

## Application Note

TENSILE, COMPRESSION, IMPACT, MELT FLOW, BRINELL, SHEAR, STRETCH RECOVERY, PUNCTURE, HEAT DISTORTION (VICAT), BEND/FLEXURE, SEAM STRENGTH, TORSION

### Needle/Syringe Test Attachments for a Tinius Olsen Testing Machine

Using a single Tinius Olsen Universal Testing Machine it is possible to perform many different tests for Research and Development of new products, as well as controlling the manufactured quality of the products you supply to your customers.



Pull off test of Needle Holder to Syringe



Puncture Test of Simulated Skin

Tinius Olsen's range of testing machine frames extends up to 100KN (10 tonnes force). However, with specific reference to testing Syringes & Needles, there are a variety of different test requirements including;


- Pull off of needle holder to syringe
- Puncture of Simulated skin
- Bend test of Needle
- Pull out of needle from moulding
- Bend test of syringe
- Compression of Syringe plunger
- Withdrawal of Syringe plunger
- Pull off of plunger seal from plunger stem



Bend test of Needle (stiffness or elasticity)



Pull off test of Needle from Syringe

When using our 'Qmat Pro' (Windows ) based software it is possible to test as per specific national and international test standards and then to perform Statistical Process control (SPC) using the test results. This further ensures the required manufacturing quality of the product is achieved. Full reports and graphical outputs can be easily created using the QMAT Pro software.

Other Medical/Pharmaceutical products we have experience supplying systems for include;

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|------------------------|---------------------|----------------------|----------------------|---------------------|
| • Leur Locks (various) | • Adhesive Plaster  | • Needles            | • Dental products    | • Infusion Bags     |
| • Medical tubing       | • Medical Packaging | • Sutures            | • Artificial Tendons | • Autoclave Paddles |
| • Medical Bandages     | • Tablets           | • Contraceptive Tees | • Bones              | • Catheters         |
| • Condoms              | • Syringes          | • Tubal Rings        | • Artificial Skin    | • Breast Implants   |