



HOBBIT



DESIGN AND PRODUCTION OF
INSTRUMENTS AND APPARATUS
FOR QUALITY CONTROL
ON MATERIALS



These instruments are made in
compliance with CE health and
safety requirements



Hobbit - code 6887.000

Bench Top Falling Weight Impact Tester



Hobbit in working condition



Detail of striker and holder

Scope

The CEAST HOBBIT, a bench top falling weight tester of the Fractovis family, was designed to investigate the behaviour of plastic film, sheeting and rigid specimens or moulding under the impact of a striker applied perpendicular to the plane of the specimen. The Hobbit features are: maximum potential energy 21 Joules, maximum impact speed 3.7 m/s and maximum falling height 0.7 m.

This bench type tester can be used not only with non-instrumented strikers for statistical control of materials impact resistance, but also with instrumented strikers and DAS 8000 Junior and DAS 8000 Data Acquisition Systems.

Standards

Designed and built to meet the following standards:

- ISO 6603-1 Non instrumented impact tests
- ISO 6603-2 Instrumented impact tests
- ISO 7765-2 Plastic film and sheeting instrumented puncture test
- ASTM D 3763 High speed puncture properties of plastics

and other equivalent.

Safe and sound

The falling dart is guided by twin calibrated steel columns and impact energy is released directly through the specimen and its support system thus giving maximum structural strength and minimum dynamic interference.

Specimen Clamping

It is vital to have flexible clamping possibilities if you want to test a range of specimens and take full advantage of the instruments. The HOBBIT offers a specially designed clamping arrangement that allows both films and rigid sheets to be tested with the same clamps, by simply reversing the clamping plates.

Range of strikers and impact masses

The broad range of forces applied in impact testing requires specific mechanical design solutions. Strikers are available in different geometries in both instrumented and non-instrumented mode.

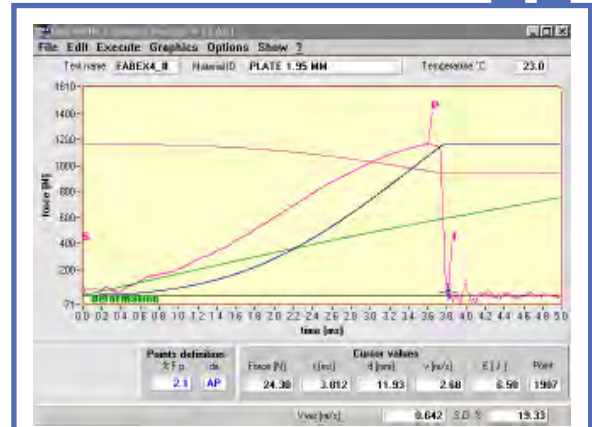
Strikers are instrumented with strain gauges or with piezo-electric transducers, and are produced in various force ranges.

Each striker can carry a set of weights to obtain a range of potential impact energies.

Portable system

Using Hobbit it is possible to:

- verify the quality of finished *or* semifinished raw materials, in non-instrumented hots
- demonstrate the quality of specific products, making the HOBBIT a unique sales tool
- investigate technical problems of materials, using advanced instrumented technique.request



Example of instrumented test on film, giving force, energy and velocity curves vs. time

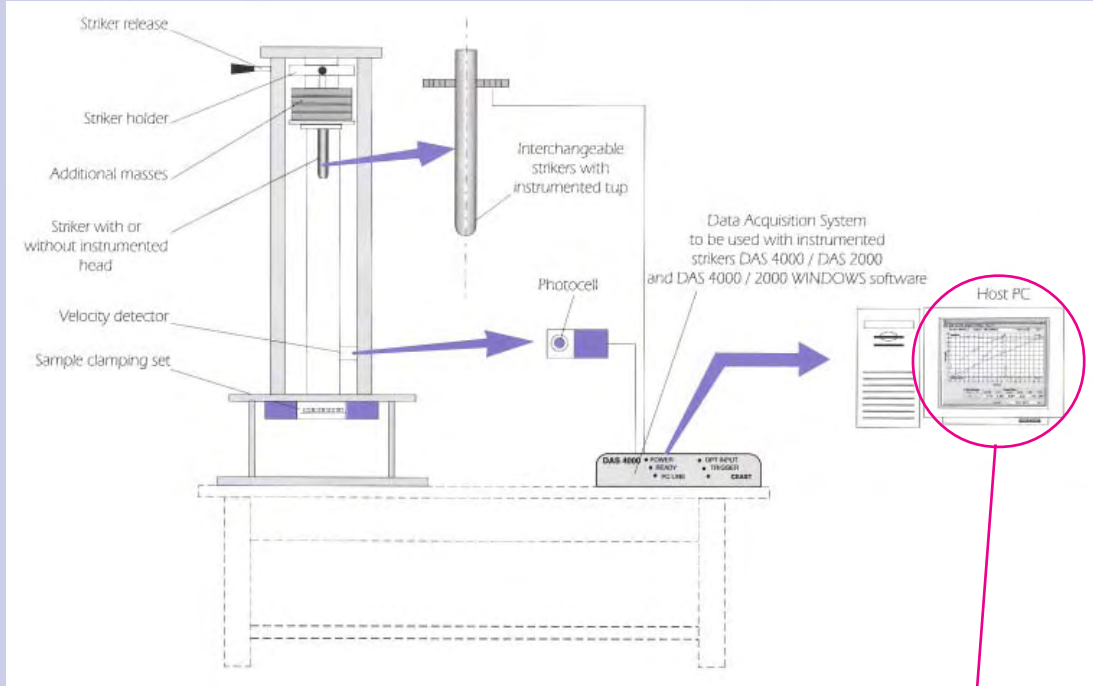
Instruments features

- Potential energy 21 Joules
- Impact speed up to 3.7 m/s
- Falling height up to 700 mm
- Falling mass minimum = 790 g approx. (striker + striker holder)
maximum = 3100 g approx. (striker + striker holder + additional weights)
- Interchangeable specimen supports: Ø 40 mm internal diameter - code 6887.050
Ø 76 mm internal diameter - code 6887.051
Ø 127 mm internal diameter - code 6887.052
- Manual striker release and pick up of the striker
- Photocell for impact speed detection
- Easy to use with Data Acquisition System DAS 8000 Junior and DAS 8000
- Sturdy and compact structure
- Other strikers and support diameters available on request

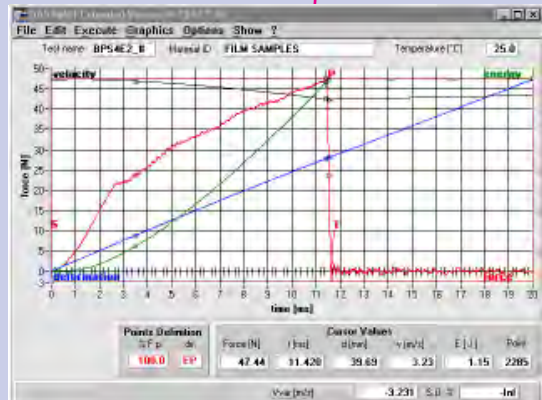
Strikers: interchangeable strikers Ø 12.7 mm and Ø 20 mm according to ISO and ASTM standards

| Diameter [mm] | Description | Non instrumented code | Instrumented code | Range [N] |
|---------------|-------------------------------------|-----------------------|-------------------|-----------|
| 12.7 | Hemispheric head | 6990.952 | - | - |
| 12.7 | Hemispheric head for film | - | 6990.906 | 1.000 |
| 12.7 | Hemispheric head for rigid specimen | - | 6990.902 | 3.000 |
| 12.7 | Hemispheric head for rigid specimen | - | 6990.907 | 10.000 |
| 20 | Hemispheric head | 6990.953 | - | - |
| 20 | Hemispheric head | - | 6990.903 | 1.000 |
| 20 | Hemispheric head | - | 6990.909 | 3.000 |
| 20 | Hemispheric head for rigid specimen | - | 6990.908 | 10.000 |

Example of basic configuration for biaxial instrumented impact tests using Hobbit



Impact data obtained with instrumented striker, Data Acquisition System and CEAST software D8EXTWIN



Technical Data

| | |
|---------------------------------|----------------------------------|
| Overall dimensions (LxDxH) [mm] | 400 x 300 x 1200 |
| Weight [kg] | 20 |
| Paint | fuchsia Ral 4006 - gray Ral 7035 |

"Due to the continuous development policy of CEAST's Research and Development Department, changes may be introduced without notice"



CEAST S.p.A. • Via Airauda, 12 • 10044 Pianezza (TO) Italy
 • Tel: (+39) 011.966.40.38 (10 lines) • Fax: (+39) 011.966.29.02
 E-MAIL: Int. Sales: Infotaly@ceast.com - Int. after sales: aftersalestech@ceast.com

CEAST USA Inc. • 4816 Sirius Lane, Charlotte, NC 28208
 • Tel. 704-423-0042 • Fax 704-423-0081
 E-MAIL: USA Sales: salesusa@ceast.com - USA Service: Keith@ceast.com

CEAST GmbH • Bunsenstr. 5, D-82152 Martinsried
 • Tel. ++49 (0) 89/85 90 28 12 - 89 50 18 10 • Fax ++49 (0) 89/89 94 98 51
 E-MAIL: Sales and Service: info.germany@ceast.com