

# TECHNOLOGY FOR SANITARYWARE



TEC4SAN.COM

## PRODUCTION OF CERAMIC TEST MACHINES



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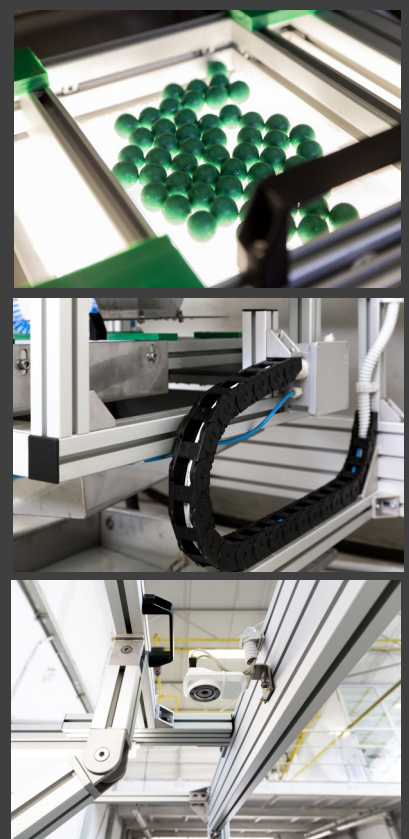
# LEAKTEC MODULE



*The machine allows to do the vacuum test and syphon trap test on wc. These tests are fundamental to avoid selling of pieces with leaks. The interface can be set both for the duration of the test, vacuum threshold to reach and the allowed vacuum gap. The accuracy of the test is very high, detecting very small leak ( 60 micron). Machine can also be put on a continuous sorting line and be customized for different items, one piece wc, regular wc or combo (both). Different materials for cushions can be used.*



# FLUSH<sub>TEC</sub> MODULE



*This module makes flush test according to EN997, according Australian Standard AS 1172 and according other standards that can be requested. After flush volume water is evaluated by an inductive ring sensor and an high precision water scale, with a camera, equipped with specific lens, the flushed plastic balls is automatically counted according to EN 997 and AS 1172 Standards. The machine is equipped with standard EN 997 cistern and discharge mechanism, but is able to use any commercial inside-the-wall cistern and ceramic cistern for closed-coupled WC. The water is recycled and is always the same.*



*It is a small machine that helps the sanitaryware makers to check WC for flushing performance. It is able to evaluate the after flush water volume according to EN 997 and AS 1172 Standards. Others flushing tests, like plastic balls test and toilet paper test, could be done in easy way. On request the machine could be build with water recycle pump.*

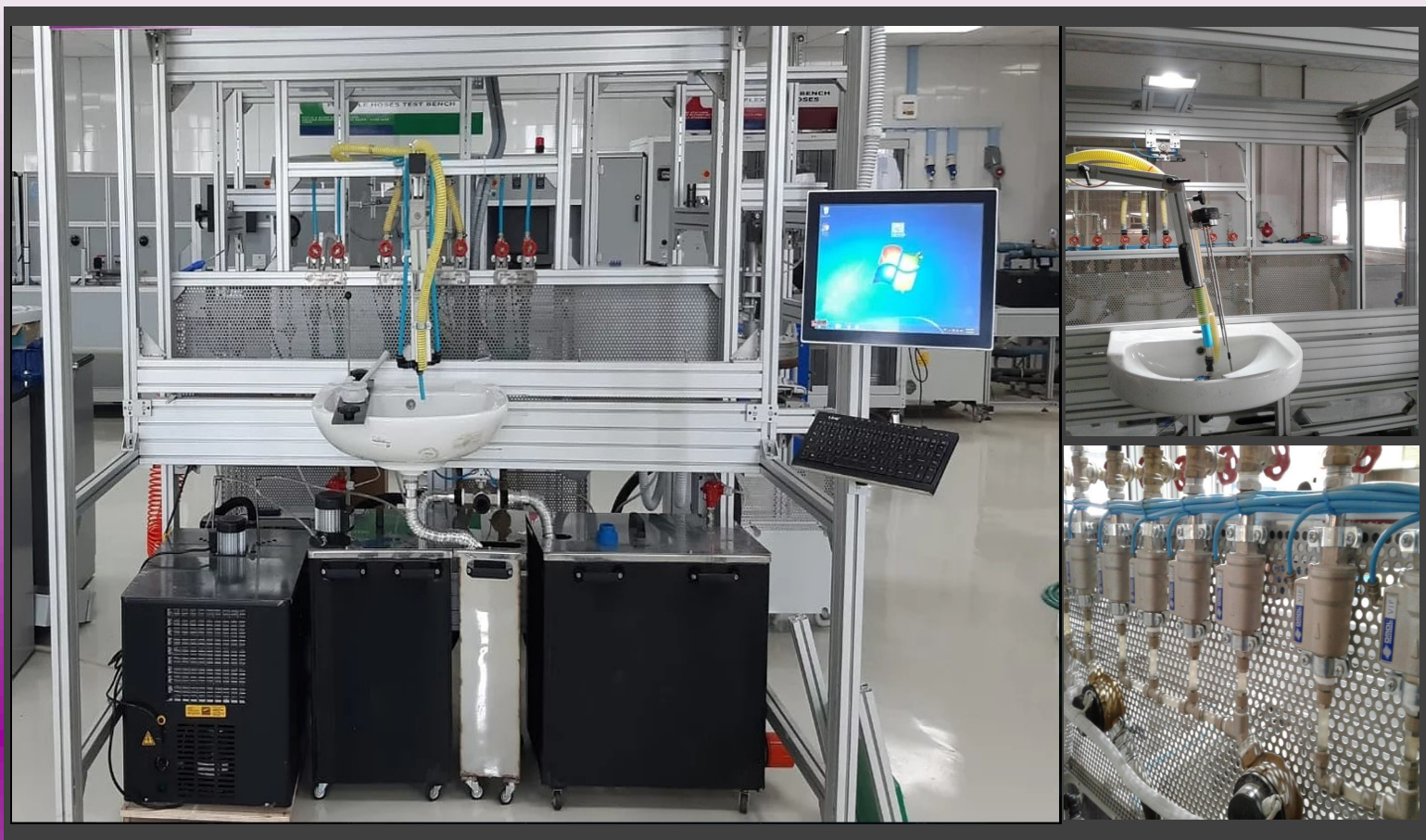


# LOAD<sub>TEC</sub> MODULE



*This machine allows to make the static load test on wall hung wash basins, wc and bidet. The load is slowly applied and can be set the weight trough the interface depending of the standard.*

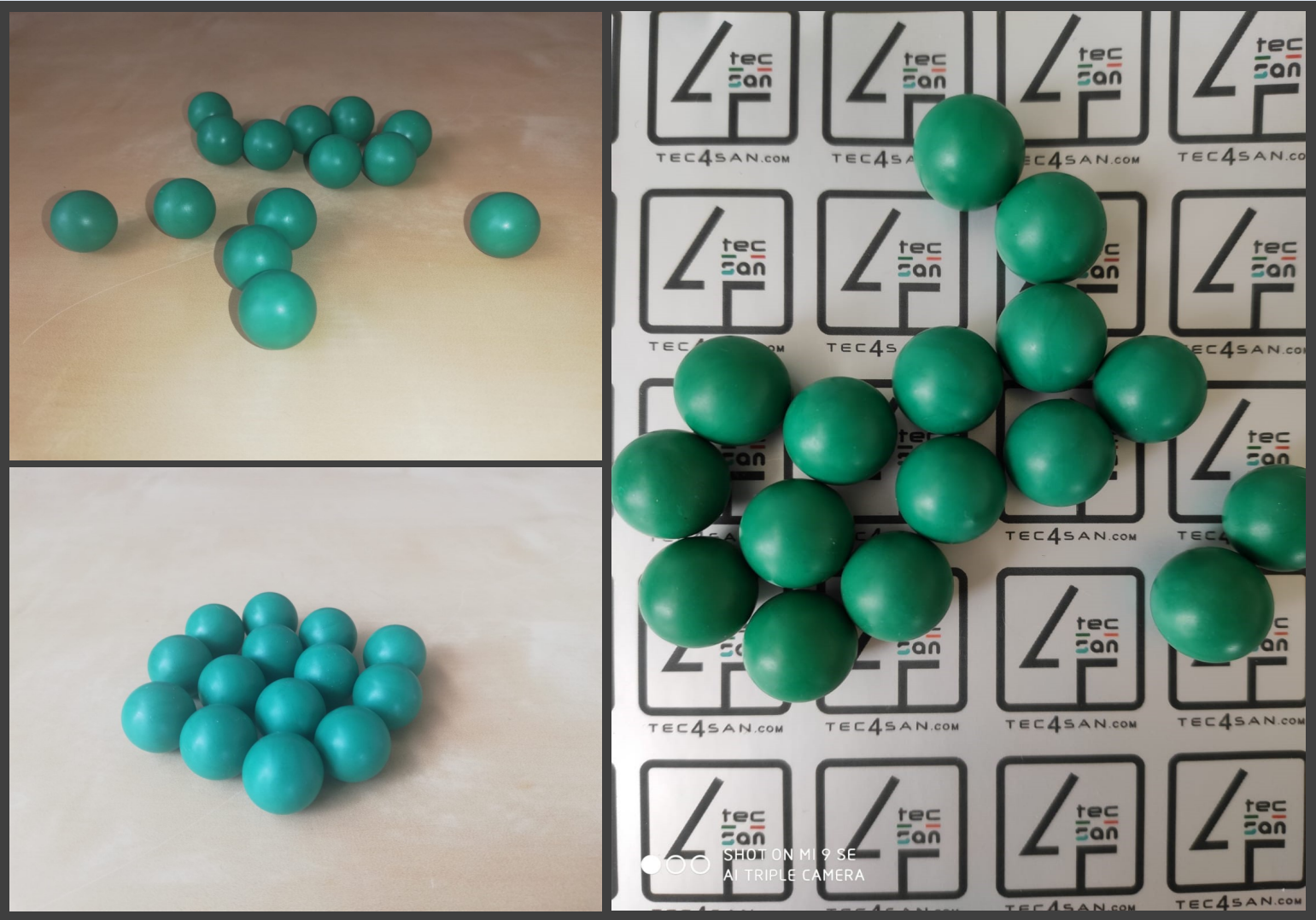
*The time of test can be set trough the interface. The machine is fully close, it can't be opened during test and respects all security standard. A load cell measures the load applied and controls it.*



*Thermal shock test according to European EN Standard is done by this machine carrying out water at 15°C and 70°C for 1000 of times. Separate cisterns, one for hot water and one for cold water, are used to recycle and reuse the same water. France NF Standard for thermal shock is provided too. With optional tools could be possible carrying out the thermal shock test for shower tray and resin bath tub. In addition, the module, is able to perform the overflow class determination test for washbasins and bidet.*



## FLUSHING BALLS



### EN 997 (EUROPE)

*50 balls of non-absorbent material, each having a mass of  $(3.7 \pm 0.1)$  grams and a diameter of  $(20 \pm 0.1)$  mm*

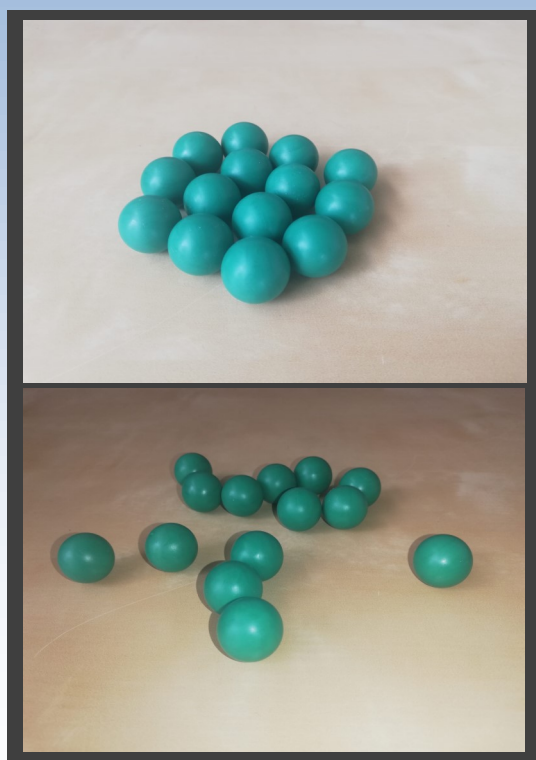
## TOILET PAPER



**EN 997 (EUROPE)**  
**AS 1172.1 (AUSTRALIA)**

*Toilet tissue with a saturation time of  $(15 \pm 1)$  seconds with approximate size of 140 mm x 100 mm and a mass of  $(30 \pm 1)$  g/mm<sup>2</sup>.*

## DRAIN LINE TRANSPORT



**ASME A112 STANDARD (USA)**  
**SASO 1473 STANDARD**  
**(Saudi Arabia)**

*100 polypropylene balls with  
weight: 298  
grams  $\pm 10$  g;  
diameter: 19 mm  $\pm 0.4$  mm;  
density: 833 kg/m<sup>3</sup>  $\pm 16$  kg/m.*



## FLUSHING SPECIMENS KIT



### EN 997 (EUROPE) - AS 1172.1 (AUSTRALIA)

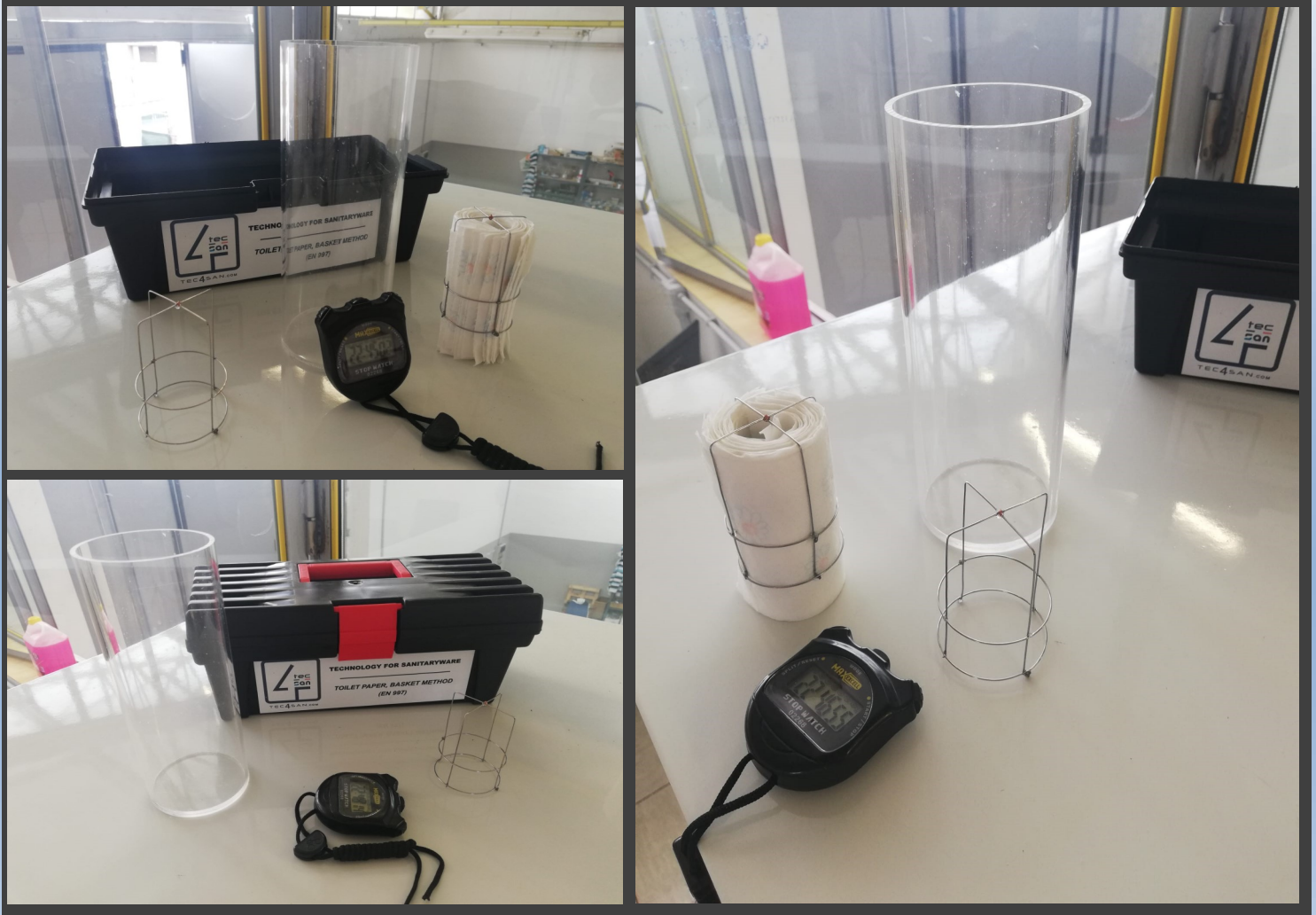
*Four test pieces using 25 mm  $\pm$  2 mm diameter sausage casing, string, elastomer 'O' rings, nominal 10  $\times$  2.5 mm, a metal impulse device, small quantity of water and cotton gauze finger bandage.*

## FLUSHING SOY BEAN SPECIMENS



*Specimens used by independent performance evaluator in North America. 350 grams of total mass is used for each flush (7 specimens of approximate 50 grams)*

## BASKET METHOD



### EN 997 (EUROPE)

*Apparatus according to the EN Standard useful to check commercial toilet paper to compliant the saturation time for EN 997.*



## LEAKtec Accessories

Bicomponent pad for LEAKtec module.



Silicon caps for INLET and OUTLET water.



## PAPER DISCHARGE TEST

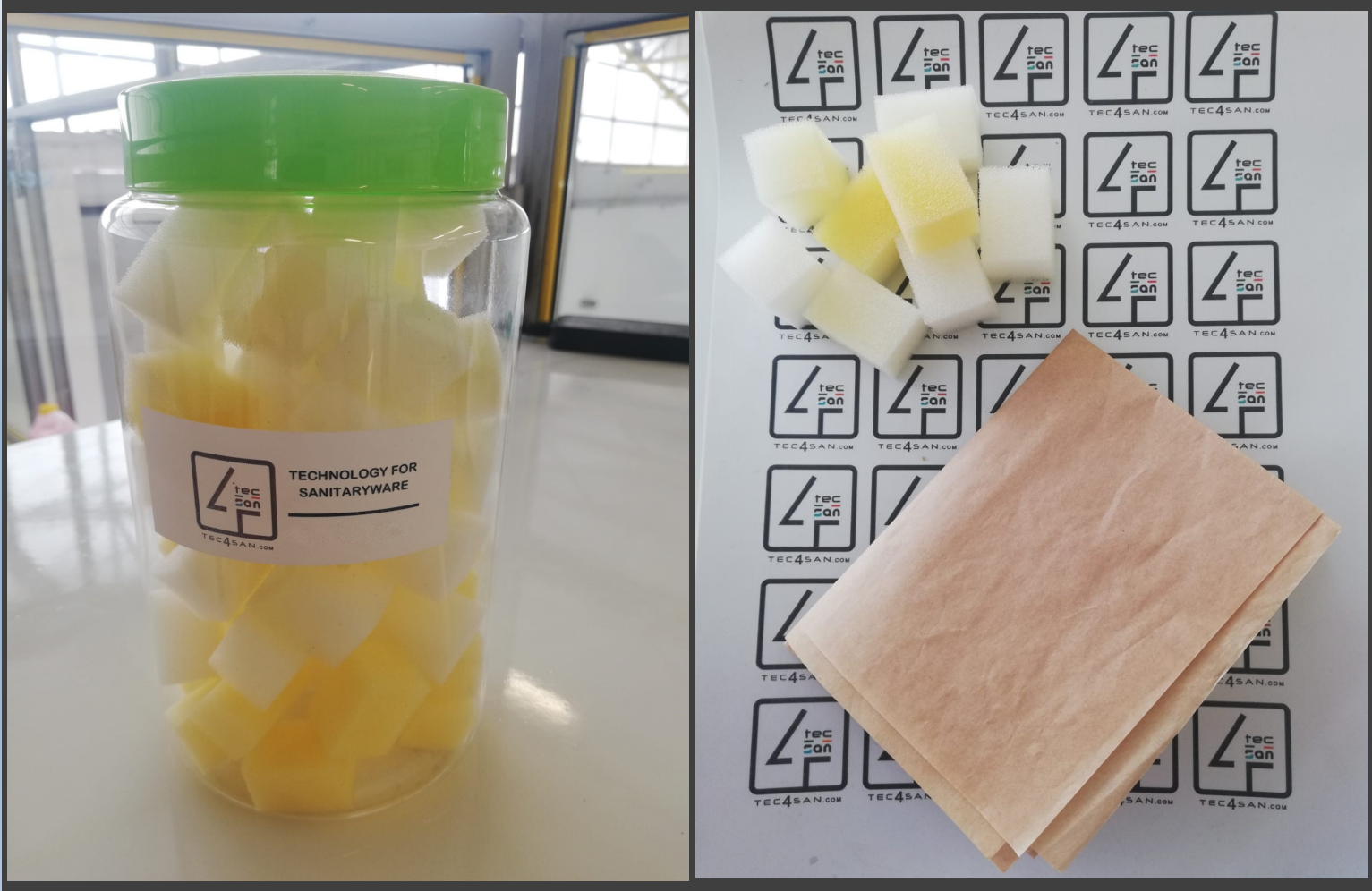


### AS 1172.1 (AUSTRALIA)

- *40g/m<sup>2</sup> paper crumpling device;*
- *Paper with a weight of 40 g/m<sup>2</sup> 140 mm  $\pm$ 5 mm  $\times$  115  $\pm$ 5 mm.*



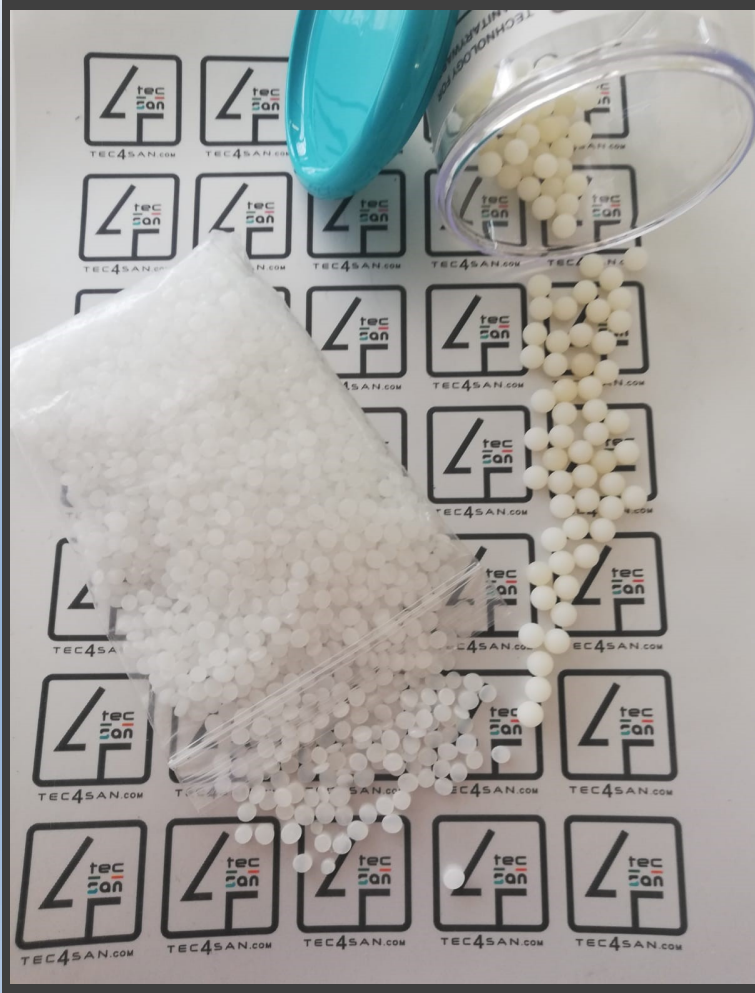
## MIX AND MEDIA TEST



### **ASME A112 STANDARD (USA)** **SASO 1473 STANDARD (Saudi Arabia)**

- White synthetic open-cell polyurethane sponges measuring  $20 \text{ mm} \times 20 \text{ mm} \pm 1 \text{ mm} \times 28 \text{ mm} \pm 3 \text{ mm}$  and with a density of  $17.5 \text{ kg/m}^3 \pm 1.7 \text{ kg/m}^3$ ;
- 15 lb Kraft anti-tarnish paper measuring  $190 \text{ mm} \pm 6 \text{ mm} \times 150 \text{ mm} \pm 6 \text{ mm}$ .

## GRANULE AND BALLS TEST

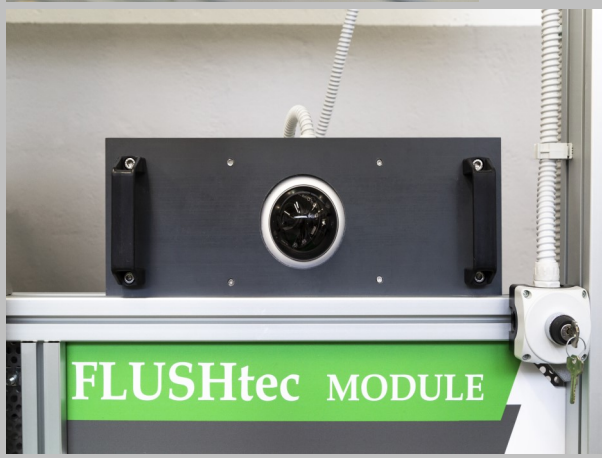


### **ASME A112 STANDARD (USA)** **SASO 1473 STANDARD (Saudi Arabia)**

- 2500 cylindrical high-density polyethylene (HDPE) granules with  
weight: 65 grams  $\pm$  1 g ;  
diameter: 4.2 mm  $\pm$  0.4 mm;  
density: 951 kg/m<sup>3</sup>  $\pm$  10 kg/m<sup>3</sup>;
- 100 nylon balls with weight: 15.5 grams  $\pm$  0.5 g ;  
diameter: 6.35 mm  $\pm$  0.25 mm;  
density: 1170 kg/m<sup>3</sup>  $\pm$  20 kg/m<sup>3</sup>.



*TEC4san is the new reality in the design and production of systems and machines for functional and qualitative checks on ceramic pieces; which are used both in the design and development phase of the prototypes, and in the production phase. Created from the decades of experience of people who have always been passionately engaged in the Italian ceramic district par excellence, that of Civita Castellana, it was born to strongly affirm its professionalism in the field of product quality, creating solutions in accordance with the official standard standards: European (EN 997 and others), North American (ASME), Australian (AS) and Saudi (SASO). From design to production, boasting a long experience in the field and collaborations with the number one in the sector, TEC4san provides the customer with a valuable and functional know-how, providing training training during the product installation phase.*





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