

REGISTRATION NO. 333-_____

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM S-8
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

EMCORE CORPORATION

(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

NEW JERSEY

22-2746503

(STATE OR OTHER JURISDICTION OF
INCORPORATION OR ORGANIZATION)

(I.R.S. EMPLOYER IDENTIFICATION NO.)

145 BELMONT DRIVE, SOMERSET, NEW JERSEY 08873

(ADDRESS OF PRINCIPAL EXECUTIVE OFFICES)

EMCORE CORPORATION
DIRECTORS' STOCK AWARD PLAN

(FULL TITLE OF THE PLAN)

THOMAS G. WERTHAN
EMCORE CORPORATION
145 BELMONT DRIVE
SOMERSET, NEW JERSEY 08873

(NAME AND ADDRESS OF AGENT FOR SERVICE)

(732) 271-9090

(TELEPHONE NUMBER, INCLUDING AREA CODE, 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(1)	PROPOSED MAXIMUM AGGREGATE OFFERING PRICE(1)	AMOUNT OF REGISTRATION FEE
Common Stock, without par value	n/a	n/a	\$250,000	\$ 31.68

- (1) This registration statement is being filed for purposes of registering an additional \$250,000 in shares of Common Stock of EMCORE Corporation, issuable pursuant to our Directors' Stock Award Plan (the "Plan"). We have previously registered \$281,250 in shares pursuant to a registration statement on Form S-8 (File No. 333-39547) under the Plan. The registration fee for the previously registered shares was paid at the time that the previous registration statement was filed.

EXPLANATORY NOTE

Pursuant to General Instruction E of Form S-8, the registrant, EMCORE Corporation (the "Registrant"), is filing this registration statement ("Registration Statement") with respect to the issuance of an additional \$250,000 of its common stock (valued as of the date of issue), no par value per share (the "Common Stock"), under the Plan.

On November 5, 1997, the Registrant filed a registration statement (the "Prior Registration Statement") on Form S-8 (File No. 333-39547) with respect to the issuance of shares of Common Stock under the Plan. The contents of the Prior Registration Statement are hereby incorporated in this Registration Statement by reference.

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

The documents containing the information specified in Part I will be sent or given to persons to whom the information is required to be given as specified by Rule 428(b)(1) of the Securities Act. Such documents are not being filed with the Securities and Exchange Commission (the "Commission") either as part of this Registration Statement or as prospectuses or prospectus supplements pursuant to Rule 424 of the Securities Act. Such documents and the documents incorporated by reference in this Registration Statement pursuant to Item 3 of Part II of this Form, taken together, constitute a prospectus that meets the requirements of Section 10(a) of the Securities Act.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. INCORPORATION OF DOCUMENTS BY REFERENCE.

The following documents filed by the Registrant with the Commission are incorporated herein by reference:

- (1) The Registrant's Annual Report on Form 10-K for the fiscal year ended September 30, 2003.
- (2) The Registrant's Quarterly Report on Form 10-Q for the quarter ended December 31, 2003.
- (3) The Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2004.
- (4) The Registrant's Current Reports on Form 8-K filed with the Commission on October 14, 2003, November 18, 2003, December 29, 2003, January 21, 2004 (2), February 17, 2004, February 19, 2004, and July 16, 2004, and the Registrant's

Current Reports on Form 8-K/A filed with the Commission on February 18, 2004 and May 19, 2004.

- (5) The Registrant's Registration Statement on Form 8-A, filed with the Commission on February 26, 1997 (File Number 0-22175) pursuant to Section 12(g) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), which incorporates by reference the description of the shares of Common Stock contained in the Registration Statement on Form S-1 (File Number 333-18565) filed by the Registrant on December 23, 1996, as amended by Amendment No. 1 filed on February 6, 1997, Amendment No. 2 filed on February 11, 1997 and Amendment No. 3 filed on February 24, 1997, and declared effective by the Commission on March 6, 1997, and any amendment or report filed with the Commission for purposes of updating such description.

All reports and other documents filed by the Registrant with the Commission pursuant to Sections 13(a), 13(c), 14, and 15(d) of the Exchange Act after the date of this Registration Statement and prior to the filing of a post-effective amendment to this Registration Statement, which indicates that all securities offered hereby have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference herein and to be part hereof from the respective dates of filing of such reports and documents.

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 Somerset, State of New Jersey, on this 10th day of August, 2004.

EMCORE Corporation

By: /s/ Thomas G. Werthan

 Thomas G. Werthan
 Chief Financial Officer

POWER OF ATTORNEY

Each person whose signature appears below constitutes and appoints and hereby authorizes Reuben F. Richards, Jr. and Thomas G. Werthan, severally, such person's true and lawful attorneys-in-fact, with full power of substitution or resubstitution, for such person and in his name, place and stead, in any and all capacities, to sign on such person's behalf, individually and in each capacity stated below, any and all amendments, including post-effective amendments to this Registration Statement and to sign any and all additional registration statements relating to the same offering of securities as this Registration Statement that are filed pursuant to Rule 462(b) of the Securities Act, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Commission granting unto said attorneys-in-fact, full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises, as fully to all intents and purposes as such person might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact, or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act, this Registration Statement on Form S-8 has been signed by the following persons in the capacities and on the date indicated.

SIGNATURE -----	TITLE -----	DATE ----
----- Thomas J. Russell	Chairman of the Board of Directors	August 10, 2004
----- Reuben F. Richards, Jr.	President, Chief Executive Officer and Director (Principal Executive Officer)	August 10, 2004
----- Thomas G. Werthan	Chief Financial Officer and Director (Principal Accounting and Financial Officer)	August 10, 2004
----- Richard A. Stall	Chief Technology Officer and Director	August 10, 2004
----- Robert Bogomolny	Director	August 10, 2004
----- John M. Gillen	Director	August 10, 2004
----- Robert Louis-Dreyfus	Director	August 10, 2004
----- Charles Thomas Scott	Director	August 10, 2004

EXHIBIT INDEX

Exhibit Number -----	Description -----
4.1	Registrant's Directors' Stock Award Plan (incorporated herein by reference to Exhibit 99.1 to Registrant's Original Registration Statement of Form S-8 filed with the Commission on November 5, 1997 (File No. 333-39547)).
4.2	Restated Certificate of Incorporation, dated December 21, 2000 (incorporated by reference to Exhibit 3.1 of the Registrant's Annual Report on Form 10-K for the fiscal year ended September 30, 2000).
4.3	Amended By-Laws, as amended through December 21, 2000 (incorporated by reference to Exhibit 3.2 of the Registrant's Annual Report on Form 10-K for the fiscal year ended September 30, 2000).
5.1	Opinion of Dillon, Bitar & Luther L.L.C.*
23.1	Consent of Dillon, Bitar & Luther L.L.C. (included in Exhibit 5.1 to this Registration Statement).*
23.2	Consent of Deloitte & Touche LLP.*
24.1	Power of Attorney (included on signature page).*

* Filed herewith.

DILLON, BITAR & LUTHER L.L.C.
53 MAPLE AVENUE
MORRISTOWN, NJ 07960

August 10, 2004

EMCORE Corporation
145 Belmont Drive
Somerset, NJ 08873

RE: EMCORE CORPORATION
REGISTRATION STATEMENT ON FORM S-8

Ladies and Gentlemen:

You have requested our opinion in connection with the above-referenced registration statement (the "Registration Statement"), which is concurrently being filed by EMCORE Corporation, a New Jersey corporation (the "Company") with the Securities and Exchange Commission under the Securities Act of 1933, as amended. The Registration Statement relates to the registration of the Company's common stock in an aggregate amount of \$250,000 (the "Shares") that may be acquired by certain Directors of the Company pursuant to the terms and provisions of the Company's Directors' Stock Award Plan (the "Plan").

This opinion is being furnished in accordance with the requirements of Item 8 of Form S-8 and Item 601(b)(5)(i) of Regulation S-K.

We are familiar with the corporate proceedings relating to the authorization of the Shares and have reviewed the corporate proceedings taken with respect to the approval of such amendment to the Plan. We have examined and relied on originals, or copies certified to our satisfaction, of all such corporate records of the Company and such other instruments and other certificates of public officials, officers, and representatives of the Company and such other persons, and we have made such investigations of law, as we have deemed appropriate, as a basis for the opinion herein expressed.

We do not express or purport to express any opinions with respect to laws other than the Federal laws of the United States and the laws of the State of New Jersey.

Based upon the foregoing, it is our opinion that the Shares will, if issued and delivered in accordance with the terms and provisions of the Plan, be validly issued, fully paid, and non assessable.

We hereby consent to the filing of this opinion as an Exhibit to the Registration Statement. By giving such consent we do not thereby admit that we are an "expert" with respect to any part of such Registration Statement, as that term is used in the Securities Act of 1933, as amended, or the rules or regulations of the Commission issued thereunder.

Very truly yours,

/s/ DILLON, BITAR & LUTHER L.L.C.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement of EMCORE Corporation on Form S-8 of our report dated December 24, 2003, February 17, 2004 as to the effects of the discontinued operations discussed in Note 2, May 19, 2004 as to the effects of the restatement discussed in Note 19 (which report expresses an unqualified opinion and includes explanatory paragraphs relating to accounting changes discussed in Note 3 and the restatement discussed in Note 19), appearing in the Current Report on Form 8-K/A of EMCORE Corporation as of May 19, 2004.

/s/ DELOITTE & TOUCHE LLP

Parsippany, New Jersey
August 10, 2004