



# COOL-SEW<sup>®</sup> NEEDLES (CS)



The **COOL-SEW**<sup>\*</sup> finish was developed to alleviate needle problems resulting from the following situations:

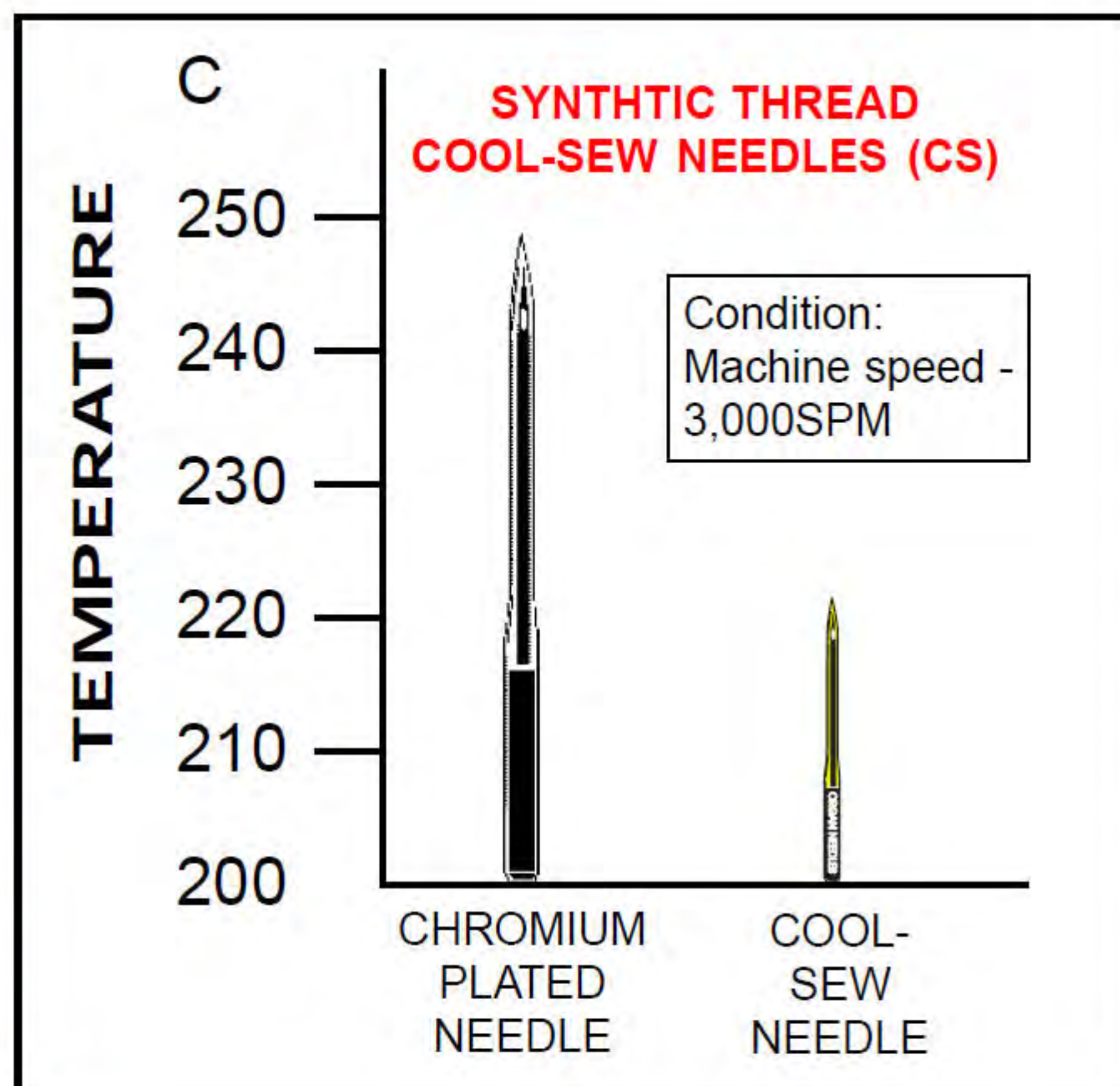
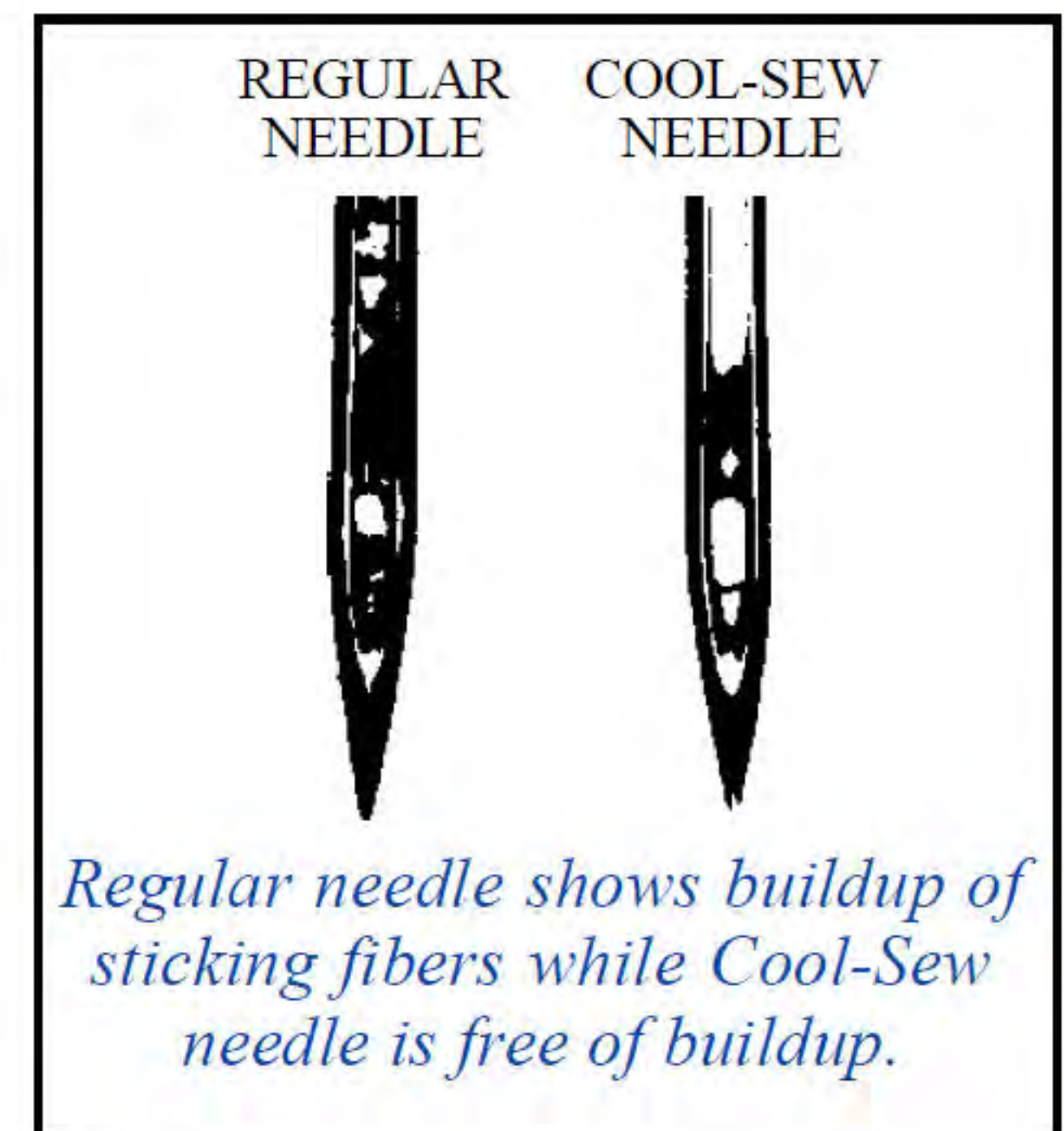
- (1) Heat Buildup in penetration of synthetic, chemically treated, or very dense materials
- (2) Materials or residue sticking to needle surface or in eye
- (3) Excessive sewing thread breakage due to friction in the needle eye

\* COOL-SEW is the registered trade mark of Diamond Needle Corp for non-stick finish on sewing machine needles.

As a needle penetrates synthetic, chemically treated or very dense materials a great deal of friction may develop. The needle may get so hot as to actually melt or fuse the sewn material along the seam. The needle's heat may melt the synthetic sewing thread. When the machine stops, the melted residue may stick to the needle surfaces as it cools.

The nature of some materials makes them rather "sticky." Materials such as rubber, foam, and synthetic fillers stick to surfaces with which they make contact. They may stick to needles which penetrate through them,

even at relative slow sewing speeds. The result may cause undesirable stitch appearances as these materials push through or pull up through needle holes.



Synthetic threads often have a higher friction coefficient than natural fiber threads such as cotton. Passing through the eye of a needle friction develops which causes the needle to heat up. As the speed of the thread passing through the eye of the needle increases, the heat of the needles rises, often to temperatures which will melt the synthetic sewing thread causing it to break.

Chemical coatings or treatments of threads and materials may

**Diamond  
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Corp.**



**WHITE  
DIAMOND**

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# COOL-SEW® NEEDLES (CS)



may cause troublesome sewing problems. Bonded layers, waterproofing, dyes, starches, adhesives, sizings, or other alterations to any fibers may result in needle heat-buildup, sticking problems, excessive thread breakage, and clogged needle eyes.

The **COOL-SEW** finish needle's surfaces, even in the eye, are resistant to sticking. Its non-stick finish has a very low friction coefficient which prevents excessive heat buildup and its resulting problems. Few, if any, materials stick to the surfaces of Cool-Sew needles.

When **Cool-Sew** needles are used under conditions described above you can expect neater stitches, less sewing thread breakage, less puckered stitches, less downtime, less defects, and increased productivity.

**COOL-SEW** needles are ideal for sewing through vinyl, synthetics, chemically treated materials, glued materials, rubberized goods, nylon, foam, dense materials, and with synthetic threads.

**AVAILABLE  
IN POPULAR  
TYPES & SIZES**

**ORGAN NEEDLES —**  
Created with precision to solve  
any sewing problem.



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Needle  
Corp.**



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For adhesion trouble

**ORGAN® NEEDLES INFORMATION**

**LP** coating

Smooth surface avoids adhesion  
For trouble caused by a blocked groove and  
eye due to adhesion of materials



Sewing with glue / Interlining /  
Thin and slippery chemical woven /  
Synthetic leather / Coated material



**ORGAN NEEDLE CO., LTD.**

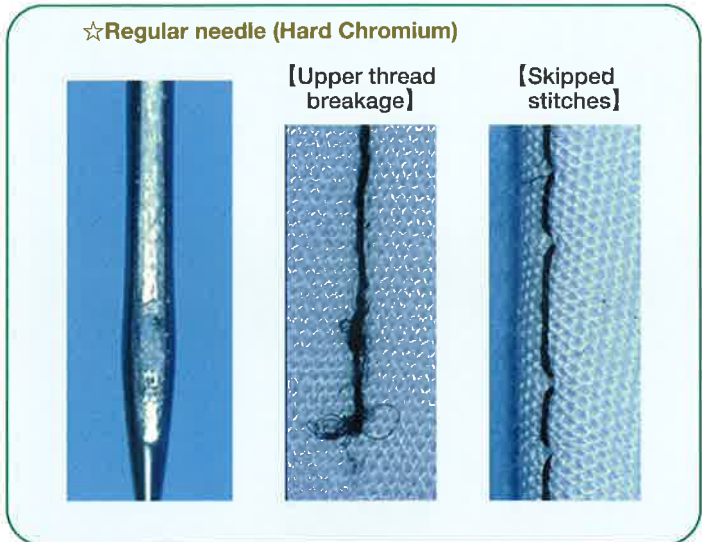
High and long lasting effect of the anti-adhesion with smooth surface

**High anti-adhesion effect**

The various materials appeared in the fashion field have been developed due to diversification of the design of clothing and the improvement of the sewing techniques. Now, sewing with the glue or sewing interlining is nothing new for sewing technique and the needle is also required to adopt to this kind of sewing. LP coating on the needle is very effective for overcoming the adhesion trouble.



**Trouble by the sticking**



The glue and interlining of the material tends to stick on the needle eye and groove. It makes the loop formation worse due to the unsmooth moving of the upper thread. The main troubles are upper thread breakage and skipped stitches as shown in the below photos. LP coating is effective for overcoming the various kinds of troubles caused by adhesion.



Regular needle



LP

**Seam puckering**

Seam puckering is one of the most frequent troubles with thin and slippery materials. LP coating controls the fluttering of the sewn material and reduces seam puckering.

☆Joint-use of LP coating and ORGAN "NS Series" is very effective against seam puckering.

\*The coating agent contains black pigment and it may remain on the material at the beginning of sewing. The Pre-sewing is recommended for sewing light color materials.

**ORGAN Special coating Line up**

	Abrasion	Needle heat	Adhesion	Melting
LP			●	
PD	●			
HP		●		●

★LP is available on all kinds of ORGAN industrial sewing machine needles.



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Reduce needle temperature

**ORGAN® NEEDLES** INFORMATION

**HP** coating

For the high-speed sewing by high-performance sewing machines/  
Suitable for the materials weak in heat resistance



Trouble due to needle heat  
Upper thread breakage  
Fabric yarn breakage (Needle hole) / Skipped stitches

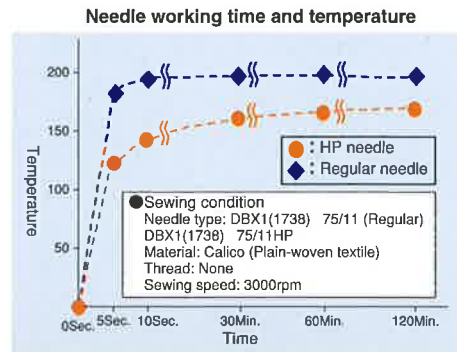


**ORGAN NEEDLE CO., LTD.**

Reduce the trouble of adhesion due to the melted chemical woven

**Reduce needle temperature**

High-speed sewing makes the needle temperature much higher due to needle penetration. Needle cooler equipped on a machine or lubrication oil is utilized to overcome. In use of the chemical woven materials with a low melting point, the slower setting of the machine prevents the needle heat from increasing, but it decreases the productivity. With HP coating, the needle radiates heat by itself and reduces the needle heat.



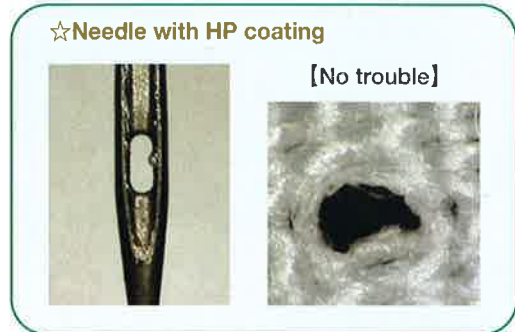
**Troubles due to the needle heat**

**Upper thread breakage**

Melted materials and thread stick on the needle cause thread breakage. HP reduces the melting of the materials and thread.

**Fabric yarn breakage**

The photos below show the melting of the chemical material yarn by heat. Minimizing the needle heat is one of the most effective way to solve the needle hole problem.



ORGAN current SU needle



HP



**No coloring due to the surface coating agent**

HP has no color. Pre-sewing to remove the color is not necessary. The coating agent does not remain on the sewn materials.

**ORGAN Special coating Line up**

	Abrasion	Needle heat	Adhesion	Melting
HP		●		●
LP			●	
PD	●			

★HP is available on all kinds of ORGAN industrial sewing machine needles.



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