



सत्यमेव जयते

GOVERNMENT OF INDIA
TARIFF COMMISSION

REPORT ON
The Continuance of Protection
to the Grinding Wheels Industry



BOMBAY 1957

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SHRI R. S. BHATT.....	<i>Member</i>

PERSONNEL OF THE PANEL WHICH HEARD THE CASE

SHRI K. R. DAMLE
SHRI C. RAMASUBBAN
SHRI J. N. DUTTA

SECRETARY

DR. RAMA VARMA

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GOVERNMENT OF INDIA
MINISTRY OF COMMERCE AND INDUSTRY

RESOLUTION

TARIFFS

New Delhi, the 30th July, 1957.

No. 16(1)-TP/57.—The Tariff Commission has submitted its report on the continuance of protection to the Grinding Wheels Industry on the basis of an inquiry undertaken by it under Sections 11(e) and 13 of the Tariff Commission Act, 1951. Its recommendations are as follows :—

- (1) The present protective duty of 25 per cent *ad valorem* should be continued and the period of protection should be extended upto 31st December, 1959.
- (2) Government should continue to permit the manufacturers of grinding wheels to import synthetic abrasive grains free of duty in sufficient quantities to meet their requirements.
- (3) The standard specifications for grinding wheels should be prescribed without delay.
- (4) Carborundum Universal Ltd. should try to develop the necessary bonding material from indigenous sources so that at a future date the Company may not have to depend on foreign sources for this raw material.
- (5) The manufacturers of grinding wheels should endeavour to improve the quality of their products.
- (6) Grindwell Abrasives Limited, and Carborundum Universal limited, should introduce a proper system of costing by the end of 1957. By the time the Commission takes up their case for re-examination in 1959 the industry should be in a position to furnish the Commission with accurate cost data according to broad categories.

2. Government accept recommendation (1) and the necessary legislation will be undertaken in due course.

3. As regards recommendation (2), Government agree to the continuance of the concession of duty free import of synthetic abrasive grains in favour of all units engaged in the industry. Government have also taken note of the recommendation for permitting import of sufficient quantities of synthetic abrasive grains to meet the requirements of the manufacturers of grinding wheels.

4. Government accept recommendation (3) and steps will be taken to implement it as far as possible.

5. The attention of the Industry and the units concerned is invited to recommendations (4), (5) and (6).

ORDER

ORDERED that a copy of the Resolution be communicated to all concerned and that it be published in the *Gazette of India*.

B. B. SAKSENA

Joint Secretary to the Government of India.

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REPORT ON THE CONTINUANCE OF PROTECTION TO THE GRINDING WHEELS INDUSTRY

1.1. The claim of the grinding wheels industry to protection was first examined by the Tariff Board in March 1946 on a reference by the Government of India in the Department of Commerce. The Board then recommended that a protective duty of 80 per cent. *ad valorem* should be levied on all grinding wheels and segments for a period of three years, that licences for imports of grinding wheels, segments, oil stones, sharpening stones etc. should not be granted for the remaining period of 1946 and that all Government and Railway orders for grinding wheels should be placed with the Indian manufacturers up to the limit of their productive capacity. Government, however, thought that the industry was not likely to survive even with as high an import duty as 80 per cent. *ad valorem* and, therefore, prohibited throughout the year 1947-48 all imports of grinding wheels except the categories which could not be produced in the country. A duty of 50 per cent. *ad valorem* was imposed on special categories which could not be produced in the country and it was decided that the same duty should be imposed on the varieties manufactured in India when the import restrictions on grinding wheels were lifted.

1.2. The restrictions on imports of grinding wheels continued until December 1948. Subsequently, when imports were permitted, Government decided to impose a duty of 80 per cent. *ad valorem* on all varieties of grinding wheels with effect from 4th December 1948. This duty was to remain in force up to 31st December, 1950.

1.3. The second inquiry into the working of this industry was made in 1949 when the Tariff Board recommended an increase in the protective duty from 80 per cent. *ad valorem* to 100 per cent. *ad valorem*. The Government of India accepted the recommendation and the period of protection was extended up to 31st December, 1951. By the Finance Act of 1951, a surcharge of 5 per cent. was imposed on the duty raising the total levy to 105 per cent. *ad valorem*.

1.4. The third inquiry into this industry was made in 1951 and the Tariff Board recommended continuance of protection for a further period of three years from 1st January, 1952 but with a reduced duty of 47½ per cent. *ad valorem*, excluding surcharge, or 50 per cent. *ad valorem* including surcharge. The Board also recommended that

(1) grinding wheels having—

(a) more than 21" diameter, or

(b) less than ⅜" or more than 7½" thickness, or

(c) more than 12½" bore;

- (2) diamond impregnated wheels;
- (3) thread grinding wheels; and

(4) natural grinding stones of any shape or size should be excluded from the scheme of protection. Government accepted the recommendation of the Board for continuance of protection to the industry but reduced the rate of protective duty to only 50 per cent. *ad valorem*, exclusive of surcharge instead of 47½% *ad valorem* excluding surcharge as recommended by the Board. Government also agreed to exclude the categories of grinding wheels recommended by the Board from the scheme of protection except thread grinding wheels which were kept in the scheme of protection after further consultations with the Board.

1.5. The fourth inquiry into this industry was held in 1954 when the Commission recommended that—

- (1) grinding wheels having—
 - (a) more than 24" diameter, or
 - (b) less than 1/32" or more than 9" in thickness; and
- (2) diamond impregnated wheels;

should be excluded from the scheme of protection. The Commission also recommended that the protective duty should be reduced from 50 per cent. *ad valorem*, exclusive of surcharge, to 25 per cent. *ad valorem* inclusive of surcharge and that the period of protection should continue up to 31st December, 1957. These recommendations were accepted by Government.

1.6. Throughout the period of protection, the industry has been given the further benefit of import of synthetic abrasive grains free of duty.

1.7. The present inquiry has been undertaken under section 11(e) read with section 13 of the Tariff Commission Act whereby the Commission is empowered to investigate into the working of any protected industry and to make recommendations regarding action considered suitable in regard to the working of it.

2.1. Questionnaires were issued to the known producers of grinding wheels as well as the importers and consumers. A list of those to whom questionnaires were issued is given in Appendix I. The Chief Industrial Adviser, Ministry of Heavy Industries, was requested to forward a memorandum on the progress made by the industry since the Commission's last inquiry and its present position. The Director-General of Supplies and Disposals was addressed for particulars relating to purchases of grinding wheels by Government. The Collectors of Customs at the Principal ports and the Trade Representatives of the Government of India in the U. K. and West Germany were requested to supply information relating to the latest c.i.f. or f.o.b. prices of selected types and sizes of grinding wheels. The State Governments of Bombay, Madras and West Bengal were

requested to supply factual information about the progress and the present position of the industry in their respective States. The Indian Standards Institution was requested to state what progress had been made in establishing standards for grinding wheels. The Government of the Punjab was addressed to ascertain the progress made in the investigation for the manufacture of synthetic abrasive grains in that State.

2.2. The Chairman and other Members of the Panel visited the factories of Carborundum Universal Ltd., Madras, and Grindwell Abrasives Ltd., Uran, Bombay, on 22nd March, 1957 and 11th April, 1957, respectively. Shri S. K. Basu, Cost Accounts Officer, visited these factories in March, 1957 and examined the costs of production of grinding wheels manufactured by them.

2.3. A public inquiry was held in Bombay on 16th April, 1957. A list of persons who attended the public inquiry is given in Appendix II.

3.1. We set out below the recommendations made by the Commission in its last Report (1955) on matters other than tariffs and **3. Implementation of the recommendations made by the Commission in its last Report (1955) on matters other than tariffs.** indicate the extent to which they were implemented.

3.2. *Recommendation (1):*

“The concession of duty-free imports of synthetic abrasive grains should be continued during the period of protection.”

This recommendation was accepted by Government.

3.3. *Recommendation (2):*

“The Indian Standards Institution should be requested to expedite the formulation of standard specifications for grinding wheels.”

The Indian Standards Institution has informed us that the marking system for grinding wheels (I.S.: 551—1954) has been published. Standard for valve grinding paste (I. S.: 1004—1956) is under print. The draft standards in respect of abrasive specialities and recommendation for selection of grinding wheels are under circulation. It has not made much progress in regard to the standard shapes and sizes of grinding wheels and segments.

3.4. *Recommendation (3):*

“Grindwell Abrasives Ltd., should bring down their cost of production of grinding wheels, concentrate their efforts on the production of the most economical range of products and provide an improved after-sales service to consumers.”

The Company has taken steps to modernise the plant and machinery. It has not, however, found it possible to bring down its cost of production. This question has been discussed further in

paragraph 14. In regard to the Commission's recommendation that the firm should concentrate its efforts on the production of the most economical range of products, Grindwell Abrasives Ltd. has observed that it was not possible for it to implement the recommendation as it had to execute orders placed by its regular customers irrespective of whether they were economical or not. The Company has taken steps to improve the quality of its after-sales service to its customers. It has increased its sales service staff by 400 per cent. It has also employed a qualified Production, Locomotive and Plant Engineer and the after-sales service is now under his direction and guidance. A qualified and experienced Metallurgist who has been appointed to attend to after-sales service is now under training in the factory of the Company's German Associates. It also issues bulletins to customers giving latest technical information on grinding and grinding wheels.

3.5. The policy of placing all Government orders with the domestic industry for the varieties of grinding wheels and segments which can be produced locally is being continued.

4.1. At present (i) grinding wheels—

4. Scope of the inquiry. (a) of any thickness or bore but more than 24" in diameter, or

(b) of any diameter or bore but more than 9" or less than 1/32" in thickness; and

(ii) diamond impregnated wheels;

are excluded from the scheme of protection. The views of producers of grinding wheels in the country were invited regarding the scope of the present inquiry. Carborundum Universal Ltd. suggested that the scope of the present inquiry should be enlarged to cover the entire bonded abrasive industry instead of confining it only to grinding wheels and segments. Grindwell Abrasives Ltd. informed the Commission that the Company was in a position to manufacture wheels up to 36" in diameter and, therefore, requested that the scheme of protection should be extended to all types and sizes of grinding wheels except wheels having more than 36" in diameter and less than 1/32" or more than 9" in thickness and diamond impregnated wheels. Other producers did not make any suggestion in this behalf.

4.2. The Commission considered the requests of the two producers and came to the conclusion that the scope of the scheme of protection should not be extended beyond what was considered reasonable as a result of the last Tariff Commission inquiry. It was found that in 1956 out of the total sale of grinding wheels manufactured by Grindwell Abrasives Ltd. valued at Rs. 59,80,979, sales of wheels of sizes exceeding 24" diameter accounted for a value of Rs. 1,00,076 only or 1.67 per cent. of the total. Similarly, out of 3,61,536 pieces of grinding wheels sold by the Company only 242 pieces or 0.067 per cent. were of sizes exceeding 24" in diameter. The extension in the scope of the inquiry, therefore, would cover a comparatively insignificant proportion of production of the Company and a still smaller percentage of the total production in the country. Other producers have not yet started manufacturing wheels exceeding

the largest size included within the scope of protection already granted. It was not, therefore, felt necessary to bring within the purview of this inquiry wheels of sizes exceeding 24" in diameter.

4.3. The request of Carborundum Universal Ltd. for including the entire bonded abrasive industry within the scheme of protection could not be considered by the Commission which can make inquiries only in respect of industries whose cases are referred to it by Government. In the original Resolution of the Government of India in the Department of Commerce, No. 218-T(55)/45, dated 3rd November, 1945, the case of grinding wheels was referred to the Tariff Board for inquiry. Grinding wheels are a part of the entire bonded abrasive industry and when initially only a section of the industry was referred for inquiry, the Tariff Commission cannot be subsequently seized of the jurisdiction to inquire into the whole unless a specific reference for the purpose is received from Government under Section 11(a) of the Tariff Commission Act. The request of the Company for enlarging the scope of the inquiry could not, therefore, be accepted.

5.1. At the time of the last inquiry there was only one unit engaged in the manufacture of grinding wheels, viz., Grindwell Abrasives Ltd., Bombay. Two more units, viz., Carborundum Universal Ltd., Madras, and General Abrasive Co., (Private) Ltd., Bombay, with an annual production capacity of 600 tons and 120 tons respectively were expected to go into production before the end of 1955.

5.2. At present there are five units manufacturing grinding wheels. Their names and installed capacity are given below:—

Name of the unit	Installed capacity
	Tons
1. Grindwell Abrasives Ltd., Bombay	1,000
2. Carborundum Universal Ltd., Madras	600
3. General Abrasive Co. (Private) Ltd., Bombay	120
4. Steel and General Mills Co., Ltd., Delhi	150
5. Thermal Products Co., Bombay	180
TOTAL	2,050

5.3. Grindwell Abrasives Ltd., hopes to attain a production of 1,320 tons but its capacity as assessed by the Development Wing is only 1,000 tons. Carborundum Universal Ltd., has already been licensed to increase its capacity to 1,000 tons and expects to achieve the increase by the end of the year.

5.4. Besides the five units mentioned above, a sixth unit, viz., Krishnalal Thirani & Co., Ltd., Calcutta, has also been licensed to manufacture grinding wheels. In fact, this Company was licensed

to manufacture grinding wheels even before the last inquiry but so far very little progress has been made. It has now informed us that it has placed firm orders for plant and machinery which are expected to arrive before November, 1957. The capacity of the plant will be 240 tons a year. It expects to go into production by February, 1958.

5.5. *Grindwell Abrasives Ltd.*—Since the last inquiry, the Company has entered into an agreement with M/s. Maschinen-und-Schleifmittelwerke, Offenbach Main of West Germany (M.S.O.) for technical collaboration and for training of the Company's officers and technicians at its factory in Germany. The Company has also installed a new additional manufacturing unit for the production of grinding wheels. This unit consists of a tunnel kiln of about 125 ft. length with an estimated capacity of 600 tons per annum if only current and straight wheels of the most economical types are manufactured and fired. Under the present pattern of demand, however, the average capacity of the kiln has been estimated by the Company only at 400 tons per annum. The Company has two plans for development and expansion, the first relating to modernisation of the old plant and the second relating to installation of a third unit which would have 100 per cent. larger output than the second unit. The normal range of manufacture of the Company comprises grinding wheels in different sizes and shapes, grinding segments, stones, sticks and valve grinding compounds.

5.6 *Carborundum Universal Ltd.*—The Company started production of grinding wheels in September, 1955. It has plans for expansion of its capacity from the present level of 600 tons to 1,000 tons per annum. Three of the Company's senior executives have received training from its associates in the U. K. in accordance with the Company's agreements with its associates. The Company's production has been confined to grinding wheels up to 22" in diameter, precision wheels (including all shape and face wheels), and finished and unfinished specialities including combination stones, sticks, rubbing bricks, polishing blocks, scyth stones, etc.

5.7. *General Abrasive Co., (Private) Ltd.*—This Company started production in February, 1955. It manufactures plain grinding wheels up to 18" in diameter and up to 4" in thickness. It also manufactures 'C' face, tapered cup and dish wheels and wheels of various other shapes.

5.8. *Steel and General Mills Co., Ltd.*—Production was commenced by the Company in November, 1956. The total quantity produced was only 6 tons in last year.

5.9. *Thermal Products Co.*—Saleable production started in November, 1956 but the quantity produced is reported to be small.

6.1. At the last inquiry, the Commission estimated the annual domestic demand at 750 tons to 800 tons and took the view that the demand would progressively increase from year to year to 1,500 tons at the end of the next five years. The Planning Commission was of opinion that as there had been a marked increase in the demand for grinding wheels it was likely to increase progressively to 1,500 tons per annum

by 1960-61. The Development Wing has estimated the current annual demand at more than 1,500 tons and thinks that it would rise to 3,000 tons at the end of the Second Plan period. Among the producers, Carborundum Universal Ltd., estimates the current demand at 1,500 tons per annum and expects that it will rise to 2,500 tons at the end of 1960 with an annual increase of about 20 per cent. Grindwell Abrasives Ltd. estimates the current demand at a figure between 1,200 to 1,400 tons per annum and thinks that it will rise to 2,000 tons in 1960. General Abrasives Co., (Private) Ltd., is of the view that the present annual demand is 1,500 tons and that it will rise to 2,000 tons by 1960.

6.2. It is apparent that the Commission's estimate at the last inquiry that the annual demand would rise to 1,500 tons at the end of five years was an under-estimate. The evidence before us indicates that the present demand is already in the neighbourhood of 1,500 tons. The production in the country in 1956 was 1,131 tons and during the year there were imports of 282 tons of grinding wheels of all types including the non-protected categories. It is thus apparent that the total availability in the country during 1956 exceeded 1,400 tons. There were long delays in the delivery against orders placed with the indigenous manufacturers. The quantity available in the country, therefore, was not adequate to satisfy the demand which must have been more than 1,400 tons of grinding wheels actually available for sale. We, therefore, think that the present annual demand is 1,500 tons.

6.3. With the increase in the tempo of industrialisation of the country, the demand for grinding wheels is bound to rise every year. In highly industrialised countries of the West like the U.S.A., U. K., and West Germany a safe rule for assessing the need of grinding wheels is to base the demand on a proportion of 1,000 tons of grinding wheels to one million tons of steel used in engineering industries. It is estimated that we shall be using nearly three million tons of steel for engineering industries in 1960. The formula for estimating the demand for grinding wheels in relation to steel used in engineering industries which is applicable to highly industrialised countries cannot however, be applied to comparatively less industrialised countries like India. We have, therefore, assessed the demand on the basis of one ton of grinding wheels to 1,200 tons of steel used in indigenous industries. This indicates a demand of 2,500 tons in 1960. We agree that the annual increase will be approximately 20 per cent.

6.4. As stated earlier in paragraph 5.2, the present installed capacity of the units already in production is 2,050 tons. Carborundum Universal Ltd., will increase its present capacity by 400 tons at the end of the year and Grindwell Abrasives Ltd., hopes to achieve a capacity of 1,320 tons instead of 1,000 tons as assessed by the Development Wing. Krishnalal Thirani & Co., Ltd., Calcutta, may also go into production before the middle of next year. Thus the total installed capacity of the units in production in 1960 will exceed 3,100 tons and will be adequate for meeting the demand for grinding wheels that is likely to arise in that year.

7. Production of grinding wheels in the country for the last three years was as follows :—

(In tons)

Name of the unit	1954	1955	1956
1. Grindwell Abrasives Ltd.	506.4	638.1	881.9
2. Carborundum Universal Ltd. . . . .	..	39.4	224.0
3. General Abrasives Co. (Private) Ltd. . . . .	..	15.1	20.0
4. Steel and General Mills Co. . . . .	..	..	6.0
5. Thermal Products Co. . . . .	..	..	Not available.
TOTAL .	506.4	692.6	1,131.9

It will be seen that the production in 1956 was 1,131 tons and was more than double of what it was in 1954. The production of Grindwell Abrasives Ltd., had a setback in 1955 and 1956 on account of a serious breakdown in its power house during these years. The trend of increased production during the last three years and the increase in industrial activity in the country indicate that there will be progressive increase in production commensurate with the increase in demand over the next three years.

8.1. The principal raw materials used in the manufacture of grinding wheels are

8. Raw Materials

- (1) synthetic abrasive grains; and
- (2) bonding materials.

Synthetic abrasive grains are not produced in the country and are, therefore, imported. Imports of these grains are exempted from duty. We are informed that there are plans for the production of certain types of synthetic abrasive grains in the country. Krishnalal Thirani & Co., Ltd., has been licensed to establish a factory for the manufacture of this raw material. The Company has stated that it hopes to receive the necessary equipment for the production of abrasive grains within the next three months and feels that it will be able to attain a production of 150 to 200 tons of electro corundum (aluminium oxide grains) by the end of 1958. The yearly requirements of this grain are more than 3,000 tons. The indigenous production of 150 to 200 tons expected to be achieved by the end of 1958 will, therefore, be a very little portion of the needs of the industry. For some time to come, therefore, this raw material will have to be imported. The cost of production of grinding wheels of the two major producers in the country have been estimated by the Cost Accounts Officer on the assumption that this raw material will be obtained duty-free. We, therefore, recommend that Government should continue to permit the manufacturers of grinding wheels to import this raw material free of duty in sufficient quantities to meet their requirements.

8.2. Bonding materials are at present imported by Carborundum Universal Ltd. Grindwell Abrasive Ltd., however, obtains all its requirements of vitrified elastic and mineral bonding materials from indigenous sources. Carborundum Universal Ltd. has stated that the cost of blended bonds at present imported by it amounts to less than 4 per cent. of the price of the grinding wheels and that the capital expenditure required for the manufacture of bonds will be very considerable and uneconomical and desires that it may be permitted to continue importing the necessary bonding material. While it is true that the cost of blended bonds is a small fraction of the price of the wheels, it is desirable that this important raw material of the industry should be obtained from indigenous sources. The experience of the other major producer shows that it is possible to obtain bonding materials from indigenous sources at comparatively economic prices. It is further important that an industry of this type should not be dependent upon imports for its requirements of principal raw materials. We, therefore, recommend that an attempt should be made by Carborundum Universal Ltd. to develop the necessary bonding material from indigenous sources so that at a future date the Company may not have to depend upon foreign sources for this raw material.

9.1. It was observed by the Commission in its last Report that so far as the standard types of grinding wheels are concerned, the indigenous product was equal in quality to the imported product. The consensus of opinion of users of indigenous wheels is that the quality of grinding wheels manufactured in the country has shown further improvement since the last inquiry. Defects have no doubt been noticed in several cases by the principal users. The manufacturers have taken steps to replace the defective wheels or to ascertain the cause of the defects and to remedy them whenever these defects were brought to their notice. The main complaint which was voiced at the public inquiry regarding the quality of indigenous wheels was in regard to its life. Chittaranjan Locomotive Works as well as the Northern Railways were of the view that the life of indigenous wheels was approximately 75 per cent. of that of imported wheels. One or two other users also have stated that the life of indigenous wheels does not compare favourably with that of imported wheels. We recommend that the manufacturers should pay more attention to this aspect and endeavour to improve the length of life of their products.

9.2. Other complaints made by the users relate to deficiencies in shapes, incorrect dimensions, the quality of the grit, variable standards of production, breakage in operation, quick wear, inconsistency in quality of pieces from the same batch etc. Complaints were also received in regard to delays in deliveries. This was to some extent due to the frequent breakdowns in the power plant of Grindwell Abrasives Ltd., during 1955 and 1956. The position should improve now as new units have come into production. Delay can be avoided considerably, if the consumers also plan their requirements sufficiently in advance.

9.3. It is satisfactory to note that the major producers have started an "after-sales" service for the benefit of the users of their product. This service aims at advising the user regarding the right

type of bond and grain for the particular type of operation. Instances have been quoted where as a result of the service the complaint was removed in repeat orders. In this country where machinery using grinding wheels has been obtained from several countries, the range of grinding wheel varies considerably. In countries like the U. S. A. and U. K. where engineering machinery is manufactured in the country itself, the types of grinding wheels needed for it are not so many in number as this country where engineering machinery has been obtained not from one country but practically from all manufacturers of industrial machinery all over the world. The task of manufacturers of grinding wheels in this country is, therefore, much more difficult than in other countries as they are called upon to produce wheels to suit the specifications of several manufacturers. Therefore, the complaints regarding the suitability of these wheels are likely to be much more numerous in the first instance but with the advisory service and "after-sales" service now initiated by the manufacturers, we hope that such complaints will be reduced to the minimum. We are satisfied that on the whole there has not been any serious complaint about the quality of the indigenous grinding wheels.

9.4. The Commission had recommended in its last Report that the Indian Standards Institution should be requested to expedite the formulation of standard specifications for grinding wheels. We observe that although some progress has been made in the formulation of these standards they have not yet been finally approved and published. We recommend that standard specifications for grinding wheels should be prescribed without delay.

10. Grindwell Abrasives Ltd., maintains a laboratory for research purposes and was able to develop the humidifying drying process of wheels and new bonds from indigenous materials in order to replace some of the imported bonds. The other major producer, viz., Carborundum Universal Ltd. maintains a laboratory which is designed for routine test and control. This Company takes advantage of all technical information provided freely by the research laboratories of its associates and relies on it. None of the other producers has any laboratory.

11.1. *Import control policy.*—The import control policy in respect of grinding wheels and segments since January-June, 1955 is given below :—

11. Import control policy and imports.

January-June, 1955.—Established importers were allowed to import grinding wheels and segments on a quota basis of 16 per cent. of one-half of their best year's imports with the stipulation that not more than 50 per cent. of the face value of the licences could be utilised for the import of the following types of grinding wheels :

1. Less than 21" diameter;
2. More than $\frac{1}{8}$ " and less than $7\frac{1}{2}$ " in thickness; and
3. Less than $12\frac{1}{2}$ " bore.

Actual users' licences were issued for the restricted categories, wherever necessary. Diamond lapping wheels or grinding wheels

impregnated with diamond dust which were not protected were on Open General Licence for import from soft currency areas.

July-December, 1955.—During this period the quota for established importers continued to be the same as in the previous licensing period, but the sizes were further restricted by a face value and the face value itself was modified so as to bring greater restriction on the import of sizes manufactured in the country. The modifications were as follows :

Not more than 50 per cent. of the face value of the licence or Rs. 500 whichever is higher could be utilised for the import of grinding wheels of less than 24" diameter and of more than 1/32" but less than 9" in thickness.

Actual users' licences continued to be issued during this period also and diamond lapping wheels or grinding wheels impregnated with diamond dust continued to be on Open General Licence for imports from soft currency areas.

The above policy for July-December, 1955 has been continued since then.

11.2. *Imports.*—Imports of grinding wheels were not recorded separately in the Accounts relating to the Foreign Trade and Navigation of India. On the recommendation of the Tariff Board in 1949 the Director General of Commercial Intelligence and Statistics is maintaining import statistics for grinding wheels and has been furnishing to the Commission the quantity and value of non-protected as well as protected categories of grinding wheels every month. The following statement gives the imports of protected and non-protected categories of grinding wheels since 1953-54 compiled from the data furnished by the Director General of Commercial Intelligence and Statistics.

Country of origin	(Quantity in tons) (Value in '000 Rs.)									
	1953-54		1954-55		1955-56		1956-57 (April-December).			
	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value
<i>Protected categories</i>										
United Kingdom	72.1	337	63.6	244	62.3	328	76.7	429		
Western Germany	1.5	11	6.8	44	5.0	35	8.0	99		
Other countries	6.6	41	8.8	45	11.1	78	33.0	135		
TOTAL	80.2	389	79.2	333	78.4	441	117.7	663		
<i>Non-Protected categories</i>										
United Kingdom	31.6	118	60.0	277	134.8	575	65.9	363		
Western Germany . . . . .	..	..	5.0	62	10.5	46	9.4	56		
Other countries	0.3	1	13.7	52	7.1	52	14.0	31		
TOTAL	31.9	119	78.7	391	152.4	673	89.3	450		
GRAND TOTAL	112.1	508	157.9	724	230.8	1,114	207.0	1,113		

It will be seen from the above statement that during the first 9 months of 1956-57 the protected categories of grinding wheels increased by 50 per cent. over the quantity imported in 1955-56. This striking increase in imports during the current year has in no way adversely affected the domestic industry. The larger volume of imports became necessary as the domestic industry was not able to meet the increase in demand in the country. The need for larger imports may not, however, continue for long as the two major units in the country are now better equipped to increase their production. The industry apprehends that larger imports may take place from U.S.S.R. and East European countries at uneconomical price. The imports from these sources have not been large so far. The bulk of imports continues to be from the United Kingdom.

12. Protected categories of grinding wheels are assessed to duty under Item 71(8) of the First Schedule to the Indian Tariff Act, 1934. Relevant extracts from that Schedule showing Existing rate of duty. the current rate of protective duty are reproduced below:—

Item No.	Name of article	Nature of duty	Standard rate of duty	Preferential rate of duty if the article is the produce or manufacture of			Duration of protective rates of duty
				The United Kingdom	A British Colony	Burma	
1	2	3	4	5	6	7	8
71 (8)	Grinding wheels and segments made of synthetic abrasive grains, excluding the following namely:	Protective	25 per cent. <i>ad valorem</i> .				December 31st, 1957-
	(i) grinding wheels—						
	(a) of any thickness or bore but more than 24 inches in diameter, or						
	(b) of any diameter or bore but more than 9 inches or less than 1/32 inch in thickness; and						
	(ii) diamond impregnated wheels.						

13. We have received from the Collectors of Customs and leading importers, the c.i.f. prices and landed costs of imported grinding wheels comparable to the types and sizes selected for costing. We obtained f.o.b. quotations also from our trade representatives in the United Kingdom and West Germany. The information obtained by us from various sources is given in Appendix III. We have decided to adopt U. K. prices for comparison with domestic costs, as U. K. is likely to continue to be the main source of supply. The c.i.f. prices and landed costs of types and sizes selected for comparison with domestic costs are given on the following page.

Type	Brown Aloxite						White Aloxite		Silicon		Carbide	
	Size	6" X 1"	10" X 1 1/2"	10" X 1"	12" X 1"	12" X 2"	16" X 2"	12" X 1"	6" X 1"	12" X 1"	16" X 2"	16" X 2"
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1 C.i.f. price	.	5.875	6.313	12.750	17.500	31.313	53.000	18.875	6.563	19.500	59.125	
2 Clearing charges	.	0.156	0.234	0.250	0.438	0.734	1.375	0.531	0.109	0.500	1.469	
3 Customs duty	.	1.469	1.578	3.188	4.375	7.828	13.250	4.719	1.641	4.875	14.781	
4 Landed cost	.	7.500	8.125	16.188	22.313	39.875	67.625	24.125	8.313	24.875	75.375	

14.1. Our Cost Accounts Officer examined the costs of production of grinding wheels produced by Grindwell Abrasives Ltd., Bombay and Carborundum Universal Ltd., Madras. The details of the cost data collected for the two firms are given in the Cost Report which is being forwarded as a separate confidential enclosure to this Report. The important particulars of Cost of each Company are given below.

14.2.1. *Grindwell Abrasives Ltd.*—As was pointed out in paragraph 5.3 the Company claims to have a capacity to produce 1,320 tons of grinding wheels. It produces very many types and sizes of wheels, stones and sticks. Each order from the customer may differ in respect of mesh of grains, kind of bond, hardness, size and shape. That makes it difficult to determine the cost of each type and size; nor is it essential from the Company's point of view. When a firm produces a large number of sizes of any product, generally the prices are not fixed on the basis of the cost of each item. In such cases, what is actually done is to determine the costs of a few broad sizes and adjust the prices of the various items according to what the market can bear. In some cases, the prices may be lower than the costs and in others they may be higher. The Company is interested only in the overall margin of profits. In this particular instance, the data are not adequate to determine the costs of even the broad categories. The Company has not yet introduced a proper system of costing. The costs have, therefore, to be worked out from financial accounts. For that also, requisite statistical data in regard to production by types and sizes are not readily available. Further, the audited accounts for the year 1956 were not ready when our Cost Accounts Officer examined its accounts and the costs for 1956 had to be worked out from the unaudited accounts. Under the circumstances, the costs of production determined by him can be only approximate.

14.2.2. In 1954, the Commission adopted 10" × 1" × 1", 12" × 1" × 1" and 12" × 2" × 1" wheels as representative sizes for purposes of costing. The pattern of production of the Company has changed since then.

14.2.3. The sizes selected by us for the present inquiry and their costs of production as worked out for the year 1956 are given below :—

(Rs. per piece)

Type	Size					
	6" × 1" × ½"	6" × 1" × 1"	6" × 1" × ½"	12" × 1" × 1"	12" × 1" × 1½"	16" × 2" × 1½"
Electrondum Br. Vitri-fied.	7.73	..	..	23.65	..	79.11
Electrondum E. Br. Elastic Bonded.	9.00	..	..	..
Electrondum 'V' Br. (White) Vitri-fied.	28.37	..
Carborundum Compass (Black) Vitri-fied.	..	8.43	..	25.83	..	89.62
Carborundum Compass (Green) Vitri-fied.	..	9.10	..	30.44	..	..

14.2.4. In arriving at the above costs for 1956, we have allowed interest on working capital at $4\frac{1}{2}$ per cent on an amount equal to three months' cost of production and return on the original value of the block at 10 per cent. It is not possible to compare the costs worked out for 1956 with our 1954 estimates, as the types and sizes costed this time are different. There is no doubt, however, that the costs have increased. The material cost has gone up due to increase in the prices of raw material by about 10 per cent. on an average. The cost of labour has also risen with the increase in the wages and salaries. Though the production in 1956 was more than double that of 1953, the Company has not been able to achieve the economies in overheads resulting from higher production. Further, the frequent breakdowns in the power plant have led to disproportionate increases in breakages and rejections. All these factors contributed to the increase in cost in 1956.

14.3.1. *Carborundum Universal Ltd.*—The Company started regular production only in December, 1955. Its actual production in the first nine months was only 121 tons. It has a capacity to produce 600 tons of grinding wheels a year and the Company has stated that recently it has attained a production of 50 tons a month. The Company has not yet started the manufacture of 'Elastic Bonded' wheels and its products are of the 'Vitrified' type only. Its products are known as 'Brown Aloxite', 'White Aloxite' and 'Silicon Carbide', which correspond to 'Electrundum Vitrified', 'Electrundum 'V'. While Vitrified' and 'Carborundum Vitrified' respectively of Grindwell Abrasives Ltd.

14.3.2. The books of the Company are closed on 31st of August each year. Like Grindwell Abrasives Ltd., it maintains only financial accounts and does not have any cost accounting system by which the product costs can be determined. Up to September 1956, the average monthly production was only 13.4 tons and the tunnel kiln was not in operation during that period. After the tunnel kiln came into operation departmental costs were available only for the month of October and during that month the production rose to about 30 tons. On the basis of the data available for October, the costs have been estimated for a total production of 600 tons in the future. The estimated fair ex-works prices of the representative sizes produced by the Company are given below :—

(Rs. per piece)

Type-	Size					
	6" × 1" × 5/8"	10" × 1 1/4" × 1"	10" × 1" × 1"	12" × 1" × 1"	12" × 2" × 1"	16" × 2" × 2"
Brown Aloxite	7.253	8.186	7.137	22.661	41.834	78.006
White Aloxite	7.040	8.015	16.079	21.159	39.476	71.947
Silicon Carbide	8.078	10.799	..	26.404	48.290	85.407

In working out the above estimates of costs, we have allowed interest for working capital at $5\frac{1}{2}$ per cent. on an amount equal to three months' cost of production and return on the original value of the block at 10 percent.

14.4. *Government purchases.*—Before we leave the subject of costs we think it necessary to refer to the representations made to us by both the major producers that it is not fair to fix prices for rate contracts for Government purchases on the basis of the costs worked out for a few items by us to determine the quantum of protection. There is considerable force in their contention. Firstly, our fair ex-works costs do not include selling expenses. Secondly, our estimates of costs are for a period of three years and are based on several assumptions. Thirdly, we have costed only a few representative types and sizes and we have not examined the differentials for the items not costed by us. We, therefore, consider that it would be unrealistic to fix prices for rate contracts for Government purchases on the costs worked by us for altogether different purposes.

15.1. The quantum of protection required by the grinding wheels industry has been determined in the past solely on the basis of the cost data relating to Grindwell Abrasives Ltd. as it was the only unit in production. We have now obtained cost data relating to Carborundum Universal Ltd. also and after comparing the nature of the data relating to this unit with that available for Grindwell Abrasives Ltd., we have come to the conclusion that the estimate of costs relating to the former unit will be more representative of the industry than that relating to the latter. In the case of Grindwell Abrasives Ltd., there were frequent breakdowns in its power plant during 1956 and the cost of production relating to that year has thereby undergone distortion. The first stage of its modernisation programme has been completed and a tunnel kiln with a capacity of 600 tons is in full production, but there is an element of uncertainty in the Company's prospects to utilise the plant to full capacity on account of inadequate arrangements for the supply of electricity. We have not, therefore, attempted to estimate the future costs of Grindwell Abrasives Ltd. for the purpose of determining the quantum of protection to the industry. As regards Carborundum Universal Ltd., although the data available relates only to a production of 30 tons during the month of October 1956, and, to this extent, any estimate of costs based thereon is likely to have imperfections, yet, there are no uncertainties relating to the Company's future programme which are likely to vitiate such an estimate. The Company will be able to utilise its full capacity of 600 tons and even expand with profit, and we, therefore, believe that the estimate of costs appended to paragraph 14.3.2 above may be assumed to be representative of the industry to the extent necessary to determine the quantum of protection required by it. The statement given on the following page gives the comparison of fair ex-works prices of indigenous grinding wheels with landed costs ex-duty of equivalent imported products.

Type	Size	Brown Aloxite			White Aloxite			Silicon Carbide	
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1	C.i.f. price	6' X 1" 5.875	10' X 1 1/2" 6.313	10' X 1" 12.750	12' X 1" 17.500	12' X 2" 31.313	16' X 2" 53.000	12' X 1" 19.500	16' X 2" 59.125
2	Clearing charges	0.156	0.234	0.250	0.438	0.734	1.375	0.109	1.469
3	Customs duty	1.469	1.578	3.188	4.375	7.828	13.250	1.641	14.781
4	Landed cost	7.500	8.125	16.188	22.313	39.875	67.625	8.313	75.375
5	Landed cost ex-duty	6.031	6.547	13.000	17.938	32.047	54.375	6.672	60.594
6	Fair ex-works price	7.263	8.186	17.137	22.661	41.834	78.006	8.078	85.407
7	Disadvantage of 6 compared with 5	1.232	1.639	4.137	4.723	9.787	23.631	1.406	24.813
8	7 as percentage of 1	20.97	25.96	32.45	26.99	31.26	44.59	21.42	41.97

15.2. It will be seen from the above statement that the rates of duty indicated to equate the fair ex-works costs of domestic products with the landed costs without duty of similar imported products vary from type to type and from size to size. The bigger sizes are at a greater disadvantage and they require higher protection. It will not be fair to the consumer if the higher rate of duty indicated for the bigger size of wheels is adopted to determine the quantum of protection required by the industry. Also, the relative importance of the types according to production varies considerably though the relative importance of the sizes in each type may not vary so much. We have, therefore, decided to adopt the straight average of duties indicated for sizes under each type and then to calculate the weighted average for the types. The weights adopted are according to the relative importance of the production of each type. This was the method followed by the Commission in its last Report (1955). The statement below gives the size-wise disadvantage under each type, the straight average disadvantage under each type and the weighted average disadvantage of all types and sizes.

Type	Percentage of disadvantage						Straight average of disadvantage %	Weights applied %	Total weighted average of disadvantage
	6" × 1"	10" × 1½"	10" × 1"	12" × 1"	12" × 2"	16" × 2"			
1 Brown Aloxite	20.97	25.96	32.45	26.99	31.26	44.59	30.37	86.12	} 29.53%
2 White Aloxite	..	..	..	9.29	..	..	9.29	4.68	
3 Silicon carbide	21.42	..	..	32.84	..	41.97	32.08	9.20	

15.3. On the above basis the quantum of protection required by the industry works out to 29.53 per cent. We do not, however, recommend that the duty on the protected categories of grinding wheels should be raised from the present level of 25 per cent. *ad valorem* for two reasons. Firstly, the domestic industry is now having a sheltered market through import control, and is not in need of a higher rate of duty for purposes of protection. Secondly, grinding wheels are essential items of stores for most engineering industries which are struggling against foreign competition and it is necessary to keep the duty on the products as low as possible. By increasing the duty the consumers who would be affected are those who obtain *ad hoc* actual users licences for the types or quantities which are not available from domestic sources. We, therefore, recommend that the present protective duty of 25 per cent. *ad valorem* should be continued, and the period of protection should be extended up to 31st December, 1959. We also recommend that Grindwell Abrasives Ltd., and Carborundum Universal Ltd., should introduce proper systems of costing before the end of 1957 and by the time the Commission takes up their case for re-examination in 1959, the industry should be in a position to furnish the Commission with accurate cost data according to broad categories.

16. Grindwell Abrasives Ltd., has represented to us that it is greatly handicapped for want of electric power at a reasonable cost.

Other assistance. The Company is at present generating its own power which costs it approximately 30 n.p. per unit. That cost is un-economical for industrial use. The Company has been trying to obtain power from the Electric Grid of the Bombay Government. Its attempt has not succeeded yet and we are informed that the scheme for electrification of Uran town where the factory is situated is not included in the Second Five Year Plan. We are, however, informed that there is a proposal to locate naval establishments at Uran. If that materialises, electricity will have to be brought to that area and we recommend that Grindwell Abrasives Ltd. should then be given priority to obtain power in that area. We understand that the company has informed the Bombay State Electricity Board that it is prepared to guarantee the consumption of electrical energy up to a cost limit of Rs. 50,000 a year for a period of 6 years.

17. Our conclusions and recommendations are summarised below :—

Summary of conclusions and recommendations. (1) The current demand is estimated at 1,500 tons and the demand is expected to increase to 2,500 tons in 1960.

[Paragraphs 6.2. and 6.3.]

(2) Government should continue to permit the manufacturers of grinding wheels to import synthetic abrasive grains free of duty in sufficient quantities to meet their requirements.

[Paragraph 8.1.]

(3) Carborundum Universal Ltd. should try to develop the necessary bonding material from indigenous sources so that at a future date the Company may not have to depend on foreign sources for this raw material.

[Paragraph 8.2.]

(4) We are satisfied that on the whole there has not been any serious complaint about the quality of the indigenous grinding wheels. The manufacturers should endeavour to improve the length of life of their products.

[Paragraphs 9.1. and 9.3.]

(5) The standard specifications for grinding wheels should be prescribed without delay.

[Paragraph 9.4.]

(6) The present protective duty of 25 per cent. *ad valorem* should be continued and the period of protection should be extended up to 31st December, 1959.

[Paragraph 15.3.]

(7) Grindwell Abrasives Ltd., and Carborundum Universal Ltd., should introduce proper system of costing by the end of 1957 and by the time the Commission takes up their case for re-examination in 1959 the industry should be in a position to furnish the Commission with accurate cost data according to broad categories.

[Paragraph 15.3.]

18. We wish to thank the producers, importers and consumers
Acknowledgements, of grinding wheels for their co-operation in
carrying out this inquiry.

K. R. DAMLE,
Chairman.

C. RAMASUBBAN,
Member.

J. N. DUTTA,
Member.

RAMA VARMA,
Secretary.

BOMBAY,
Dated 1st June, 1957.



APPENDIX I

[Vide Paragraph 2.1]

List of firms/bodies/Government Departments to whom the Commission's Questionnaires were issued and from whom replies or memoranda were received

*Indicates those who have replied or sent memoranda.

†Indicates those who are not interested.

(A) PRODUCERS:

- *1. M/s. Carborundum Universal Ltd., P. B. No. 1677, Madras—1.
- *2. M/s. Grindwell Abrasives Ltd., Post Box No. 78, Bombay—1.
- *3. M/s. General Abrasive Company (P.) Ltd., Patel Estate, Goregaon East, Bombay Suburb.
- *4. The Steel and General Mills Ltd., P. B. No. 2028, Delhi—8.
- *5. The Thermel Products Co., Chandiwela Plot, John Baptist Road, Near Santan Perieres' Bakery, Bandra, Bombay—20.
- *6. M/s. Krishnalal Thirani and Co., 8, India Exchange Place, Calcutta.

(B) IMPORTERS:

1. Prem and Sons, Bibijan St., Bombay—3.
- *2. Tirathdas Keshoram, N. Dhuru St., Bombay—3.
- †3. Bhajanlal Harcharanlal, Loha Mandi, Amritsar.
- *4. Orient General Agencies, Hamilton Road, Delhi—6.
- †5. Dewanchand Nikkamal, N. Dhuru St., Bombay—3.
6. Madanlal and Co. Ltd., 89, Netaji Subhas Road, Calcutta.
7. Harji Mal Nandlal, Nagdevi Cross Lane, Bombay—3.
8. Nandlal Inderchand Ltd., 10, Canning St., Calcutta.
- *9. Bal Swarup Bhatnagar Ltd., Kamboohan St., Ferozabad (U.P.).
10. Diarvi Trading Co., Old Customs House Road, Bombay—1.
11. H. M. Doyal and Co., Hauz Kazi, Delhi.
- *12. Alfred Herbert (India) Ltd., P.B. No. 681, Calcutta—1.
- *13. William Jacks and Co. Ltd., Post Box No. 369, Calcutta.
- *14. Scott and Pickstock Ltd., 5, Fairlie Place, Calcutta—1.
- †15. Hakimji Lookmanji, C. P. Tank Road, Bombay—4.
- *16. Bashimal Thirathram, 72, Bhajipala Lane, Bombay—3.
- *17. H. S. Cox and Co., Post Box No. 427, Bombay—1.

(C) CONSUMERS:

- *1. Controller of Stores, Central Railway, Bombay.
- *2. Controller of Stores, Western Railway, Bombay.
- *3. Controller of Stores, Northern Railway, Delhi.
4. Controller of Stores, Eastern Railway, Calcutta.
- *5. Controller of Stores, Southern Railway, Madras.
6. Alcock Ashdown and Co. Ltd., 16, Bank Street, Bombay.
7. Bhartia Electric Steel Co. Ltd., 42, Shibtalla Street, Calcutta.
8. Braithwaite and Co. (India) Ltd., Hide Road, Kidderpore, Calcutta.
- *9. Burn and Co., Post Box No. 191, Calcutta—1.
10. Hyderabad Construction Co. Ltd., Post O.Box 109, Hyderabad Dn.

- *11. Indian Standard Wagon Co. Ltd., 12, Mission Row, Calcutta.
- *12. Jessop and Co. Ltd., 63, Netaji Subhas Road, Calcutta.
- 13. Kamani Brothers Ltd., Nicol Road, Ballard Estate, Bombay—1.
- *14. Larsen and Toubro Ltd., Dougall Road, Ballard Estate, Bombay—1.
- *15. Machinery Manufacturer's Corporation Ltd., Hall and Anderson Building, Park St., Calcutta—16.
- *16. Mukand Iron and Steel Works Ltd., Agra Road, Kurla, Bombay.
- *17. National Iron and Steel Co. Ltd., 4, Dalhousie Sq. East, Calcutta.
- *18. Praga Tools Corporation Ltd., 17, Saifabad, Hyderabad Dn.
- 19. Premier Construction Co. Ltd., Construction House, Wittet Road, Ballard Estate, Bombay.
- *20. Richardson and Cruddas Ltd., Byculla Ironworks, Bombay—8.
- *21. Tata Industries Ltd., Bombay House, Bruce Street, Bombay.
- *22. Director General of Ordnance Factories, Calcutta.
- 23. Hindustan Gas Co. Ltd., 22, New Tangra Road, Calcutta—15.
- *24. Hind Razor and Blade Co. Ltd., Industrial Assurance Building, Opp. Churchgate, Bombay.
- *25. Godrej and Boyce Mfg. Co. Ltd., Lalbaug, Parel, Bombay—12.
- 26. Gresham and Craven of India Ltd., 22, Gobra Road, Calcutta—14.
- *27. Indian Jute Mills' Association, Royal Exchange Post Box No. 280, Calcutta.
- *28. National Machinery Manufacturers Ltd., Thana, Bombay.
- 29. The Metal Box Co. of India Ltd., Chowringhee, Calcutta—20.
- 30. The Indian Tool Mfrs. Ltd., 101, Sion Road, Bombay—22.
- *31. Machine Tool Prototype Factory, Ambernath, Central Railway.
- 32. National Bearing Co. Ltd., Jaipur.
- *33. The Secretary, Railway Board, New Delhi.
- *34. Hindustan Machine Tools Ltd., Jalahali, Bangalore.
- 35. Hindustan Shipyard Ltd., Gandhigram, Vizagapatam.
- *36. Hindustan Air Craft Ltd., Bangalore.
- *37. Chittaranjan Locomotive Works, Chittaranjan (W. Bengal).
- *38. Hind Cycles Ltd., 250, Worli, Bombay—18.
- *39. Hindustan Motors Ltd., 1-A, Vansittart Row, Calcutta.
- *40. British India Electric Construction Co. Ltd., 6, Mayurbhanj Road, Calcutta—23.
- *41. T. I. Cycles of India Ltd., 106, Armenian St., Madras.
- *42. Textile Machinery Corp. Ltd., Post Box No. 644, Calcutta.
- 43. Sen Raleigh Industries of India Ltd., Lal Bazar, Calcutta.
- *44. Premier Automobiles Ltd., Construction House, Ballard Estate, Bombay.
- 45. Standard Motor Products of India Ltd., 29, Mount Road, Madras.
- *46. Kirloskar Sons and Co., Kirloskarwadi (Satara Dist.).
- *47. Jay Engineering Co. Ltd., Prince Anwarshah Road, Tollygunj, Dhakuria.
- 48. Guest Keen Williams Ltd., Post O. Box No. 575, Bombay.
- *49. Indian Iron and Steel Co., Ltd., 12, Mission Row, Calcutta.
- *50. India Pistons Ltd., Huzur Gardens, Sembiam, Madras—11.
- *51. Investa Machine and Tool Eng. Co. Ltd., Ewart House, Bruce St., Bombay.
- 52. India Machinery Co. Ltd., 29, Strand Road, Calcutta.
- *53. Tinplate Co. of India Ltd., Tatanagar.
- *54. Cooper Engineering Ltd., Satara Road.

(D) ASSOCIATION:

- *Engineering Association of India, 23-B, Netaji Subash Road, Calcutta.

(E) GOVERNMENT DEPARTMENTS:

- *1. Chief Industrial Advisor, Ministry of Heavy Industries, Development Wing, Shahjahan Road, New Delhi.
- *2. The Director General of Supplies and Disposals, Shahjahan Road, New Delhi.
- *3. The Chief Secretary to the Govt. of Bombay, Bombay.
- *4. The Chief Secretary to the Govt. of West Bengal, Calcutta.
- *5. The Chief Secretary to the Govt. of Madras, Madras.
6. The Chief Secretary to the Govt. of East Punjab, Chandigarh.
- *7. The Collector of Customs, Bombay.
- *8. The Collector of Customs, Madras.
- *9. The Collector of Customs, Calcutta.
- *10. The Collector of Customs, Cochin.
- *11. The Director, Indian Standards Institution, 19, University Road, Delhi—8.
- *12. The Minister (Economic) to the High Commission for India in the U.K., 'India House', Aldwych, London, W. C. 2.
- *13. The First Secretary (Commercial) to the Embassy of India in Germany, 262, Koblenzstrasse, Bonn (West Germany).

(F) RAW MATERIAL SUPPLIERS:

- *1. M/s. Shevaroy Bauxite Co., Salem (South India).
*2. M/s. Krishnalal Thirani and Co., 8, India Exchange Place, Calcutta.



APPENDIX II

(Vide paragraph 2.3)

List of persons who attended the commission's public inquiry on 16th April, 1957.

Producers:

	<i>Representing</i>
1. Mr. F. B. Lima	Grindwell Abrasives Ltd., P. O. Box No. 78, Bombay—1.
2. Shri N. D. Sidhwa	
3. Shri R. D. Sidhwa	
4. Shri K. J. Daruwalla	
5. Shri N. R. Kalyaniwalla	
6. Shri J. M. Tijoriwalla	
7. Shri S. Varadachari	
8. Shri P. H. Sidhwa	
9. Mr. I. Mann	Carborundum Universal Ltd., Swastik House, 106, Armenian Street, Madras—1.
10. Shri M. K. Ramaswamy	
11. Shri P. Govindarajan	
12. Shri R. H. Iyer.	
13. Shri V. S. Patel	General Abrasive Co. Private Ltd., Patel Estate, Goregaon East, Bombay.
14. Shri Harishbhai D. Chaganlal	
15. Shri M. M. Gadre	
16. Shri P. S. Raja Rao	Steel and General Mills Co. Ltd., 3, Cavalry Lines, Delhi—8.
17. Shri A. K. Contractor	Thermal Products Co., Chandiwalla Plot, John Baptist Road, Bandra, Bombay—20.
18. Shri B. L. Arukia	Krishnalal Thirani and Co. Ltd. B, India Exchange Place, Calcutta—1.

Association:

19. Shri M. De Melo	Engineering Association of India, 23-B, Netaji Subhas Road, Calcutta.
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Importers:

20. Mr. W. Abraham	Scott and Pickstock Private Ltd., 5, Fairlie Place, Calcutta.
21. Mr. J. H. Writer	William Jacks and Co. Ltd., 16, Netaji Subhas Road, Calcutta—1.

Consumers:

22. Shri C. Chalapati Rao	Chittaranjan Locomotive Works, Chittaranjan, West Bengal.
23. Shri K. V. Natu	Machine Tool Prototype Factory, Ambarnath.
24. Mr. D. Solomon	Central Railway, Bombay V. T.
25. Mr. L. D. Wharton	Richardson and Cruddas Ltd., Byculla Iron Works, Bombay—8.
26. Shri Vinod Shah	Mukand Iron and Steel Works Ltd., Bombay Agra Road, Kurla, Bombay—37.

Representing

27. Shri V. M. Kothari Larsen and Toubro Ltd., I.C. House,
Dougall Road, Ballard Estate, Bombay—1.
28. Mr. J. Mathews Investa Machine Tools and Engineering Co.
Ltd., Clerk Road, Pais Street, Bombay—
11.
29. Shri K. C. Kale Hind Razor and Blade, Co. (Private) Ltd.,
Bombay.

Government Departments:

30. Shri K. Sankaranarayanan Ministry of Heavy Industries (Develop-
ment Wing), New Delhi.
31. Shri S. S. Venkatakrishnan Director General of Supplies and Disposals,
New Delhi.
32. Shri A. B. Rao Indian Standards Institution, 19, University
Road, Delhi—8.
33. Shri V. V. Divatia } Director of Industries, Government of
34. Shri G. N. Naidu } Bombay, Bombay.
35. Mr. P. C. George Collector of Customs, Bombay.



APPENDIX III

[Vide Paragraph 13]

Statement showing c.i.f. prices and landed costs of grinding wheels

(price per wheel)

Type	Electrondum Vitrified			Electrondum 'V' Br. White Vitrified		Electrondum 'E' Br. Elastic bonded		Carborundum Compas Br. Black Vitrified		Remarks
	10×4×1	16×2×1½	6×1×½	12×1×1	Rs.	12×1×1	Rs.	16×2×1½	12×1×1	
Size in inches	Rs.	Rs.	Rs.	Rs.		Rs.		Rs.	Rs.	
Source of information										
1. Collector of Customs, Calcutta.	6.31	53.00	5.87	17.50		5.87	17.50	59.12	19.50	Imported from U. K. during 1956-57.
C.i.f. . . .	8.80	68.60	7.55	22.53		7.55	22.53	75.94	25.60	
Landed cost . . .										
2. Scott and Pickstock (P) Ltd., Calcutta.	5.75	48.19	5.31	15.87		5.31	15.87	53.75	17.69	Imported from U.K. in 1956.
F.o.b. price. . .	6.31	53.00	5.87	17.50		5.87	17.50	59.12	19.50	
C.i.f. . . .	8.12	67.62	7.50	22.31		7.50	22.31	75.37	24.87	
Landed cost . . .										
3. H.S. Cox & Co. (P) Ltd. Bombay.	6.12	50.97	5.62	16.86		5.86	17.56	57.33	18.97	Quoted by— Universal Grinding Wheel Co. United Carborundum Works. Anglo Abrasives Works. Luke & Spencer Limited. Guilleaume Werk, Bonn MSO Werke, Offenbach Am Main. Deutsche Norton Gesellschaft.
F.o.b. quotation . . .	6.61	55.03	6.07	18.19		6.07	18.19	61.39	20.31	
4. The High Commissioner of India, London.	7.20	45.72	5.04	15.12		5.04	15.12	57.58	19.04	
Nett f.o.b. quotation Do.	6.06	50.80	5.60	16.80		9.33	28.00	57.15	18.90	
Do. . . .	5.40	45.51	5.02	15.05		5.63	16.91	54.61	18.06	
Do. . . .										
5. Embassy of India, West Germany.	5.12	43.12	4.94	13.87		6.31	17.75	56.81	18.31	
F.o.b. quotation . . .	5.96	49.54	5.71	15.97		7.90	20.10	58.89	18.99	
Do. . . .										
Do. . . .	5.93	49.40	5.69	15.92		5.69	15.92	65.33	21.06	
Do. . . .										

Type	Carborundum Com- pass Br. Green Vetrified		'A' Plain Aluminium Oxide						Remarks						
	6 × 1 × 1	Rs.	12 × 1 × 1	Rs.	6 × 1 × 5/8	Rs.	10 × 4 × 1	Rs.		10 × 1 × 1	Rs.	12 × 1 × 1	Rs.	12 × 2 × 1	Rs.	20 × 6 × 12
Source of information—															
1	Collector of Customs Calcutta.														
	C.i.f. . . .	6.56	19.50	5.87	6.31	12.75	17.50	31.31	153.56	Imported from U. K. during 1956-57.					
	Landed cost .	8.42	25.60	7.55	8.80	16.34	22.53	40.25	242.25						
2.	Scott and Pickstock (P)Ltd., Calcutta.									Imported from U. K. in 1956.					
	F.o.b. price .	5.94	17.69	5.31	5.75	11.56	15.87	28.44	171.37						
	C.i.f. . . .	6.56	19.50	5.87	6.31	12.75	17.50	31.31	188.56						
	Landed cost .	8.31	24.87	7.50	8.12	16.19	22.31	39.87	240.44						
3.	H.S. Cox and Co. (P)Ltd., Bombay.									Quoted by— Universal Grinding Wheel Co.					
	F.o.b. quotation	6.34	18.97	5.62	6.12	12.25	16.86	30.11	181.4						
4.	The High Commissioner of India, London. Nett f.o.b. quotation.	6.76	20.31	6.07	6.61	13.22	18.19	32.50	195.86						
	Do. . . .	6.95	20.86	5.04	7.20	11.00	15.12	27.00	162.73						
	Do. . . .	6.30	18.90	5.60	6.06	12.12	16.80	30.00	180.81						
	Do. . . .	6.02	18.60	5.02	5.43	10.86	15.05	26.88	161.97						
5.	Embassy of India, West Germany. F.o.b. quotation	6.56	18.31	4.94	5.12	10.81	13.87	24.12	147.44						
	Do. . . .	7.46	20.89	5.71	5.96	12.48	15.96	26.56	170.46						
	Do. . . .	7.89	22.08	5.69	5.93	12.43	15.92	26.62	169.98						



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