

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934

(Amendment No. 10)*

FMC TECHNOLOGIES INC

(Name of Issuer)

COMMON STOCK

(Title of Class of Securities)

30249U101

(CUSIP Number)

December 31, 2010

(Date of Event which Requires Filing of Statement)

Check the appropriate box to designate the Rule pursuant to which this Schedule is filed:

Rule 13d - 1(b)

Rule 13d - 1(c)

Rule 13d - 1(d)

*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes.)

(Continued on following page(s))
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CUSIP NO. 30249U101 13G Page 2 of 5 Pages

1 Name of Reporting Person
S.S. or I.R.S. Identification No. of Above Person

T. ROWE PRICE ASSOCIATES, INC.
52-0556948

2 Check the Appropriate Box if a Member of a Group*

NOT APPLICABLE

(a) _____
(b) _____

3 SEC Use Only

4 Citizenship or Place of Organization

MARYLAND

Number of 5 Sole Voting Power

Shares **
 3,854,353
Beneficially 6 Shared Voting Power
 **
Owned By Each -0-
Reporting 7 Sole Dispositive Power
 **
Person 14,035,123
With 8 Shared Dispositive Power
 -0-

9 Aggregate Amount Beneficially Owned by Each Reporting Person
14,035,123

10 Check Box if the Aggregate Amount in Row (9) Excludes Certain
Shares*

NOT APPLICABLE

11 Percent of Class Represented by Amount in Row 9

11.7%

12 Type of Reporting Person*

IA

*SEE INSTRUCTION BEFORE FILLING OUT!

**Any shares reported in Items 5 and 6 are also
reported in Item 7.

SCHEDULE 13G

PAGE 3 OF 5

Item 1(a) Name of Issuer:

Reference is made to page 1 of this Schedule 13G

Item 1(b) Address of Issuer's Principal Executive Offices:

1803 GEARS RD, HOUSTON, TX 77067

Item 2(a) Name of Person(s) Filing:

(1) T. Rowe Price Associates, Inc. ("Price
Associates")

(2) _____

_____ Attached as Exhibit A is a copy of an agreement between
the Persons Filing (as specified hereinabove) that this
Schedule 13G is being filed on behalf of each of them.

Item 2(b) Address of Principal Business Office:

100 E. Pratt Street, Baltimore, Maryland 21202

Item 2(c) Citizenship or Place of Incorporation:

(our) knowledge and belief, the securities referred to above were acquired in the ordinary course of business and were not acquired for the purpose of and do not have the effect of changing or influencing the control of the issuer of such securities and were not acquired in connection with or as a participant in any transaction having such purpose or effect. T. Rowe Price Associates, Inc. hereby declares and affirms that the filing of Schedule 13G shall not be construed as an admission that Price Associates is the beneficial owner of the securities referred to, which beneficial ownership is expressly denied.

Signature.

After reasonable inquiry and to the best of my (our) knowledge and belief, I (we) certify that the information set forth in this statement is true, complete and correct.

Dated: February 14, 2011

T. ROWE PRICE ASSOCIATES, INC.

By: /s/ David Oestreicher
David Oestreicher, Vice President

Note: This Schedule 13G, including all exhibits, must be filed with the Securities and Exchange Commission, and a copy hereof must be sent to the issuer by registered or certified mail not later than February 14th following the calendar year covered by the statement or within the time specified in Rule 13d-1(b)(2), if applicable.

12/31/2010