

JUL 2 2002

K021318

FRIADENT GmbH XiVE® Dental Implant System  
Original Premarket 510(k) Notification

**SECTION 15: SUMMARY OF SAFETY AND EFFECTIVENESS**

This 510(k) summary of safety and effectiveness information is being submitted in accordance with the requirements of SMDA 1990 and CFR 807.92.

**15.1 SUBMITTER INFORMATION**

- a. Company Name: FRIADENT GmbH.
- b. Company Address: Steinzeugstrasse 50  
Mannheim D-68229  
Germany
- c. Company Phone: (011) 49 621 43 02 1121  
Company Facsimile: (011) 49 621 43 02 2121
- d. Contact Person: Heike Dietzler  
Regulatory Affairs Manager
- e. Date Summary Prepared: April 24, 2002

**15.2. DEVICE IDENTIFICATION**

- a. Trade/Proprietary Name: XiVE® Dental Implant System
- b. Classification Name: Endosseous Dental Implants  
21 CFR 872.3640

**15.3 IDENTIFICATION OF PREDICATE DEVICES**

<u>Company</u>	<u>Device</u>	<u>510(k) No.</u>	<u>Date Cleared</u>
FRIADENT GmbH	XiVE® Dental Implant System	K013867	03/15/02
FRIADENT GmbH	FRIALOC® Dental Implant System	K013067	04/09/02

#### **15.4 DEVICE DESCRIPTION**

The XiVE Dental Implant System consists of subgingival threaded dental implants in 3.4 - 5.5mm diameters with 8 – 18mm lengths. The implants are coated with the FRIOS Deep Profile Surface. The XiVE Dental Implant System is comprised of dental implants, surgical and laboratory instruments and prosthetic components. The system is designed for two stage procedures for single tooth replacement, fixation of bridges and complete dentures and for immediate loading procedures using four implants in the anterior mandible.

#### **15.5 SUBSTANTIAL EQUIVALENCE**

The XiVE® dental implant is identical to the current XiVE® Dental Implant System in terms of design, materials, coatings, prosthetic options and mechanical attributes. The XiVE® dental implant is substantially equivalent to the FRIADENT FRIALOC® Dental Implant System in terms of intended use.

#### **15.6 INTENDED USE**

The XiVE® Dental Implant System is indicated as follows: once the implant has osseointegrated, it serves to support single tooth, bridge and overdenture restorations. In the edentulous mandible, a minimum of four XiVE dental implants ( $\geq 9.5$ mm length) are placed between the mental foramina and rigidly splinted together. In this case, bar-prosthetic loading is possible immediately after implant placement.

#### **15.7 TECHNOLOGICAL CHARACTERISTICS**

The XiVE® Dental Implant System with the expanded indications is identical to the current XiVE® Dental Implant System. The XiVE® dental implant is available in 3.4, 3.8, 4.5 and 5.5 mm screw-type implants with FRIOS® Deep Profile Surface. The lengths of the implants range from 8 – 18mm. The XiVE dental implants are constructed of CP-2 titanium. A variety of prosthetic options are available for the XiVE system including, MH-6, MH-2, EshteticBase, Cerabase, AuroBase and Protect Abutments, PassivFit, Ball and Socket

Attachments, Bar Copings, Round Bar, Bar Clip, and Telescopic Abutments. The XiVE dental implant system was tested for compressive and static strength and finite element analysis.

#### **15.8 CLASS III CERTIFICATION AND SUMMARY**

This notification contains a Class III certification and summary of adverse safety and effectiveness information pursuant to 513(f) of the Federal Food, Drug, and Cosmetic Act.

#### **15.9 CONCLUSIONS**

This notification contains all information required by 21 CFR 807.87. A completed copy of the Premarket Notification 510(k) Reviewer's Checklist is provided in this submission. Design evaluations of the XiVE Dental Implant System show that the device is substantially equivalent to the FRIALOC Dental Implant. Comparison the XiVE Dental Implant System to the predicate devices show that the device is substantially equivalent.



Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

JUL - 2 2002

FRIADENT GmbH  
C/O Ms. Carol Patterson  
President  
Patterson Consulting Group, Incorporated  
21911 Erie Lane  
Lake Forest, California 92630

Re: K021318  
Trade/Device Name: XiVE® Dental Implant System  
Regulation Number: 21 CFR 872.3640  
Regulation Name: Endosseous Dental Implant  
Regulatory Class: III  
Product Code: DZE  
Dated: April 24, 2002  
Received: April 25, 2002

Dear Ms. Patterson:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

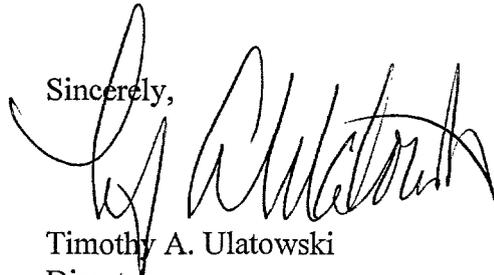
Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies.

You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

This letter will allow you to begin marketing your device as described in your Section 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801 and additionally 21 CFR Part 809.10 for in vitro diagnostic devices), please contact the Office of Compliance at (301) 594-4613. Additionally, for questions on the promotion and advertising of your device, please contact the Office of Compliance at (301) 594-4639. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). Other general information on your responsibilities under the Act may be obtained from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 443-6597 or at its Internet address <http://www.fda.gov/cdrh/dsma/dsmamain.html>

Sincerely,



Timothy A. Ulatowski  
Director

Division of Anesthesiology, General Hospital,  
Infection Control and Dental Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure

## INDICATION FOR USE

510(k) Number:

Device Name: XiVE® Dental Implant System

Indications for Use: The XiVE Dental Implant System is indicated for the following:

Once the implant has osseointegrated, it serves to support single tooth, bridge and overdenture restorations.

In the edentulous mandible, a minimum of four XiVE dental implants ( $\geq 9.5$ mm length) are placed between the mental foramina and rigidly splinted together. In this case, bar-prosthetic loading is possible immediately after implant placement.

(PLEASE DO NOT WRITE BELOW THIS LINE - CONTINUE ON ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of Device Evaluation (ODE)

Susan Ranter  
(Division Sign-Off)  
Division of Dental, Infection Control,  
and General Hospital Devices  
510(k) Number K021318

Prescription Use  OR Over-The-Counter Use   
(Per 21 CFR 801.109)

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