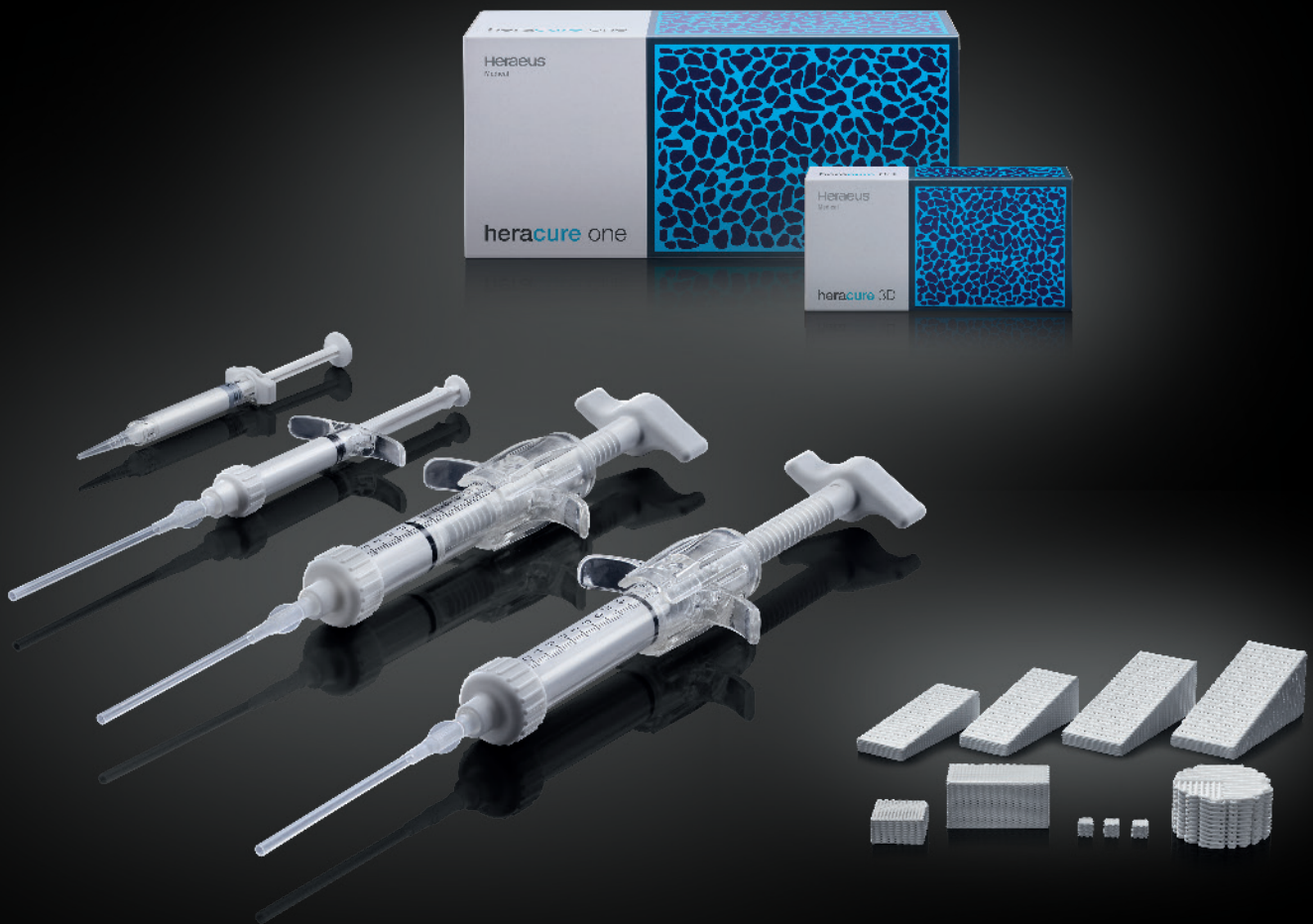


# heracure

**SUPPORT WHEN NEEDED  
AS LONG AS NEEDED**

## **BONEPACE TECHNOLOGY**

supporting bone regeneration  
at the body's natural pace



# heracure

## UNIQUE BONEPACE TECHNOLOGY

## EFFECTIVENESS, CONTROL AND SAFETY IN BONE HEALING

**heracure** is a ready-to-use, synthetic, osteoconductive and bioresorbable bone substitute material designed to support the bone healing process.

Distinguished by its unique mode of action, **BONEPACE Technology**, **heracure** provides control and safety throughout the surgical procedure and healing process.

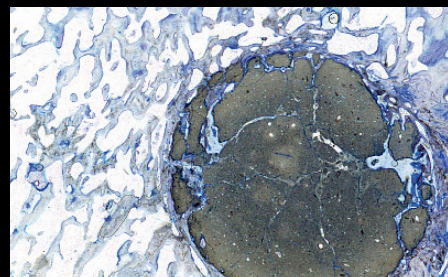
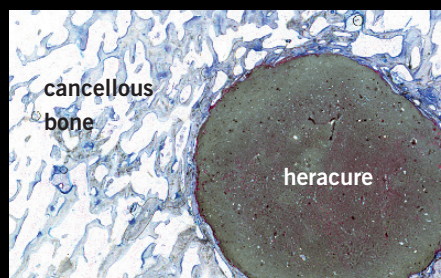


## BONEPACE TECHNOLOGY

With a composition based on a high share of **alpha-tricalcium phosphate**, **heracure** undergoes a crystallization process upon contact with body fluids, transforming into its bone-mineral like state, as the highly bioactive, calcium-deficient hydroxyapatite.

Quickly recognized by the host bone like its own tissue, BONEPACE Technology supports natural regeneration and offers effective osteointegration, while delivering predictable outcomes. The resorption of **heracure** and new bone regrowth occur simultaneously and in a controlled manner, thus eliminating risk of new defects forming.

**heracure adapts perfectly to the body's natural pace of bone remodeling, ensuring predictable and effective healing.**



BONEPACE Technology supports natural regeneration through controlled resorption, from the outside in



## AREAS OF APPLICATION

**heracure** is intended for filling non-infected and non-load bearing defects in a multitude of orthopaedic and trauma cases, including:

- metaphyseal bone defect fractures, e.g. tibia, radius and humerus fractures
- after removal or replacement of osteosynthesis implants
- after resection of benign tumors and cysts
- to support the fixation of osteosynthesis implants, e.g. bone screws
- osteotomy
- long-bone non-union, critical bone defects
- acetabular voids and revisions

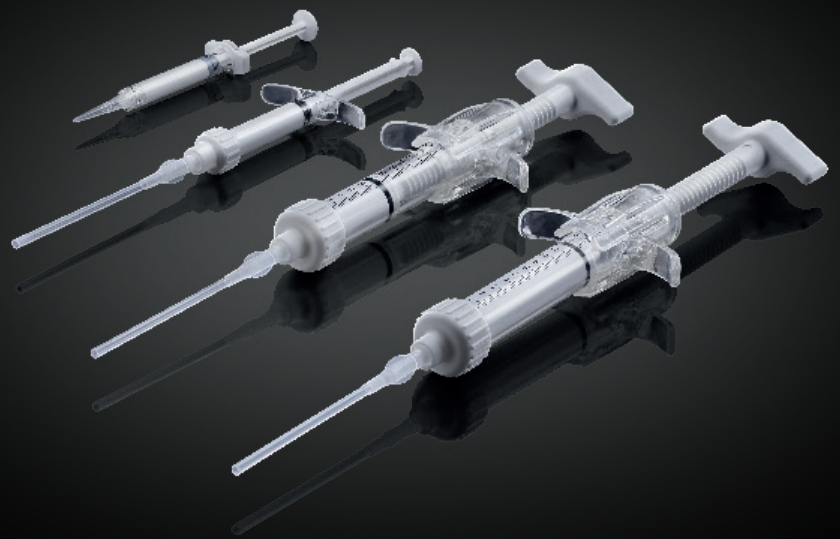


# heracure one

## LEADING READY-TO-USE INJECTABLE BONE SUBSTITUTE BASED ON CALCIUM PHOSPHATE

**heracure one** is an injectable synthetic bone substitute designed to fill non-infected bone defects after trauma, reconstruction, or corrective procedures.

Its optimized viscosity enables complete filling of irregular defects while ensuring reliable retention within the bone void, supporting optimal osteointegration and a supportive fit.



## ZERO PREP –TOTAL CONFIDENCE EASY AND QUICK HANDLING

**heracure one** is **ready-to-use** and sets only in vivo after coming in contact with aqueous liquids – eliminating preparation steps, time pressure, mixing errors, and workflow delays.

The behaviour of **heracure one** remains unchanged until application, offering **unlimited working time** and ensuring surgeons have complete control and confidence throughout the procedure.

The cohesive consistency of **heracure one** allows **precise, controlled application**. The included cannula enables minimally invasive injection with ease.

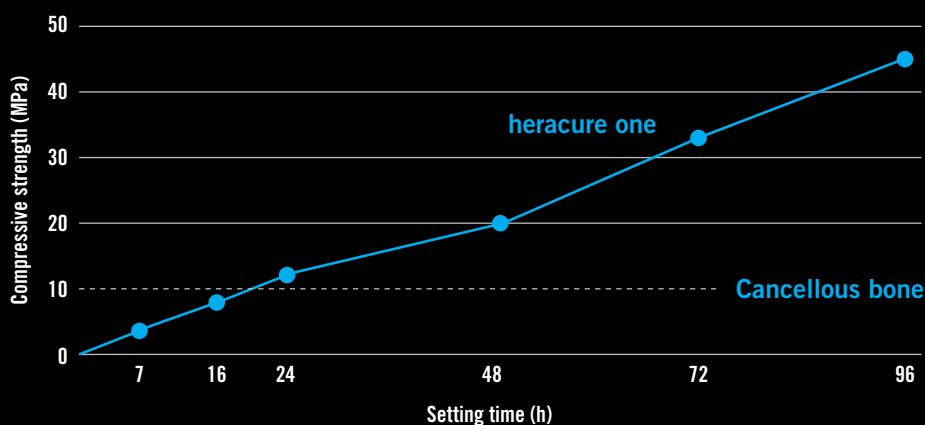
Delivered in prefilled syringes, **heracure one** is available in **four sizes** to suit every procedure and patient.

## STRUCTURAL SUPPORT THROUGHOUT HEALING

Once the setting process begins, the compressive strength of **heracure one** increases progressively, ensuring reliable stability throughout the entire healing process. A hard outer layer forms already 10 minutes after application, covering the paste-like core.

After 16 to 24 hours, the compressive strength is similar to that of cancellous bone. Final compressive strength is achieved after about four days, depending on the volume/geometry of the bone defect and supply of body fluid, and is 3–4x times higher than with healthy cancellous bone.

HERACURE ONE ACHIEVES COMPRESSIVE STRENGTH OF CANCELLOUS HEALTHY BONE IN <24 HOURS



# 3–4x

**HIGHER COMPRESSIVE  
STRENGTH**

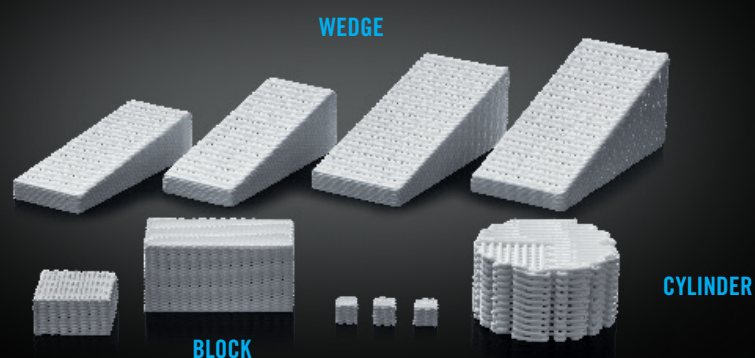
compared to healthy  
cancellous bone

# heracure 3D

## WORLD'S FIRST 3D PRINTED RESORBABLE SCAFFOLD BASED ON CALCIUM PHOSPHATE

**heracure 3D** is a porous synthetic bone substitute material designed to fill or reconstruct non-load-bearing bone defects or to fill bone defects, which are sufficiently stabilized by appropriate means.

**heracure 3D** provides bone-like mechanical strength and can be combined with autologous or allogeneic materials, such as blood, blood-based products, bone marrow aspirate, or autologous cancellous bone, to enhance healing.

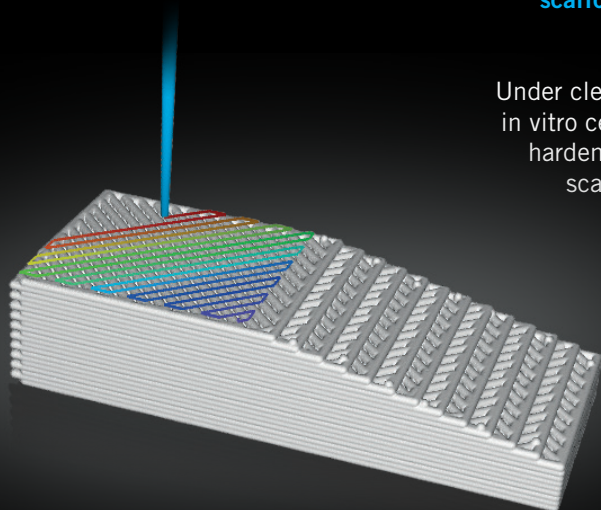


## 3D PRINTING INNOVATION UNIQUE PRINTING PRECISION & QUALITY

The exceptional support of **heracure 3D** in bone healing results from the **patented advanced 3D printing approach** using **heracure one** paste and low temperature processing.

In this process, the injectable bone substitute is used to create **customized scaffolds based on predesigned patterns and geometries**, ensuring precise adaptation to both standard and complex bone defects.

Under clean room conditions, the scaffolds maintain their pasty consistency until in vitro cement self-setting is initiated. Once this is completed and scaffolds are hardened, a series of quality control steps follow to ensure that every single scaffold meets the highest standards in terms of all unique features.



## OPTIMIZED SCAFFOLD DESIGN

### PORE STRUCTURE AND INTERCONNECTING POROSITY

**heracure 3D** scaffolds offer a true three-dimensionally interconnected pore system, consisting of macro-and micropores, designed to enhance cellular infiltration and bone integration.

**heracure 3D** is available in multiple shapes and sizes, offering the right solution for various procedures and the individual needs of patients.

While the macropores facilitate cell migration for vascularization and bone tissue ingrowth, the micropores enhance protein absorption and cell attachment – both crucial for effective bone regeneration.



# heracure

## BASED ON HIGH-QUALITY ALPHA-TCP MADE IN GERMANY



The unique production process of **alpha-TCP – heracure's main ingredient and the foundation of BONEPACE Technology** – has been developed and optimized in Germany for 15 years. This precise sequence of production steps, carried out at exact temperatures and including extended milling, results in a high-quality, highly reactive compound with a **specific surface area approximately 100× greater** than that of sintered bone substitutes.

### Why it matters:

**The enhanced surface area of heracure is key to efficient osteointegration**, promoting fast and efficient bone healing.

## REFERENCES

1. Črep M, et al. Surgical treatment of the bilateral osteochondral lesions of the talus – Case report. *565–68–69* 2024; 70–81. | 2. Fuchs A, et al. Implant augmentation for trochanteric fractures with an innovative, ready-to-use calcium-phosphate-cement. *J Orthop Bone Res* 2019; 1: 104. | 3. Greimel F, Weber M, Renkawitz T, et al. Minimally invasive treatment of tibial plateau depression fractures using balloon tibiotomy: Clinical outcome and absorption of bioabsorbable calcium phosphate cement. *J Orthop Surg* 2020; 28(1). | 4. Grünwald D, et al. Biomechanical in vitro evaluation of a ready-to-use calcium phosphate cement implanted to augment intramedullary nail fixation of a three-part humeral head fracture model. *Proc Inst Mech Eng H* 2019; 233(7): 706–711. | 5. Heinemann S, et al. Properties of injectable ready-to-use calcium phosphate cement based on water-immiscible liquid. *Acta Biomater* 2013; 9(4): 6199–6207. | 6. Ivković A, et al. Simultaneous autologous minced cartilage implantation and open wedge high tibial osteotomy in the treatment of knee cartilage defect. *Croatian Sports Med J* 2024; 39(1): 40–45. | 7. Reitmaier S, et al. Strontium(II) and mechanical loading additively augment bone formation in calcium phosphate scaffolds. *J Orthop Res* 2018; 36: 106–117. | 8. Richter RF, et al. Application of 3D printed calcium phosphate cement scaffolds in open wedge high tibial osteotomy (owHTO) – A retrospective clinical evaluation. *Materialia* 2025; 42. | 9. Schöbel T, et al. Primary stability of cement augmentation in locking plate fixation for proximal humeral fractures: A comparison of absorbable versus non-absorbable cement. *Clin Biomech (Bristol)* 2022; 91: 105516. | 10. Toepfer A, et al. Allogenic cancellous bone versus injectable bone substitute for endoscopic treatment of simple bone cyst and intraosseous lipoma of the calcaneus and is intraosseous lipoma a developmental stage of a simple bone cyst? *J Clin Med* 2023; 12: 4272.

PRODUCT	DESCRIPTION	CONTENT	REF
heracure one 1 ml	Synthetic ready-to-use calcium phosphate cement, syringe with cannula	1 ml, in syringe, sterile, with cannula	5220136
heracure one 3 ml	Synthetic ready-to-use calcium phosphate cement, syringe with cannula	3 ml, in syringe, sterile, with cannula	5220135
heracure one 6 ml	Synthetic ready-to-use calcium phosphate cement, syringe with cannula	6 ml, in syringe, sterile, with cannula	5220138
heracure one 12 ml	Synthetic ready-to-use calcium phosphate cement, syringe with cannula	12 ml, in syringe, sterile, with cannula	5220139
heracure 3D block	Synthetic calcium phosphate bone substitute	heracure 3D block (10x10x5 mm), 2 pcs	5220140
heracure 3D block	Synthetic calcium phosphate bone substitute	heracure 3D block (20x10x10 mm), 1 pc	5220182
heracure 3D block	Synthetic calcium phosphate bone substitute	heracure 3D block (3x3x3 mm), 10 cc	5220183
heracure 3D cylinder	Synthetic calcium phosphate bone substitute	heracure 3D cylinder (20x10 mm), 2 pc	5220186
heracure 3D wedge	Synthetic calcium phosphate bone substitute	heracure 3D wedge (7x3x30x12 mm), 1 pc	5220189
heracure 3D wedge	Synthetic calcium phosphate bone substitute	heracure 3D wedge (10x3x30x12 mm), 1 pc	5220190
heracure 3D wedge	Synthetic calcium phosphate bone substitute	heracure 3D wedge (12x3x35x15 mm), 1 pc	5220191
heracure 3D wedge	Synthetic calcium phosphate bone substitute	heracure 3D wedge (15x3x35x15 mm), 1 pc	5220192

Simply order from Heraeus.

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