

BK IX C

Judge Anderson

Ex. 148.
24 Feb.

TRANSLATION OF DOCUMENT No. NIK - 13 974
OFFICE OF CHIEF OF COUNSEL FOR WAR CRIMES

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Hard Metal Works

Report of Operations

Business Year 1937/38

(Handwritten signature:)
Ammann

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A. Plant utilization.

After a continuous increase in employment ever since 1933, which was constantly above the normal production capacity of the hard metal works, rather strong variations, varying with the individual plants, in plant utilization were noted in the year covered by the report. The total production of "idia - metal, of mixtures for the special production, etc. rose, it is true, from 187 595,0 kg in the preceding year to 407 912,6 kg in the year covered by the report, that is, an increase of 117%. The installations for the production of "idia - metal and for the manufacture of tools continued to operate, even if with variations, throughout above capacity, but due to the smaller amount of orders arriving the over-employment of both these plants at the beginning of the year covered by the report, receded during the second quarter, and due to lack of sufficient orders for special products following immediately it was even necessary to temporarily cut down the special production.

Further substantial orders for special products towards the end of the year covered by the report will guarantee a full utilization of the special production facilities in the new business year and will, in addition, demand a considerable extension of the installations.

The amount of orders received for the normal production and for tools in the last months of the year covered by the report gives every reason to believe that the installations will also in the future be used above the limit of their capacity.

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A - 1. Normal hard metal production.
(Hard metal plant 1)

a) The installations for the production of "idia-metal had an output capacity of 5 000 kg per month at the beginning of the year covered by the report, which could be increased in the course of the year by improvement in the plant to 5 500 kg per month. Production capacity and plant utilization can be seen from graphic representation No. 1.

(Follows a graphic representation of production
and plant utilization)

After transferring the office rooms to the new office building to be completed at the beginning of 1939 the production capacity of the normal hard metal production will be increased to 12 000 kg per month, so that all demands can be fulfilled and the short delivery periods necessary in the hard metal trade can be met.

b) The production capacity of the installations for the manufacture of mixtures for the special production could, in the year under report, be increased by plant improvements from 20 000 to 25 000 kg

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per month. Production capacity and plant utilization are shown by chart 2.

(Follows a graphic representation of production capacity and plant utilization).

In creased production of both plants was achieved through plant organization measures, through over-time work and work on Sundays.

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A - 2. Special production Essen.
(Hard metal plant)

The intended completion of the new building W 2 could not be achieved in the year under report because of supply difficulties; it can be expected in 1939.

Utilization of the installations set up in inadequate premises of the main factory was adapted, to the orders on hand in the year under report. Production capacity and plant utilization are shown on chart 3.

(Follows a graphic representation of production capacity and plant utilization).

A - 3. Special Production Bremen.
(Hard Metal Plant 3)

The special production plant Bremen which was put into operation on 4 August 1937 had, at the beginning of the year under report, almost reached its productive capacity of 22 000 kg per month. Production averaged 12 982 kg. per month on 59% of capacity. Plant utilization and production capacity are shown on chart 4.

(Follows a graphic representation of production capacity and plant utilization).

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A - 4. Tool plant (Hard metal-tool plant)

Through plant improvements and the installations of new machines production capacity of the installations increased from 15 000 to 17 000 tools per month. Production capacity and plant utilization can be seen from chart 5.

(Follows a graphic representation of production capacity and plant utilization).

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Since much more production was demanded than the plant capacity could ordinarily allow for, over-time and work on Sundays had to be done. After transferring the offices room will be made for enlarging the installations, especially in order to attain the shorter delivery terms demanded.

B. Fluctuation of personnel.

Hard Metal Plants Group	30 Sep 1935	30 Sep 1937	30 Sep 1938
Male workers	489	1 184	908
Female Workers	-	178	653
Employees	45	67	96
executives employees	8	8	9
Total	542	1 437	1 666

The 1 666 employees and workers are distributed as follows:

B - 1. Normal hard metal production 1443
B - 2. Special production Essen 150
B - 3. Special production Bremen 930
B - 4. Tool plant 143

Details of the fluctuation of personnel can be seen from enclosure 1, page 23 and enclosure 2, page 24.

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C. Production.

C - 1. Normal hard metal production.

I. The production of finished hard metal sheets amounted to:

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Wolfram carbide alloy	1936/37	1937/38	Increase in percentage
with Titanium	24 133,8	29 964,0	24
without Titanium	32 959,4	38,036,1	15
T o t a l	57 093,2	68 000,1	19
No. of sheets			
with Titanium	1 197 424	1 732 485	45
without Titanium	1 807 884	2 188 906	21
T o t a l	3 005 308	3 921 391	30
Average weight of sheets	19 grams	17,4 grams	

II. Production of preliminary material amounted to:

	1936/37	1937/38	Increase in percentages
Mixture for the special production	104 242,8	253 278,4	143
Mixture for branches abroad	5 130,0	9 439,0	84
T o t a l	109 372,8	262 717,4	140

III. Production of welding alloys and drilling pieces for the deep drilling industry amounted to 2 949,6 kg in the preceding year and to 7 785,9 kg in the year covered by the report, that is, an increase of 164%.

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IV. The many fold demands made by fits and starts on the normal hard metal production made it seem desirable to increase the stocks of intermediate products. These were increased from 14 032,1 kg in the preceding year to 69 302.4 kg in the year covered by the report, that is, an increase of 394 %.

Details can be seen from enclosures 3, page 25 and 4, page 26.

C - 2. Special Production Essen.

Production fell from 63 616.7 kg in the preceding year to 48 613,8 kg in the year covered by the report, a decrease of 23.6% (See also enclosure 5, page 27). The reasons for this decrease in production are described in Section A, page 3.

C - 3. Special Production Bremen.

Production amounted to 155 - 777 kg. A comparison with the preceding year is not possible since the plant was first put into operation towards the end of the preceding year. (See also enclosure 5, page 27).

C - 4. Tool Plant.

In the year covered by the report 206 925 tools were manufactured, as against 164 523 in the preceding year, that is an increase of 25.8%. (See also enclosure 5, page 27).

L. Products. Deliveries.

L - 1. Normal hard metal production.

Produced and delivered were: I. 15 Hard metal alloys for various uses, their distribution according to main sales groups, qualities and Krupp plants can be seen from enclosures 6, page 28; 7 page 29; 8 page 30; 9 page 31 and 10, page 34.

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The total domestic sales are distributed approx. as follows:

	<u>1936/37</u>	<u>1937/38</u>
	<u>%</u>	<u>%</u>
General Machine Construction	50	58
Munitions Works	20	10
Mining	13	11
Tool plants	10	11
Drawing works	4	6
Miscellaneous	3	4
	<u>100</u>	<u>100</u>

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IIa) Preliminary material (mixture ready for pressing) for the special productions in Essen and Bremen; b) Preliminary material (mixture ready for pressing) for the foreign branches in England and Italy (enclosure 11, page 35).

III.a) Welding alloys and drilling pieces for deep drilling purposes.

b) Grinding balls for own needs.

D - 2. Special production Essen.

The usual products of the special fabrication underwent a change in as much as instead of the quality B V I, manufactured exclusively until now, a second quality B V II had to be delivered. B V II has a specific weight 10% higher and the products of quality BVII are different in form and measurements (enclosure 12, page 36).

D - 3. Special fabrication Bremen.

The usual special products exclusively were made in serial production and delivered. (enclosure 12, page 36).

D - 4. Tool plant.

The tool plant delivered 142 368 finished tools, 7 951 full-Widia tools and tool pieces as well as 56 606 tools sent in by buyers and fitted with Widia. For these purposes 4 373,7 kg hard metal were obtained from the hard metal plant, that is, 11% of the domestic turnover while all German tool plants together only bought about 9%. Of the finished tools 66 693 or 47% were mining tools. The Krupp plants received 20 405 finished tools or 14% (Enclosure 13, page 37).

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E. S t o c k s .

E - 1. Normal hard metal production.

	30 Sep 1936 RM	30 Sep 1937 RM	30 Sep 1938 RM
Stocks	1 461.079	2 098.796	3 675.601

As for the stocks, the raw materials and semi-finished products above all showed an increase. The increase of raw material supplies was carefully continued in order to ensure continued production for a certain length of time even in case of a possible temporary interruptions of raw material deliveries. The raw material stocks are, however, not to exceed the amounts

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reached at present except in case the supplies must be increased due to extra demands of the special production.

The stocks of semi-finished products were mainly increased through stocks of chemical not from carbide and mixtures ready to be pressed from the special production.
(Enclosure 14, page 38).

E - 2. Special production Essen.

	30 Sep 1936 RM	30 Sep 1937 RM	30 Sep 1938 RM
Stocks	--	543 885	66 737

The decrease in total stocks has its reason in the temporary decline in production. Furthermore in the year covered by the report the supplies of deficit-products (Unkosten-waren) (Graphite-moulds, coal puncheons, etc) were carried over into the current costs. (Enclosure 15, page 39).

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E - 3. Special Manufacture Bremen

	30.9.1936 kg	30.9.1937 kg	30.9. 1938 kg
Stocks	---	457 089	533 796

(Inclosure 16, page 40).

E - 4. Tool plant

	30.9.1936 RM	30.9.1937 RM	30.9.1938 RM
Stocks	43 834	44 800	70 097

(Inclosure 17, page 41)

F. New installations and progress.

F - 1. Normal Hard Metal Manufacture.

For new installations were authorised:

1935/36 RM	1936/37 RM	1937/38 RM
1 509 000	3 462 300	---

The increase of total production by 117% was made possible in the given space by improvement of manufacturing methods, by overtime and work on Sundays.

The production of the milling installation was increased, by milling the preparatory material for the special manufacture completely in milling cylinders containing 250 kg instead of 5 kg as up to now and milling time was shortened. Further it was possible to change over the milling with water to dry milling. In this way it was possible to manage without completing the drying installation

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and to save labor. The processing costs of the preparatory material for the special manufacture decreased among other reasons because

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of those measures from RM 2,94 to RM 1,62 per kg, which-with the processed quantity of 253,5 tons resulted in a saving of around RM 339 000 in the year under report.

For the carburation of the mixture for the special manufacture the furnace units were further enlarged and thereby a lowering of carburation costs as well as a saving in hydrogen was attained. Concerning the manufacturing procedure of the mixture mention must be made of the new use of swing mills for the milling of sugar coal and for the mixing of Wolfram with monoxide. In the press room the production per press was increased, instead of many single plates of little thickness, plates of such measurements are being made now, from which the plates needed for the order in question can be made by separation with separating discs. This procedure brought about a great relief for the pressing room, an acceleration of the working process and a lowering of pressing costs. The increase of scrap material which can be used again, by this process and the rise in costs for the increased use of previously sintered material are equalised by the savings in the pressing room and by the advantage to be able to produce normal plates in series faster and cheaper more than made up for. In the completion of sintering it was possible to get a larger amount per time unit by enlarging the furnace. Those altered furnaces have a gasproof casing, whereby a qualitative^{improvement} of the material to be sintered as well as a prolongation of

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the lifespan of the coalbarrels was reached. Attempts to sinter hard metals in vacuum furnaces showed favorable results. In that way it was possible to increase the production of Widia XX. Vacuum sintering of Widia H brought about an increase in the cutting capacity as well as a great increase in the ^ewearing out resistance.

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The quality Widia X 8, brought out last year, has fulfilled expectations. In the year under report the makes Widia S 58 and Widia S 246 as new qualities for the steel processing were put on the market.

Widia S 58 has a smaller titanium content than Widia XX and Widia X 8 and as compared to those shows a considerable increase in toughness., which make it suitable for taking larger ^{even} spint cross-sections/ in the case of great cutting interruptions and for using low cutting speeds.

Widia S 246 was developed for very fine boring and very fine planing; it contains about 24% titanium carbide. The great success of Widia S 246 is to be attributed less to the choice of alloy than to the working out of special sintering conditions. The share of the new qualities Widia X 8, Widia S 58 and Widia S 246 on the total turnover of Widia metals containing titanium in September of the year under report amounted already to approx. 28%. The purpose of the development of the new qualities was to improve and enlarge the possibilities of use of Widia. That those expectation were fulfilled, is shown among other things by the following:

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In the munitions factories chiefly hard metal containing titanium is in use; although the share of munition factories in the inland turnover of 20% last year receded to 10% in the year under report, the share of the qualities containing titanium in the total sale rose from 42% to 45%.

Newly started was the manufacture of cast hard metals, which, however, up to now has only been delivered in the shape of welding sticks. This material ^{is} used for the working ends of fishtail- and punch chisels for deep drilling and has had a good start. The sale of widia drilling parts too could be more than doubled. It is planned, by sale of cast drilling pieces to further affirm and strengthen our position in the field of deep drilling.

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F - 2. Special manufacture Essen

Granted for new installations:

1935/36 RM	1936/37 RM	1937/38 RM
202 500	270 000	---

The new building W 2 for the special manufacture authorized by decision No. 495 has been completed sufficiently to start operations next year. The further increase in the special manufacture demanded by the government makes an increase in the size of the new construction to about twice its size essential. In the special manufacture chief attention was paid to a decisive lowering of cost in order to make up for the burden arising out of

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sometimes insufficient employment and to make ensure of head start against the competition for future orders.

The production per Sintering press was increased by more than double as compared to last year. This progress allows a decrease of the investment capital for the new installations #2 and #upper-
tal and at the same time brings about² reduction of space requirements.

The lowering of the graphite costs per kg BV material is shown in inclosure 18 page 42. After consumption of the present stocks the graphite share will drop from the present RM 6,47 per kg to about RM 3,50 per kg and thereby amount to only about a quarter of the total amount which was required at the beginning of the special manufacture in 1936.

The reduction of costs for the mixture produced in the hard metal plant 1 has also led to a reduction of the costs for the final product. The drop of the alteration costs can also be seen from inclosure 18 page . . .

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F - 3. Special manufacture Bremen.

For new installations there were authorised:

1935/36 RM	1936/37 RM	1937/38 RM
---	3 000 000	---

The completion of the manufacturing plant could not take place in the year under report either; so at the end of the year under report there were 12 lathes still missing for conveyor belt 4.

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What has been said about the progress in the special manufacture

Essen also applies to the special manufacture Bremen.

F - 4. Tool plant.

Grants for new installations:

1935/36 RM	1936/37 RM	1937/38 RM
11 500	593 800	9 000

Investments in the year under report:

By decision No.	Date	Amount RM	Article	
191	11.5.1936	120 000	machines	total 14 pieces
547	6.2.1937	90 000	"	
818	30.6.1937	500 000	"	

These machine deliveries are only a part of the tool machines authorized by decision 545 and 818, so that the increase aimed at in production capacity could be reached only insufficiently.

Above all lack of space did not permit faultless planning.

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After moving the offices, an additional room will be made available for tool production, so that difficulties will be put eliminated to a great extent. It will then also be possible to attain the necessary shortening of delivery dates. In order to fulfil the demands of the customers, around 10% overtime and Sunday work, in reference to the normal number of hours, had to be done.

By enlargements and renovations of the machine park, it was

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possible in the year under report to do jobs, which in earlier times had to be done in other plants of the Gussstahlfabrik.

The difficulties in ^{obtaining} shaft material could also be overcome in the year under report, so that no delay in the delivery dates was necessary for that reason.

F - 5. Special manufacture Wuppertal.

The installation will be completed in the current business year.

G . Prime Cost.

G - 1. Normal hard metal production.

Prime Cost per	1935/36 RM	1936/37 RM	1937/38 RM
kg Widia metal including raw materials	56,04	48,76	54,21
kg widia metal without raw materials	42,58	34,95	37,66

The increase of the average prime cost is chiefly due to the increase in raw-material prices, the burdening by GU shares for the first time and the price increase of hydrogen from RM 0,27 to RM 0,48. Otherwise the alteration costs are reduced everywhere as is shown in enclosure 19, page 43.

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In the last business report it was stated that in future the prime cost for each step of production and every production group have to be determined in order to be able to compare them in the calculation of costs. In the year under report this work was started, however, it did not yet lead to a sufficient result, because the methods

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existing for that sort of thing have to be improved. In the new business year the detailed break-down of prime cost will be done.

G - 2. Special manufacture Essen.

	1935/36 RM	1936/37 RM	1937/38 RM
Total costs per kg	---	41,74	53,96

The total cost of RM 53,96 include RM 8.88 for services which the plant has to carry over to the cost in the case of erection of new installations, and also for pre-charge for expense commodities, which according to regulations also have to be taken over into the costs. The average amount of RM 41,74 in the previous year has to be compared to an amount of RM 45,08. If this average amount is higher than last years this is due to the fact, that during the year under report a second product had to be made with a share of about 20% of the total production which caused higher costs and has also a higher accounting value. This means that the actual costs of production as a result of the manufacturing improvements listed under F-2, page 14 have dropped, although the plant as a result of a temporary drop in employment/^{had}to bear higher general costs per kg.

(Inclosure 20 page 44) (page 18 of original)

G - 3. Special manufacture Bremen .

	1935/36 RM	1936/37 RM	1937/38 RM
Total costs per kg	---	91,16	48,41

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A comparison of the prime costs of last year with those of the year under report is not possible because the prime costs of last year include the high costs for the starting of operations in the installations taken into use only in August 1937. (Inclosure 21, page 45).

G - 4. Tool plant.

	1935/36 RM	1936/37 RM	1937/38 RM
Total costs per RM 100,-- accounting value.	88,77	81,44	96,94

The increase of prime costs by RM 15,50 per RM 100,-- accounting value is due to the following:

1. The share for auxiliary materials for the upkeep of the plant has risen from RM 9,42 to RM 19,90 by pre-charges for grinding discs and other auxiliaries.
2. The wage share rose from RM 35,80 to RM 39,03 as a result of many hours overtime and work on Sundays. To this must be added that by the employment of unskilled workers additional wage costs for the training period accumulated.
3. For the first time the GU Shares to the amount of RM 4,51 per RM 100,-- accounting value were charged. (Inclosure 22 page 46)

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H. Plant results.

H - 1. Normal hard-metal production .

Result

	1935/36 RM	1936/37 RM	1937/38 RM
	1 015 015	340 275	425 532

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The negative plant result is due to the following:

In September according to regulations

1. RM 179 946 in pre-charges for means for upkeep of the plant were taken over into the production costs and
2. RM 985 034 were debited as a result of reduction of prices calculated for the stocks. Of the losses according to the book to the amount of RM 985 034 at the stock values, however, immediately RM 322 978 were charged to the normal hardmetal production of the special manufacture in accordance with their share in the stocks.

H - 2. Special manufacture Essen.

	1935/36 RM	1936/37 RM	1937/38 RM
Result	---	1 634 855	221 442

The lowering of the plant result is explained chiefly by the lowering of the accounting value from RM 67,50 per kg to RM 48,50 per kg as of 1 December 1937 as well as from a drop production.

H - 3. Special manufacture Bremen.

	1935/36 RM	1936/37 RM	1937/38 RM
Result	---	330 600	635 686

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H - 4. Tool plant.

	1935/36 RM	1936/37 RM	1937/38 RM
Result	42 518	75 246	49 130

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The decrease in plants result is due on prechanges for grinding discs and other aids for the plant upkeep to the amount of RM 83 868.

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A p p e n d i x .

The branch factories in England and Italy.

The work of the branch plants had also risen during the year under report.

1. Coventry/England.

The expansion of the plant planned for the year under report, for a monthly production capacity of 500 to 600 kg has been completed with the exeption of the new hydrogen production installation which, however, will start operation before the end of the year.

The production of 2 652,752 kg in the business year 1935/36 and of 3 020,853 kg last year rose to 3 386,758 kg in the year under report. The average weight for a plate during the year under report amounted to 11,7 g as against 10,9 g in the previous year.

The total production of around 3 386 kg is equivalant to a total profit of £ 79 891,893.

The staff consisted at the end of the year under report of 23 laborers and 7 employees.

2. Castellamonte/Italy.

The montly production capacity of the installation in the year under report amounted to 300 kg. By enlargement of the finishing ^{sintering} furnaces, which has already been started, the production capacity will be increased to 500 kg per month.

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The production of 2 535,227 kg in the previous year rose to 2 694,05 kg in the year under report. The average weight of a plate was 20,9 g in the year under report as against 23,8g in the previous year.

The total production of around 2 694 kg is equivalent to a profit of total Lire 4 244 861,8.

At the end of the business year 14 workers and 4 employees were employed.

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New Branch Factories. -----

In the new business year new installations will be built in the countries of Poland, Hungary and France. The completion of the Polish installation which is to produce 100 kg per month has been started. The Hungarian plant with a production capacity of 100 kg per month and the French installation with a production capacity of 300 to 400 kg per month are ^{to} start operations in the next year.

is certified true copy.

CERTIFICATE OF TRANSLATION

11 February 1948

I, Gerta Kannova, No. 20 151, 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 - 13 974.

Gerta Kannova,
No. 20 151.

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"END"