Tensile Test for Plastic Film & Rubber

Focus topic: How to measure the Elastic Modulus for plastic film?

1. Specimens:

1.1 Plastic film with width 12mm, thickness 0.03mm & 0.09mm according to **ASTM D882**

1.2 Vulcanized rubber: width 4mm & thickness 3mm according to **ISO37 type 2**

1.3 Rubber surgical gloves according to **ISO 10282**



2. Testing Machine: WDW-10S UTM, Max. testing speed up to 1000mm/min

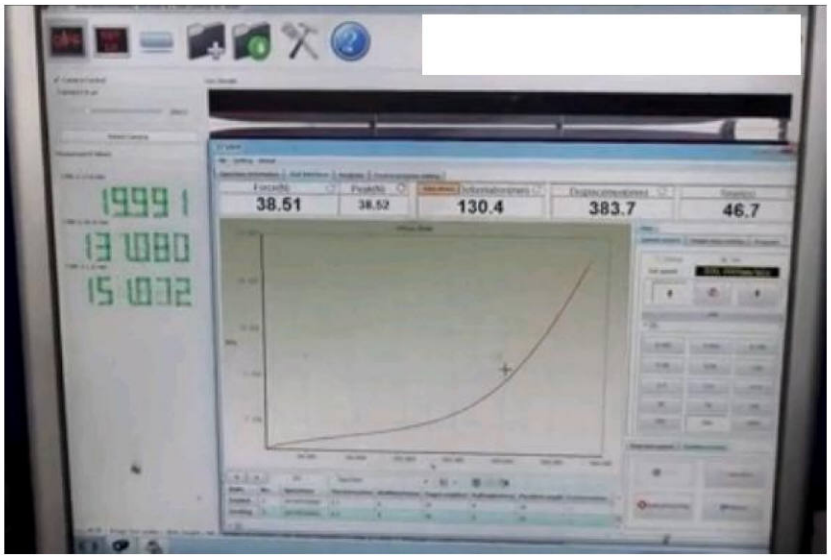
2.1 Configuration: EDC120 controller from Doli, Germany, High resolution & Accuracy Video extensometer



2.2 Accessories: Side-action Grip for Plastic film, tensile grips for rubber

Grip for film Grip for rubber

3. Topics: Deformation measuring for tensile test of plastic film & rubber by adopting Video extensometer

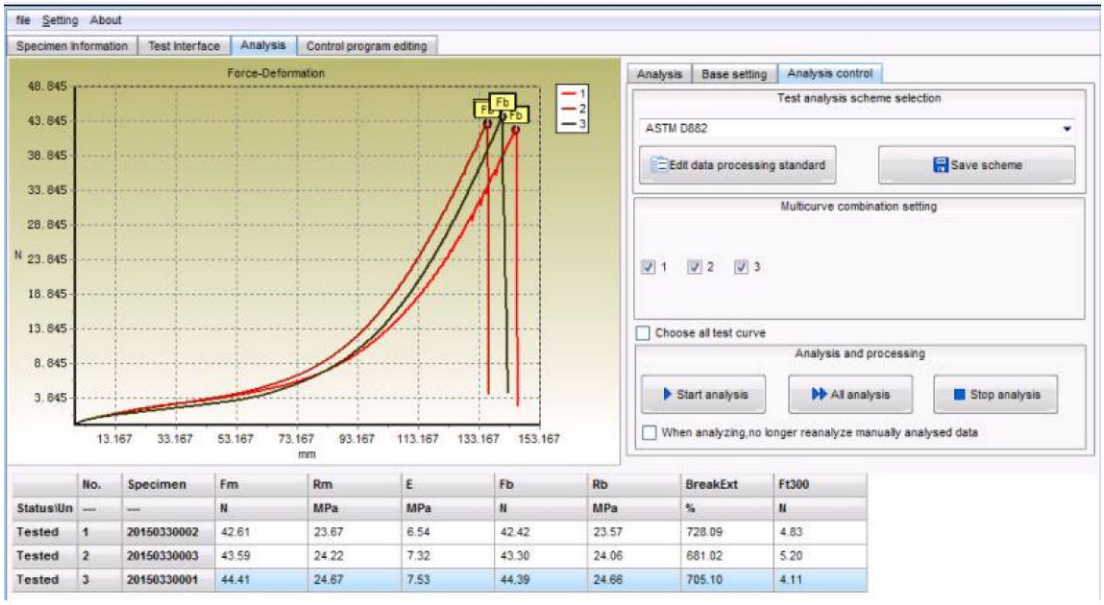


4. Technical parameters to be tested:

4.1 Tensile test for plastic film: Elastic modules E, Yield strength, Percentage yield point extension, Max force, Tensile strength, fracture strength & Elongation Percentage

4.2 Tensile test for rubber: Elastic modules E, Max force Fm, tensile strength, fracture strength & Elongation Percentage

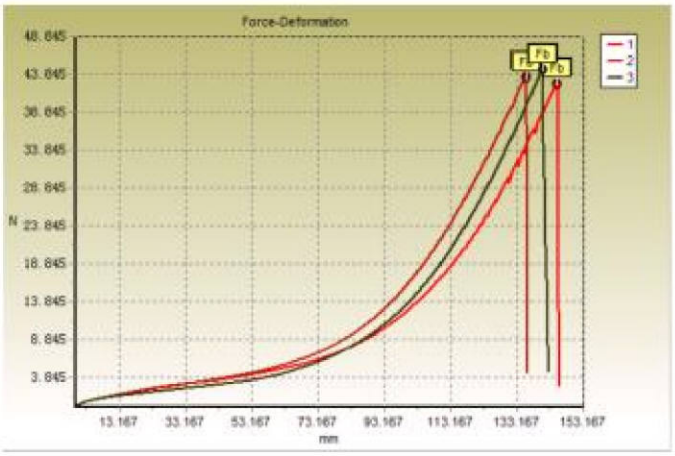
4.3 Tensile test for surgical gloves: force at break, force at 300% elongation and elongation at break



	No.	Specimen	Fm	Rm	E	Fb	Rb	BreakExt	Ft300
Status\Un	---	---	N	MPa	MPa	N	MPa	%	N
Tested	1	20150330002	42.61	23.67	6.54	42.42	23.57	728.09	4.83
Tested	2	20150330003	43.59	24.22	7.32	43.30	24.06	681.02	5.20
Tested	3	20150330001	44.41	24.67	7.53	44.39	24.66	705.10	4.11

Test curves for Plastic film

Test Report



NO.	Number	Area mm^2	Lo mm	Fm kN	Rm MPa	E MPa	Rb MPa	At %	Ft300 N
1	201503300	1.80	20	42.61	24	6.54	24	728	4.83
2	201503300	1.80	20	43.59	24	7.32	24	681	5.20
3	201503300	1.80	20	44.41	25	7.53	25	705	4.11

Test report for Plastic film

5. Key points:

5.1 Side-action grips for plastic film, without holding scathe for test specimen.

5.2 More accurate deformation measurement by video extensometer. Comparing with traditional displacement alternative method, it can avoid the clamping specimen to be drawn-off, which leads to watered deformation.