1%	" "

TRANSLATION OF DOCUMENT NO. NIK- 13 976
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(page 6 of original cont'd)

Mixtures ready for pressing N,H,G,	4 160,6 kg	- 8,9%	of the total deliveries
Mixtures ready for pressing X	210,0 "	- 0,4%	" "
Mixtures ready for pressing XX	1 286,0 "	- 2,7%	" "
Special material	5 491,6 "	- 11,6%	" "
Total	47 216,9 kg	- 100,0%	

(page 7 of original)

C. Products and Deliveries (contd).

The deliveries of Widia metal and welding metal for mining tools amount in quantity to 11,6% of the total production.

Widia tools were supplied during the year of report:

56 556 complete tools, further were
42 309 tools sent in tipped by us with Widia.

Total : 98 865

Separate lists and graphs are on Page 15,18.

Manufacturing account % Manufacturing account 25, 26 and 27

Year	Delivery	Accounting value	Average value of all deliveries, tips, mixture, welding metals	Actual production costs	Average production value of all deliveries
	kg	Mk.	Mk/kg	MK	Mk/kg
1933/34	20 235,0	1926 951,-	95,14	1351 746,-	66,80
1934/35	30 627,0	2499 933,-	81,62	2373 117,-	77,48
1935/36	47 217,0	3995 042,-	84,61	2937 509,-	62,21

The total production of the Widia plant in Widia metals incl. finished mixtures, drill tips, welding materials and special materials has risen during the year of report as compared to the previous year by

16 590 kg - 54,2%.

(page 7 of original cont'd)

The average monthly delivery amounted in quantity to

3 935 kg of which were

2 749 kg	Widia tips etc.	
238 kg	Drill tips etc.	equivalent to
20 kg	Welding material	approx.3 710kg
471 kg	Mixture for England and Italy	Widia M-units
457 kg	Special material	

(page 8 of original)

D. Stores.

Title	Kind of Stock	30 Sept 1934 Rk.	30 Sept 1935 Rk.	30 Sept 1936 Rk.
I	Raw Materials :			
a	Ore and chemicals	69 807	154 533	234 615
b	Scrap	54 298	69 808	65 770
c	Fuels	--	--	--
II	Goods in Stock :			
a	Working materials semi-finished and finished for manufacture	12 846	20 568	22 426
b	Tools and fixtures and their materials	19 139	--	--
c	Costing and working materials	37 671	85 086	159 888
III	Semi-finished materials :			
a	Ingots and blooms	--	--	--
b	Prerolled ingots and blooms	--	--	--
IV	Semi-finished articles :			
a	For orders	9 206	7 699	10 699
b	For stock	254 856	611 399	884 733
V	Finished articles :			
a	For orders	27 151	30 058	110 290
b	For stock	12 709	18 559	10 155
	Inventory II	19 011	12 674	6 337
	Total stock	516 694	1 001 384	1 504 913

(page 8 of original cont'd)

The increase in stocks was partly necessitated by the newly started production of special material and partly by the difficulties in obtaining raw-materials.

(page 9 of original)

E. New Installations and Results obtained :

For new constructions were authorised:

1933/34 Mk.	1934/35 Mk.	1935/36 Mk.	Remarks
635 000,-	271 510,-	210 200,-	Furthermore on 18 May 1936 for new construction of a special manufacture in Essen and Bremen RM 4 500 000,-

During the year of report there were completed :

Decision No.	Date	Amount Mk.	Subject
710	18.4.35	3 200,-	1 hand milling machine
711	18.4.35	4 800,-	1 lathe
754	27.5.35	50 800,-	1 vertical milling machine 1 circular grinding machine
783	5.7.35	135 000,-	12 rotary-tube furnaces 12 grinding stands 3 batteries of finish-sintering furnaces 6 hydrogen installations enlargement of the hydrogen building
905	4.11.35	4 200,-	1 demonstration car
935	6.11.35	78 000,-	3 quick sinter presses 6 lathes 2 sets of transformers 1 dust vacuum installation 1 carburation furnace 1 rotary pump
57	13.2.36	4 500,-	1 circular grinding machine 2 lapping machines
191	11.5.36	120 000,-	2 circular grinding machine 7 grinding machines

For the special material and in consideration of the further large orders the pressing and sintering installation, incl. grinding shop, had to be enlarged. The necessary presses, transformers, dust suction installations, grinding machines and other articles of equipment were found very useful.

(page 10 of original)

Especially the electro-hydraulic hot presses bought to replace the hand presses are working to our fullest satisfaction. As a result of this new installation the former pressure-sintering installation for drawing had to be moved to another room.

The beginning of operations of the enlargement of the local Widia plant authorised with decision No.199 dated 18 May 1936 (4 500 000.--RM) and the erection of a new plant in Bremen will take place probably at beginning 1937.

The production of the complicated Widia tools which we have hitherto ordered from the other mechanical shops had to be done in our own plant, partly because of the overload on these shops and partly in order to obtain short delivery dates. To this end at first 1 vertical milling machine and 1 circular grinding machine were purchased and taken into use. These 2 machines, which only form a small part of our needs, have proved satisfactory for the refining of Widia tools. Since the large Widia Consumers increasingly go over to buying finished Widia tools and since we are so busy in our tool shop that instead of the normal delivery time of 8 - 12 days for Widia tips, we need 3 - 5 weeks for the tools, it is absolutely necessary that our tool shop also is enlarged.

(page 11 of original)

F. Progress in the Hard Metal Production.

1. Normal manufacture:

The production of hard metal tips this year also experienced a strong increase. Dispatch has increased, compared to the previous year, by approx.50 %.

Remarkable is the rise in XX production which is shown in the graph on page 20. The share of the Widia XX compared to the total deliveries of hard metal products has risen from 19,3 % to 25,2 % (compare diagram on page 18). The quality of this Widia make was further increased; above all the qualitative uniformity was improved. There were few complaints about quality; the newly added buyers DEW and Bochler have hardly made any complaints.

The percentage in spoils could be reduced from an average of 1,4 % of the previous business year to around 1 % of Widia XX in business year.

For the production of drawing tools as well as for the deep drilling industry special qualities were developed which proved satisfactory so that we could gain a firm footing in this field.

(page 11 of original cont'd)

For the storing of the heavily increasing quantities of Tungsten powder, which tends towards oxydation on account of its fineness, a special container was made in which the powder is being kept in a carbonic acid atmosphere. This method of storing tungsten powder has proved satisfactory.

2. Special Production.

Considerable changes were made above all in special manufacture, which in the beginning was very difficult. The expenditure on this item could be reduced by constant improvement in the manufacturing methods to about one half as against costs at the beginning of the business year. The deliveries have risen from around 131 kg in February to around 1831 kg in September.

(page 12 of original)

Apart from the increasing and cheapening of special manufacture, tests promising success have been started to enlarge the field of usefulness of these special articles.

3. Tool Production.

The production of listed tools for the metal processing industry as well as for mining was further increased during the last business year.

Special mention deserves the production of very large number of complicated Widia tools, almost exclusively such tools, the manufacture of which was partly refused as impossible by specialist firms. From the multitude of these tools steel drills from pure Widia with tolerances of plus 0,01 to minus 0,008 mm for high precision drilling purposes as well as caliber bolts from pure Widia with similar tolerances may be cited as instances. Further for foreign and own undertakings special tools for the drilling of holes up to 150 mm Ø in armor plate could be made. For own use spiral drills and scrapers for special purposes were made in greater numbers. From the more recent production Widia containing gun boring tools and caliper gauges of the finest tolerances, as well as slides for grinding machines with up to 6 Widia tips and rough-cutting tools with 30 separate points. Remarkable is that almost all the tools listed used to be finish-ground in outside shops while today owing to overwork in the other F.K. shops they are completed for the greater part in our own shops, in which connection it must be mentioned that all these jobs had to be performed on machine tools, partly unsuited to the purpose.

E N D

CERTIFICATE OF TRANSLATION

I, G. Goodman, hereby certify that I am thoroughly conversant with the English and German languages and that the above is a true and correct translation of document No. NIK- 13 976.

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34789

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