



Unitex® squeegees printing for the long run

Unitex® Ulon HP Solar screen printing

Unitex® Ulon HP squeegee range provides optimum performance for the most demanding screen print applications.

It is manufactured from NDI (Naphthalene Diisocyanate) polyurethane technology, which provides the highest level of chemical and abrasion resistance. Unitex Ulon HP is widely recognized as the best squeegee for use with solvent and UV based inks.

Benefits:

- Market leading wear and tear resistance – ideal for printing thick and thin films, as well as minimizing the use of expensive conductive inks *
- Precision edge – exceptional quality, especially for printing ultra-thin lines
- Resistant to solvents used in modern conductive and non-conductive ink systems - long accurate print runs
- Made from Vulkollan® which is one of the most innovative and technically advanced elastomers in the world – compatible with a wide range of ink systems for solar applications
- Manufactured to +/- 2.5° Shore A hardness tolerances – reducing setup times
- Production is carefully controlled within our ISO 9001 accredited Quality Management System – consistent squeegee quality ensures longer print runs, less downtime and fewer rejects
- Trelleborg expertise - high performance, long squeegee life and outstanding value

Unitex® Ulon HP can offer up to a 43% cost saving on ink usage



Durometer/Color Coding:
Tolerance: +/- 2.5° Shore A

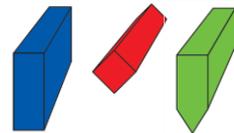
PU500/3-4 65-70° RED	PU500/4 70-75° GREEN	PU500/8 75-80° BLUE	PU500/9 80-85° BROWN
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Softer Squeegee
More ink, thick film

Harder Squeegee
Less ink, finer track spacing

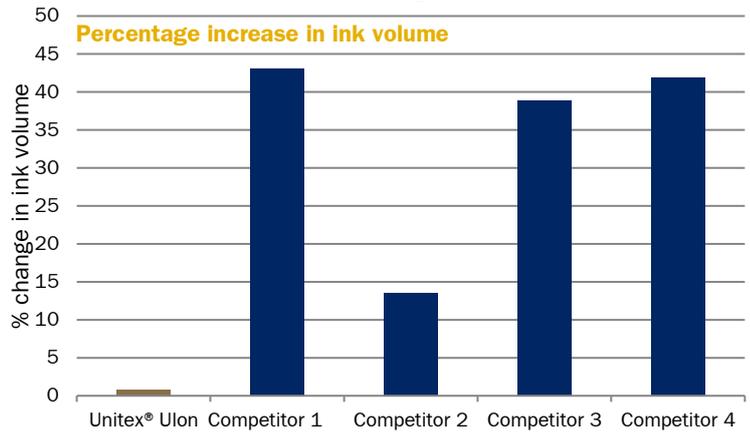
Profile:

- Plain
- Diamond
- Custom shapes



* Accelerated Squeegee Wear Test

70-80 Shore A Hardness - Single Durometer



Squeegee prints measured before and after 50 print passes on silicon carbide abrasive - 2500 grit (8.4 µm).

Independent test by the Welsh Centre for Printing and Coatings - report available on request

Solar screen printing

Unitex® Ulon HP squeegees are widely used all over the world by major solar cell manufacturing companies. They are used for accurately depositing layers of both Ag and Al paste to 'Busbars' and 'Fingers' found in today's modern solar cell design.

Typical Conductive & Non-Conductive Ink Systems:

- Silver
- Carbon
- Gold
- Dielectric

Technical Recommendations:

- Unitex® Ulon HP squeegee is ideal for multi-layer printing where tight registration control and printing accuracy is essential
- For fine track spacing and deposits in 20µm to 30µm range use Unitex® Ulon HP 500/4 (70-75° Shore A hardness) and 500/8 (75-80° Shore A hardness)
- For fine track spacing and deposits 50µm + use Unitex® Ulon HP 500/3 (65-70° Shore A hardness)
- Used with inks, pastes and resins
- Fully RoHS compliant
- Unitex® Ulon HP is OEM on many of today's solar screen printing machines



Technical Data:

Dimensions	Plain Section	Tolerance
Length	Up to 3750mm (147")	+/- 10mm
Width	15 - 50mm (0.6 - 2")	+/- 0.5mm
	50 - 100mm (2 - 4")	+/- 1mm
	100 - 610mm (4 - 24")	+/- 5mm
Thickness	Up to 12.5mm	+/- 0.4mm
Type	Hardness	Tolerance
Unitex® Ulon HP	60° - 95° Sh A in 5° Increments	+/- 2.5° Shore A

Available in different profiles, hardnesses and sizes on request.

Case Study

A European company that manufacture solar photovoltaic cells.

Overview:

They print multi-layer components with silver based conductive inks. With Unitex® Ulon HP printing edge being consistently sharp they are able to deposit printed layer accurately between 70µm and 10µm, while resisting glass frits and abrasive particles. As well as controlling the usage of expensive conductive inks, they are ensuring maximum solar cell efficiency and minimizing defects.

Outcome:

- Controlled ink usage
- Excellent print quality and accuracy
- Predictable print runs



Comments from the Production Manager:

'We have used Unitex® Ulon HP for many years. There are lower cost squeegees available, but we are not willing to take the risk of saving a few Euros on a squeegee and potentially scrapping a print run worth thousands.'

Contact Us

Trelleborg Applied Technologies delivers innovative and reliable solutions that maximize business performance to meet your needs. Our dedicated and highly skilled staff are always on hand to provide seamless process support from initial idea, through to delivery and beyond.

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