

Mesdan tensile strength testing routines for

Tensolab4, 2512E, 2512F
Tensolab 50 kN, 2515E
Autodyn3, 2517

TRACTION/COMPRESSION

- ☑ **ISO 1421**, Rubber - or plastics-coated fabrics - Determination of tensile strength and elongation at break.
- ☑ **UNI EN ISO 2062, ISO 2062**, Textiles - Yarns from packages - Determination of single-end breaking force and elongation at break using constant rate of extension (CRE) tester.
- ☑ **UNI EN ISO 3376 [IULTCS/IUP 6], ISO 3376 [IULTCS/IUP 6]**, Leather - Physical and mechanical tests - Determination of tensile strength and percentage elongation. Cuoio - Prove fisiche e meccaniche - Determinazione della resistenza alla trazione e allungamento percentuale.
- ☑ **UNI EN ISO 3377-2 [IULTCS/IUP 8], ISO 3377-2 [IULTCS/IUP 8]**, Leather - Physical and mechanical tests - Determination of tear load - Part 2: Double edge tear. Cuoio - Prove fisiche e meccaniche - Determinazione del carico di strappo - Parte 2: Strappo doppio.
- ☑ **ISO 37**, Rubber, vulcanized or thermoplastic - Determination of tensile stress-strain properties.
- ☑ **ISO 4919**, Carpets - determination of tuft withdrawal force.
- ☑ **ISO 9073-3**, Textiles - Test methods for nonwovens Determination of tensile strength and elongation.
- ☑ **UNI EN ISO 10319, ISO 10319**, Geosynthetics - Wide-width tensile test.
- ☑ **UNI EN ISO 11644 [IULTCS/IUF 470], ISO 11644 [IULTCS/IUF 470]**, Leather - Test for adhesion of finish. Cuoio - Prova per l'adesione delle rifiniture.
- ☑ **UNI EN ISO 12236, ISO 12236**, Geosynthetics - Static puncture test (CBR test). Geosintetici - Prova di punzonamento statico (metodo CBR)
- ☑ **UNI EN ISO 13934-1, ISO 13934-1**, Textiles - Tensile properties of fabrics, determination of maximum force and elongation at maximum force using the strip method.
- ☑ **UNI EN ISO 13934-2, ISO 13934-2**, Textiles - Tensile properties of fabrics, determination of maximum force using the grab method.

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- ☑ **UNI EN ISO 23910, ISO 23910**, Leather - Physical and mechanical tests - Measurement of stitch tear resistance. Cuoio - Prove fisiche e Meccaniche - Misurazione della resistenza allo strappo al punto di cucitura.
- ☑ **UNI EN 388 – 6.5**, Protective gloves against mechanical risks - Puncture resistance. Guanti di protezione contro rischi meccanici - Resistenza al punzonamento.
- ☑ **UNI EN 29073-3**, Textiles - Test methods for nonwovens - Part 3: Determination of tensile strength and elongation.
- ☑ **UNI 5421**, Tessuti - Determinazione della resistenza alla perforazione con il metodo della sfera.
- ☑ **UNI 8279-4**, Nontessuti - Prova di trazione (metodo grab).
- ☑ **UNI 8279-14**, Nontessuti - Determinazione della resistenza al punzonamento e della deformazione a rottura (metodo della penetrazione).
- ☑ **UNI 10606**, Cuoio - Prove fisiche e meccaniche - Determinazione della resistenza alla cucitura dei cuoi leggeri.
- ☑ **ASTM D412**, Vulcanized Rubber and Thermoplastic Elastomers - Tension
- ☑ **ASTM D1445**, Breaking strength and elongation of cotton fibers (flat bundle method).
- ☑ **ASTM D5034**, Breaking strength and elongation of textile fabrics (grab test).
- ☑ **ASTM D5035**, Breaking force and elongation of textile fabrics (strip method).
- ☑ **ASTM D6797**, Bursting strength of fabrics constant-rate-of-extension (CRE) ball burst test.
- ☑ **IUF 470**, Leather - Test for adhesion of finish, Cuoio, determinazione della solidità del colore (solidità alla lavorazione ed all'uso del cuoio). Determinazione dell'adesività dello strato di rifinitura del cuoio.
- ☑ **IUP 6**, Leather – Measurement of tensile strength and percentage elongation. Cuoio, resistenza alla trazione. Allungamento percentuale sotto carico costante; allungamento percentuale alla rottura.

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- ☑ **IUP 8**, Leather - Measurement of tear load - Double edge tear. Misura del carico di strappo.
- ☑ **M&S P11**, Tensile strength of woven fabric.
- ☑ **NEXT 27**, Determination of breaking strength and elongation of woven fabrics (ravelled strip).
- ☑ **IS 6721 – Annex D**, Sandal and Slippers — Annex D; Attachment strength of strap and buckle, D-ring, velcro.

TEARING

- ☑ **UNI EN ISO 2411, ISO 2411**, Rubber - or plastics-coated fabrics - Determination of coating adhesion.
- ☑ **UNI EN ISO 3377-1 [IULTCS/IUP 40], ISO 3377-1 [IULTCS/IUP 40]**, Leather - Physical and mechanical tests - Determination of tear load - Part 1: Single edge tear. Cuoio - Prove fisiche e meccaniche - Determinazione del carico di strappo - Parte 1: Strappo singolo.
- ☑ **UNI EN ISO 4674-1, ISO 4674-1**, Rubber- or plastics-coated fabrics - Determination of tear resistance, constant rate of tear methods.
- ☑ **UNI EN ISO 9073-4, ISO 9073-4**, Textiles - Test methods for nonwovens, determination of tear resistance.
- ☑ **UNI EN ISO 11857**, Textile floor covering - Determination of resistance to delamination. Rivestimenti tessili per pavimentazioni - Determinazione della resistenza alla delaminazione.
- ☑ **UNI EN ISO 13937-2, ISO 13937-2**, Textiles - Tear properties of fabrics, determination of tear force of trouser-shaped test specimens (single tear method).
- ☑ **UNI EN ISO 13937-3, ISO 13937-3**, Textiles - Tear properties of fabrics, determination of tear force of wing-shaped test specimens (single tear method).

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- ☑ **UNI EN ISO 13937-4, ISO 13937-4**, Textiles - Tear properties of fabrics, determination of tear force of tongue-shaped test specimens (double tear test).
- ☑ **UNI EN ISO 17708, ISO 17708**, Footwear - Test methods for whole shoe - Upper sole adhesion. Calzature - Metodi di prova per calzature complete - Distacco tomaio/suola.
- ☑ **ISO 20344 (point 5.2)**, Personal protective equipment - Test methods for footwear. Dispositivi di protezione individuale - Metodi di prova per calzature.
- ☑ **UNI EN 388 6.4**, Protective gloves against mechanical risks - Tear resistance. Guanti di protezione contro rischi meccanici - Resistenza alla lacerazione.
- ☑ **ASTM D1894**, Static and Kinetic Coefficients of Friction of Plastic Film and Sheeting.
- ☑ **ASTM D2261**, Tearing strength of fabrics by tongue (single rip) procedure.
- ☑ **ASTM D2724**, Strength of bond of bonded, fused, and laminated apparel fabrics.
- ☑ **ASTM D3936**, Resistance to delamination of the secondary backing of pile yarn floor covering.
- ☑ **ASTM D5587**, Tearing strength of fabrics by trapezoid procedure.
- ☑ **UNI 7275**, Prove su tessuti - Determinazione della resistenza a lacerazione al chiodo.
- ☑ **IUP 40**, Leather - Measurement of tear load - Single edge tear.
- ☑ **NEXT 25**, Determination of the resistance to tearing of woven fabrics by the wing rip technique.
- ☑ **NEXT 37**, Buttons strength to rupture.
- ☑ **NEXT 42**, Attachment strength of components and embellishments.
- ☑ **NEXT 45**, Handle attachment strength.
- ☑ **NEXT 46**, Strength of belt buckles.
- ☑ **IS 15298 (part 1 – Point 5.2)**, Personal Protective Equipment. Test Methods for Footwear. Determination of upper/outsole and sole interlayer bond strength.
- ☑ **IS 15844 (Part 1 – Annex C)**, Sports Footwear. General Purpose. Adhesion Test

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SEAMS

- ☑ **UNI EN ISO 13935-1, ISO 13935-1**, Textiles - Seam tensile properties of fabrics and made-up textile articles, determination of maximum force to seam rupture using the strip method.
- ☑ **UNI EN ISO 13935-2, ISO 13935-2**, Textiles - Seam tensile properties of fabrics and made-up textile articles, determination of maximum force to seam rupture using the grab method.
- ☑ **UNI EN ISO 13936-1, ISO 13936-1**, Textiles - Determination of the slippage resistance of yarns at a seam in woven fabrics - Part 1: Fixed seam opening method.
- ☑ **UNI EN ISO 13936-2, ISO 13936-2**, Textiles - Determination of the slippage resistance of yarns at a seam in woven fabrics fixed load method.
- ☑ **UNI EN ISO 13936-3, ISO 13936-3**, Textiles - Determination of the slippage resistance of yarns at a seam in woven fabrics needle clamp method.
- ☑ **UNI EN 13594-6.7 & Annex B**, Protective gloves for motorcycle riders - Seam strength. Guanti di protezione per motociclisti professionali - Resistenza delle cuciture.
- ☑ **ASTM D434**, Resistance to slippage of yarns in woven fabrics using a standard seam (Withdrawn 2004, no replacement).
- ☑ **ASTM D1683**, Failure in sewn seam of woven apparel fabrics.
- ☑ **M&S P12**, Fabric seam slippage.
- ☑ **M&S P12A**, Fabric seam slippage, fixed load method.
- ☑ **M&S P12B**, Garment seam slippage and seam strength: fixed load method.
- ☑ **NEXT 16**, Grab strength & seam slippage of woven fabrics.
- ☑ **NEXT 16a**, Seam slippage of garment production seams.

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HYSTERESIS

- ☑ **UNI EN ISO 20932-1**, Textiles - Determination of the elasticity of fabrics - Part 1: Strip test. Tessili - Determinazione dell'elasticità dei tessuti - Parte 1: Prove su striscia.
- ☑ **ISO 22650**, Footwear — Test methods for whole shoe — Heel attachment.
- ☑ **UNI EN 14704-1**, Determination of the elasticity of fabrics - Part 1: Strip tests. Determination of the elasticity of fabrics, (**Superseded, Withdrawn 2020, replaced by UNI EN ISO 20932-1**).
- ☑ **BS 4952**, Elastic fabric, (**Superseded, Withdrawn 2006, replaced by UNI EN 14704-1**).
- ☑ **ASTM D3107**, Stretch properties of fabrics woven from stretch yarns.
- ☑ **ASTM D4964**, Tension and elongation of elastic fabrics (constant-rate-of-extension).
- ☑ **FOL TM11**, Elongation & Recovery.
- ☑ **FOL TM12**, Modulus & Recovery.
- ☑ **GAP S1066**, Stretchability, recovery & power of elastic fabric.
- ☑ **GAP S1067**, Growth and recovery of elastic fabrics at 25% fixed elongation.
- ☑ **LTD 03**, Stretch fabrics - Power and recovery.
- ☑ **M&S P14**, Extension and modulus of elastomeric fabrics and narrow elastics.
- ☑ **M&S P14A**, Extension and modulus of stretch laces.
- ☑ **M&S P14C**, Extension and modulus of bare rubber tapes.
- ☑ **M&S P 15 part 1**, Extension, residual extension of stretch woven fabrics.
- ☑ **M&S P15A**, Extension, modulus, and residual extension of stretch fabrics.
- ☑ **M&S P115**, Security of attachment of accessories to garments.
- ☑ **NEXT 21**, Extension and modulus.
- ☑ **NEXT 21A**, Extension and recovery.

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☒ **IS 8085 (Part 10)**, Methods of Test for Footwear. Heel Attachment for Whole Shoe.

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Customizable tests

Tests according to Customer's Company Procedures, or referred to other Standard tests may be manually performed by setting the parameters as traction speed, sample length, max load, clamps gauge, etc. using the following routines;

Generic traction
Generic yarn traction
Generic compression
Generic seam slippage
Generic tearing
Generic hysteresis

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