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SECURITIES AND EXCHANGE COMMISSION
 WASHINGTON, D.C. 20549

FORM S-8

REGISTRATION STATEMENT
 UNDER
 THE SECURITIES ACT OF 1933

CABOT MICROELECTRONICS CORPORATION

(Exact name of registrant as specified in its charter)

DELAWARE
 (State or other
 jurisdiction of
 incorporation or
 organization)

36-4324765
 (I.R.S. Employer
 Identification Number)

870 NORTH COMMONS DRIVE
 AURORA, ILLINOIS 60504

(Address of registrant's principal executive offices)

CABOT MICROELECTRONICS CORPORATION 2000 EQUITY INCENTIVE PLAN
 (Full title of the plan)

MATTHEW NEVILLE
 PRESIDENT AND CHIEF EXECUTIVE OFFICER
 CABOT MICROELECTRONICS CORPORATION
 870 NORTH COMMONS DRIVE
 AURORA, ILLINOIS 60504
 (630) 375-6631

(Name, address, and telephone number of agent for service)

CALCULATION OF REGISTRATION FEE

TITLE OF SECURITIES TO BE REGISTERED	AMOUNT TO BE REGISTERED (1)	PROPOSED MAXIMUM OFFERING PRICE PER SHARE (2)	PROPOSED MAXIMUM AGGREGATE OFFERING PRICE (2)	AMOUNT OF REGISTRATION FEE
Common Stock, par value \$.001 per share (3)	3,500,000 shares	\$25.25	\$88,375,000.00	\$23,331.00

- (1) Plus such additional number of shares as may be required in the event of a stock dividend, stock split, recapitalization or other similar event in accordance with Rule 416 of the Securities Act of 1933, as amended (the "Securities Act").
- (2) Estimated solely for the purpose of determining the registration fee pursuant to Rule 457(h) of the Securities Act.
- (3) Includes the Rights associated with the Common Stock.

PART I

EXPLANATORY NOTE

This Form S-8 Registration Statement relates to 3,500,000 shares of common stock of Cabot Microelectronics Corporation, par value \$.001 per share (the "Common Stock"), which may be issued under our 2000 Equity Incentive Plan (the "EIP").

The documents containing information specified by Part I of this Registration Statement have been or will be sent or given to participants in the EIP as specified in Rule 428(b)(1) promulgated by the Securities and Exchange Commission (the "SEC") under the Securities Act. Such document(s) are not required to be filed with the SEC but constitute (along with the documents incorporated by reference into this Registration Statement pursuant to Item 3 of Part II hereof) a prospectus that meets the requirements of Section 10(a) of the Securities Act.

References to the "Company" shall mean Cabot Microelectronics Corporation, a Delaware corporation.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. INCORPORATION OF DOCUMENTS BY REFERENCE

We file annual, quarterly and special reports, proxy statements and other information with the SEC. You may read and copy any document we file at the SEC's public reference rooms in Washington, D.C., New York, NY and Chicago, IL. Please call the SEC at 1-800-SEC-0330 for further information on the public reference rooms. Our SEC filings are also available to the public from the SEC's web site at <http://www.sec.gov>. Reports, proxy and information statements and other information concerning us can also be inspected at the offices of the Nasdaq Stock Market's National Market, 33 Whitehall Street, New York, NY 10004.

The SEC allows us to "incorporate by reference" information into this Registration Statement, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be part of this Registration Statement, and later information that we file with the SEC will automatically update this Registration Statement. We incorporate by reference the following documents and any future filings made with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), prior to the termination of the offering:

- (a) Our prospectus filed with the SEC on April 4, 2000 pursuant to Rule 424(b) of the Securities Act in connection with the Form S-1, which includes our audited financial statements for the fiscal year ended September 30, 1999 and describes the terms of the Common Stock.
- (b) Our Registration Statement of Form 8-A filed with the SEC on April 3, 2000, which describes the terms of the Common Stock.

ITEM 4. DESCRIPTION OF SECURITIES

Not applicable.

ITEM 5. INTERESTS OF NAMED EXPERTS AND COUNSEL

Fried, Frank, Harris, Shriver & Jacobson (a partnership including professional corporations), New York, New York, will pass upon the validity of the issuance of the shares of Common Stock.

ITEM 6. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Section 145 of the Delaware General Corporation Law (the "DGCL") provides that a corporation may indemnify directors and officers as well as other employees and individuals against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement in connection with specified actions, suits and proceedings, whether civil, criminal, administrative, or investigative (other than an action by or in the right of the corporation -- a "derivative action"), if they acted in good faith and in a manner they reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe their conduct was unlawful. A similar standard is applicable in the case of derivative

actions, except that indemnification only extends to expenses (including attorneys' fees) incurred in connection with the defense or settlement of such action, and the statute requires court approval before there can be any indemnification where the person seeking indemnification has been found liable to the corporation. The statute provides that it is not exclusive of other indemnification that may be granted by a corporation's certificate of incorporation, bylaws, disinterested director vote, stockholder vote, agreement, or otherwise.

Our bylaws and our certificate of incorporation require us to indemnify to the fullest extent authorized by the DGCL any person made or threatened to be made a party to an action, suit or proceeding, whether criminal, civil, administrative or investigative, by reason of the fact that he or she is or was a director or officer of the Company, or is or was serving at the request of the Company as a director, officer, employee or agent of another corporation or of a partnership, joint venture, trust or other enterprise.

As permitted by section 102(b)(7) of the DGCL, our certificate of incorporation eliminates the liability of a director to the corporation or its stockholders for monetary damages for such breach of fiduciary duty as a director, except for liabilities arising (a) from any breach of the director's duty of loyalty to the corporation or its stockholders; (b) from acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law; (c) under section 174 of the DGCL; or (d) from any transaction from which the director derived an improper personal benefit.

We intend to obtain primary and excess insurance policies insuring our directors and officers and those of our subsidiaries against certain liabilities they may incur in their capacity as directors and officers. Under these policies, the insurer, on our behalf, may also pay amounts for which we have granted indemnification to the directors or officers.

Additionally, reference is made to the Underwriting Agreement filed as Exhibit 1.1 to our Registration Statement No. 333-95093 on Form S-1, which provides for indemnification by our underwriters, their directors and officers who sign the registration statement and persons who control us, under certain circumstances.

ITEM 7. EXEMPTION FROM REGISTRATION CLAIMED

Not applicable.

ITEM 8. EXHIBITS

EXHIBIT NO. -----	DESCRIPTION OF EXHIBIT -----
4.1	Form of Certificate of Incorporation of the Company previously filed as Exhibit 3.1 to the Company's Registration Statement No. 333-95093 on Form S-1, and incorporated herein by reference
4.2	Form of By-Laws of the Company previously filed as Exhibit 3.2 to the Company's Registration Statement No. 333-95093 on Form S-1, and incorporated herein by reference
4.3	Form of Cabot Microelectronics Corporation 2000 Equity Incentive Plan, previously filed as Exhibit 10.14 to the Company's Registration Statement No. 333-95093 on Form S-1, and incorporated herein by reference
5.1*	Opinion of Fried, Frank, Harris, Shriver & Jacobson
23.1	Consent of Fried, Frank, Harris, Shriver & Jacobson (included in Exhibit 5.1)
23.2*	Consent of PricewaterhouseCoopers LLP (independent public accountants)

* Filed herewith.

ITEM 9. UNDERTAKINGS

The Company hereby undertakes:

(a) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of this Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this Registration Statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in this Registration Statement or any material change to such information in this Registration Statement;

provided, however, that paragraphs (i) and (ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the SEC by the Company pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in this Registration Statement.

(b) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(d) That, for the purpose of determining any liability under the Securities Act, each filing of the Company's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act that is incorporated by reference in this Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Company pursuant to the provisions described in Item 6 of this Registration Statement, or otherwise, the Company has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Company of expenses incurred or paid by a director, officer or controlling person of the Company in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Company will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act, the Registrant certifies that it has reasonable grounds to believe that it meets all of

the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of Aurora, State of Illinois, on April 7, 2000.

CABOT MICROELECTRONICS CORPORATION

/s/ Matthew Neville

By: Matthew Neville
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS:

That the undersigned officers and directors of Cabot Microelectronics Corporation, a Delaware corporation, do hereby constitute and appoint Matthew Neville and William C. McCarthy, and each of them, the lawful attorneys-in-fact and agents with full power and authority to do any and all acts and things and to execute any and all instruments which said attorneys and agents, and any one of them, determine may be necessary or advisable or required to enable said corporation to comply with the Securities Act and any rules or regulations or requirements of the Commission in connection with this Registration Statement. Without limiting the generality of the foregoing power and authority, the powers granted include the power and authority to sign the names of the undersigned officers and directors in the capacities indicated below to this Registration Statement, to any and all amendments, both pre-effective and post-effective, and supplements to this Registration Statement, and to any and all instruments or documents filed as part of or in conjunction with this Registration Statement or amendments or supplements thereof, and each of the undersigned hereby ratifies and confirms that all said attorneys and agents, or any one of them, shall do or cause to be done by virtue hereof. This Power of Attorney may be signed in several counterparts.

IN WITNESS WHEREOF, each of the undersigned has executed this Power of Attorney as of the date indicated.

Pursuant to the requirements of the Securities Act, this Registration Statement has been signed below by the following persons in the capacities and on the dates indicated.

SIGNATURE	TITLE	DATE
----- /s/ Kennett F. Burnes ----- Kennett F. Burnes	Chairman of the Board	April 7, 2000
----- /s/ Matthew Neville ----- Matthew Neville	President and Chief Executive Officer, Director (Principal Executive Officer)	April 7, 2000
----- /s/ William C. McCarthy ----- William C. McCarthy	Vice President, Chief Financial Officer and Treasurer (Principal Financial and Accounting Officer)	April 7, 2000
----- /s/ Samuel W. Bodman ----- Samuel W. Bodman	Director	April 7, 2000
----- /s/ William P. Noglows ----- William P. Noglows	Director	April 7, 2000

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23.1	Consent of Fried, Frank, Harris, Shriver & Jacobson (included in Exhibit 5.1)
23.2*	Consent of PricewaterhouseCoopers LLP (independent public accountants)

* Filed herewith.

[Letterhead of Fried, Frank, Harris, Shriver & Jacobson
(a partnership including professional corporations)]

April 7, 2000

Cabot Microelectronics Corporation
870 North Commons Drive
Aurora, Illinois 60504

RE: Registration Statement on Form S-8

Ladies and Gentlemen:

Cabot Microelectronics Corporation (the "Company") is filing with the Securities and Exchange Commission a Registration Statement on Form S-8 (the "Registration Statement") with respect to an aggregate of 3,500,000 shares (the "Shares") of common stock, par value \$.001 per share, of the Company, issuable pursuant to the Cabot Microelectronics Corporation 2000 Equity Incentive Plan (the "Plan").

All assumptions and statements of reliance herein have been made without any independent investigation or verification on our part except to the extent otherwise expressly stated, and we express no opinion with respect to the subject matter or accuracy of such assumptions or items relied upon.

In connection with this opinion, we have (i) investigated such questions of law, (ii) examined originals or certified, conformed or reproduction copies of such agreements, instruments, documents and records of the Company, such certificates of public officials and such other documents, and (iii) received such information from officers and representatives of the Company, as we have deemed necessary or appropriate for the purposes of this opinion. In all examinations, we have assumed the legal capacity of all natural persons executing documents, the genuineness of all signatures, the authenticity of original and certified documents and the conformity to original or certified copies of all copies submitted to us as conformed or reproduction copies. As to various questions of fact relevant to the opinions expressed herein, we have relied upon, and assume the accuracy of, representations and warranties contained in documents and certificates and oral or written statements and other information of or from representatives of the Company and others and assume compliance on the part of all parties to the documents with their covenants and agreements contained therein. We also have assumed that any future changes to the terms and conditions of the Plan will be duly authorized by the Company and will comply with all applicable laws.

Based upon the foregoing and subject to the limitations, qualifications and assumptions set forth herein, we are of the opinion that the Shares, when issued and paid for (with the consideration received by the Company being not less than the par value thereof) in accordance with the provisions of the Plan and the applicable option agreements thereunder, will be duly authorized, validly issued, fully paid and non-assessable.

The opinion expressed herein is limited to the General Corporation Law of the State of Delaware, as currently in effect, the provisions of the Delaware Constitution applicable to corporations and the reported judicial decisions interpreting those laws.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement. In giving such consent, we do not hereby admit that we are in the category of such persons whose consent is required under Section 7 of the Securities Act of 1933, as amended.

Very truly yours,

/s/ FRIED, FRANK, HARRIS, SHRIVER & JACOBSON

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated November 5, 1999 relating to the financial statements of Cabot Microelectronics Corporation, a division of Cabot Corporation, for the year ended September 30, 1999 which appears in the Registration Statement on Form S-1 of Cabot Microelectronics Corporation dated April 4, 2000.

/s/ PricewaterhouseCoopers LLP

Boston, Massachusetts
April 7, 2000