

ATTILIO CORNALI

SCHMETZ MR NEEDLE

Multi- Range needle for Multi-application



Design Features:

A: Same needle cross-section in both the blade and CAE area increases buckling strength;

B: Longer and deeper CAE creates more free space for the hook point to pick up the thread loop;

C: Deep thread groove is continued through to the eye area offering better thread protection and improving thread handling.

SCHMETZ MR NEEDLE

Ideas behind the MR design

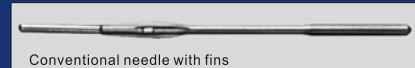
New die-pressing technology

CHARACTERS

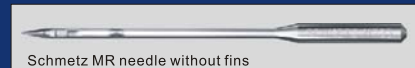
Due to the fully die-pressing technology, there is no more so-called fins at the sides of the stamped blade.

BENEFITS

It gives maximum stiffness to the blade; also gives additional strength as well as a very dense and crack-free needle surface.



Conventional needle with fins



Schmetz MR needle without fins

Fully die-pressing makes the needle stronger.

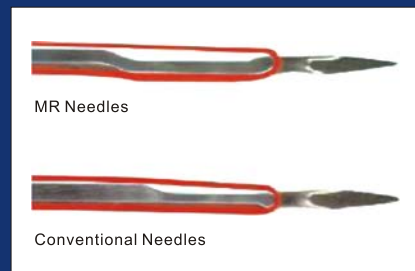
Cranked blade in MR design

CHARACTERS

The needle scarf of MR needle does not only have the scarf indent of a conventional needle, but also the whole blade of the needle is cranked like a crank shaft in the engine of an automobile.

BENEFITS

High buckling strength due to the same cross-section of the needle scarf;
 Longer scarf;
 A significant increase of space between the bottom of the scarf and the thread.



MR Needles

Conventional Needles

MR Needle - the needle preventing the skip stitch.

Long groove in MR design

CHARACTERS

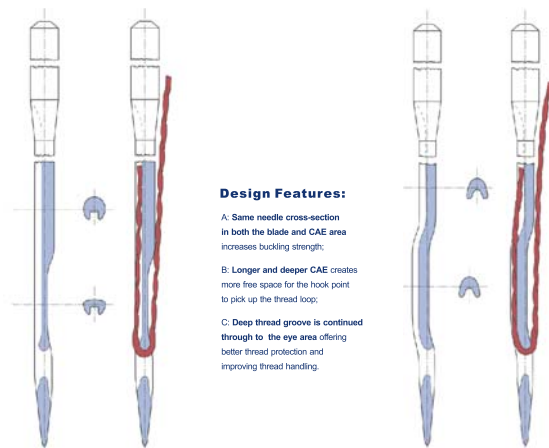
The long groove of MR needle has the same depth all the way, from the shoulder down through the scarf and into the eye.

BENEFITS

Excellent protection of the thread running through the long groove during sewing;
 Thread can move more freely during sewing especially in multidirectional sewing;
 Reducing the thread untwisting in double-needle lockstitch machines.



Long groove - provides better thread protection and excellent function in multidirectional sewing.



SCHMETZ MR NEEDLE

At a glance - benefits and application

BENEFITS

Application

The needle has increased buckling strength due to the same cross-section in the blade and scarf area.	Less needle breakage; Greater penetrations force; Suitable for heavy duty sewing.
Extremely long and deep scarf; Wide space in the scarf area for the hook to pick up the loop.	Preventing skipping, even if there is no loop formation is taking place due to the different reasons; Easy to adjust the hook and thereby avoid thread breakage.
The deep long groove runs at full depth for the complete length of the needle blade right down to the eye.	Excellent thread protection; Better function in Multidirectional sewing, like pocket setters, computerised stitching for the sports shoes etc; Solving the problem of the thread untwisting during sewing; Creating better seam appearance.

The premier application

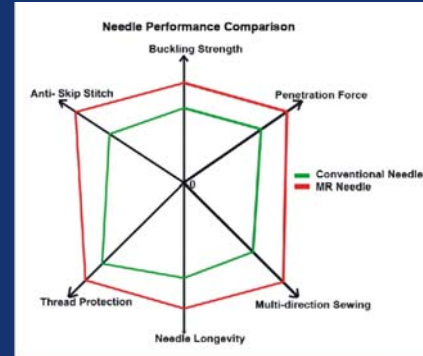
Shoe/Denim/Lingerie/Luggage/Hand Bag/Protective Wears
Sport Wears/Car Seat/Industrial Fabric /.....

Schmetz MR sizes and range available

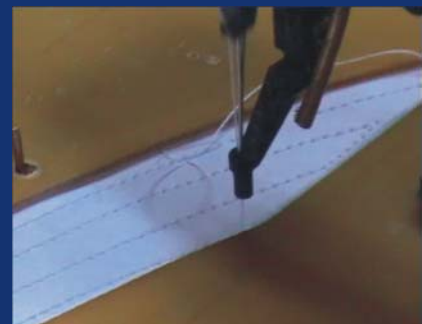


MR	MR Range	SIZE Range
MR2.5	75-80	11-12
MR3.0	85-90	13-14
MR3.5	95-100	15-16
MR4.0	105-110	17-18
MR4.5	120	19
MR5.0	125-130	20-21
MR6.0	140-160	22-23

Schmetz MR needle is available in various size.



Performance Comparison between MR needle and conventional needle



Computerised stitching for the sports shoes.

SCHMETZ MR NEEDLE

MR NEEDLE FOR SHOE

Typical Sewing Problems

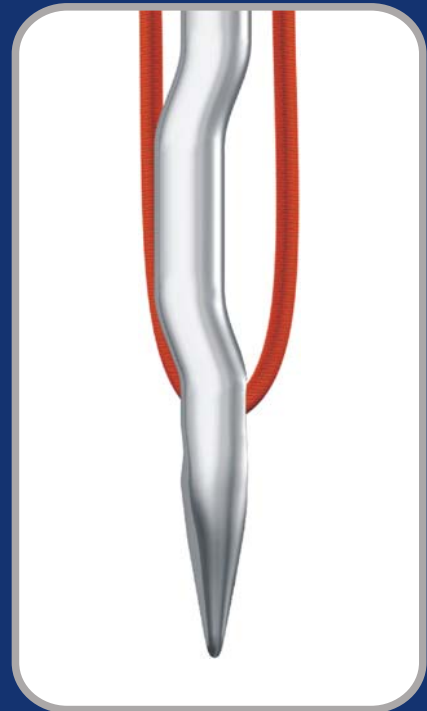
Hard to penetrate the thick material combination

- Needle breakage
- Thread breakage
- Too big needle holes on the leather

MR Resolution

Multi-material combination is very common in shoe industry, it is thick and hard to be penetrated. Due to the same cross-section in the blade and scarf area, MR needle achieves maximum stiffness and buckling strength to the blade. Its penetration force is also greater than that of the standard needle.

So MR needle is more suitable to penetrate the thick material combination than the standard needle.



SCHMETZ MR NEEDLE

MR NEEDLE FOR DENIM

Typical Sewing Problems

Skip stitch

Needle breakage

Thread breakage

Inferior seam appearance

MR Resolution

Skip stitch can occur due to various reasons:

Sewing across the Bone (cross seams) or the presser foot can not press the material properly;

Poor thread or thread with high elasticity;

Poor feeding system;

Needle bending during sewing;

Special material, for example: coating fabric;

Other relevant reasons...

The special Schmetz MR design in the scarf area also is the reason for a significant increase of space between the bottom of the scarf and the thread when it comes to loop formation or preventing skipping.

Even if there is no loop formation taking place due to the different reasons for skipping, there still will be enough space for the hook point to penetrate into the gap between needle and thread and pick-up the needle thread for stitch.



SCHMETZ MR NEEDLE

MR NEEDLE FOR LINGERIE

Typical Sewing Problems

Needle breakage

- Skip stitch
- Thread breakage
- Material damage

MR Resolution

The fabrics of lingerie are usually very sensitive and with high elasticity, when the operators pull the fabric during sewing, it could cause the needle to deflect. This could lead to improper seam appearance, and even needle breakage.

The cross-section of the MR needle blade is well maintained also in the scarf area. This leaves out the disadvantage of any conventional needle scarf, where the scarf always is a weak spot, because the cross-section of the needle blade is reduced significantly in this area.

A dramatic effect of this design is the well increased the stability and buckling strength of MR needles. It will reduce the needle deflection and needle breakage quite considerable.



Schmetz Suggestion:

Schmetz MR needle will be available with SUK/ medium ball points, for avoiding the material damage.

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