

CARBON BRUSHES FOR D C MACHINES

1. INTRODUCTION

Carbon brushes are used in all types of DC machines. They are required in electric motors and automobile industry. It is used in rotating electrical machines and is available in various sizes for different applications.

2. RAW MATERIALS

Hard carbon blocks, natural graphite blocks, copper lead, terminal copper powder etc.

3. MANUFACTURING PROCESS

The main raw materials used for carbon brushes are hard carbon, natural graphite, electro graphite. The required sizes of carbon pieces are cut from carbon blocks with the help of circular saw; then the pieces are finished to the desired shape as per design of brush using belt sander machine. The required holes are made with the help of drilling machine and lead wire is fixed. Carbon brushes are tested.

4. MANPOWER REQUIREMENT : 5

5. PROJECT COST

A. Fixed Capital

Land & Building	Rental
Plant & Machinery	1,00,000
Miscellaneous fixed assets	25,000
Pre operative expenses	10,000
	1,35,000

B. Working Capital (per month)

Raw Material & Packing	20,000
Working expenses	18,000
	38,000
Working capital for 3 months	1,14,000
Total (A+B)	2,49,000

6. COST OF PRODUCTION / ANNUM

Total recurring cost per year	4,56,000
Depreciation on machinery	5,000
Interest on investment	12,000
Total	4,73,000

7. PROFITABILITY

Sales turnover	6,00,000
Operating expenses	4,73,000
Annual profit	1,27,000
Rate of return	51 %

Market potential :

With the growth of electrical machines for various industrial automobiles and agricultural applications, the carbon brushes are gaining an increasing demand for use with electrical machines. Besides, the brush block materials used in the manufacture of different grades of carbon brushes are now easily available from indigenous sources. As such, there is a wide scope for this industry and marketing will not be a problem.

Annual Production capacity : 6,00,000/-

List of Plant, Machinery & equipment :

- 1 Carbon block cutting machine
- 2 Double ended bench grinder
- 3 Bench drilling machine
- 4 Lead fixing machine
- 5 Ball press
- 6 Dust collector with motor, exhaust fan etc
- 7 Testing equipments