



Creel Threading Practices

Proper Threading

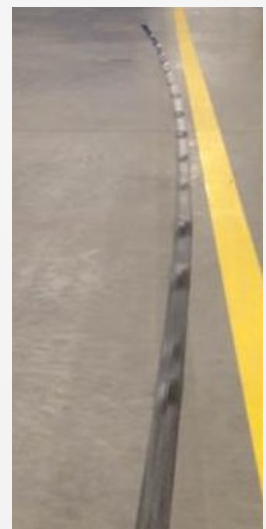
Once the creel system has been fully populated with wire spools, the next step is to thread each cord through the front and main organizing boards. Each cord is to be fed through its own opening in the organizing boards according to an established threading pattern.



Maintaining symmetry and evenness in the threading pattern is essential for the quality of the product. Threading each wire individually without overlap ensures that they are pulled evenly with minimal tangling, cord breakage and friction. Failure to observe proper organizing practices can lead to tension variation and inferior product. In fact, many of the problems blamed on steel cord quality can be traced back to improper roller board usage or threading patterns

Problems Caused by Poor Threading

It is essential that cords are separated as much as possible as they are routed through to the calender, extruder, or other downstream process. Improper threading can result in twisted, overlapping, or broken cords and is the cause of many defects found throughout the manufacturing process. These pictures show some of the more common issues that can be attributed to poor threading, such as product tip-rise, curling, and banana-shaped material



Wire Angles

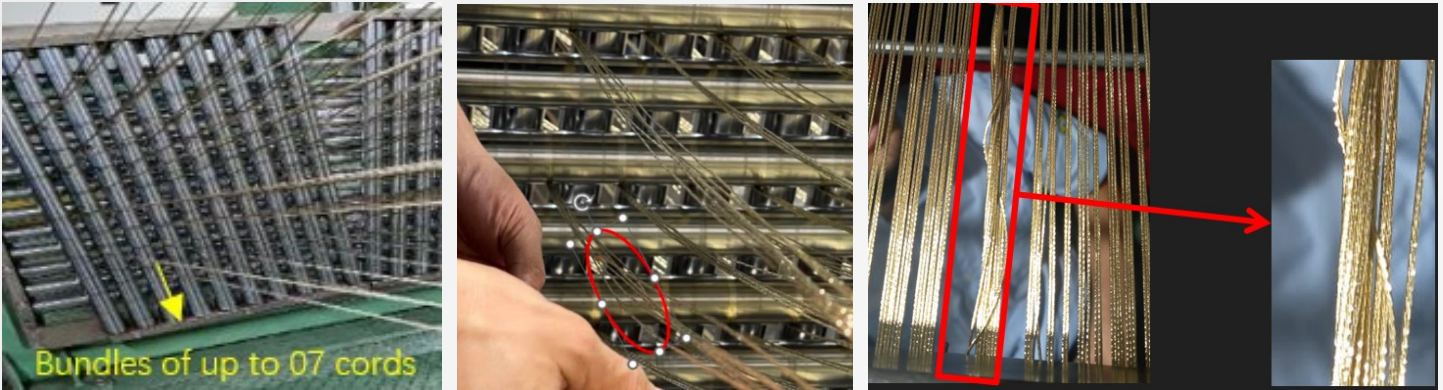
Minimizing the angle of wire deflection at each organizing board is an important factor in the quality of the final product. At greater angles of deflection, the stresses imparted in the wire by its bending can cause inconsistent tension and warping of the cord material, introducing cord memory that can apply undesired forces to the end product.

The radius around which the cord is bent is a key factor in the magnitude of the stresses imparted. At larger radii, the stress added through cord bending is reduced compared to smaller radii. For this reason, RJS recommends different maximum wire angles depending on the organizing equipment used

Organizing Type	~Bend Radius	Maximum Vertical Angle	Maximum Horizontal Angle
Eyelet Boards	N/A	10°	10°
Fixed Roller Board	3/8"	15°	15°
Quick-Thread Board	3/8"	15°	15°
Grooved Roller Board	~1-1/2"	90°	Minimize

Organizing Capacity and Creel Expansions

When planning a system expansion, it is important to consider the effect that additional cords may have on your organizing and intake process. It is never recommended to run multiple cords through the same opening, regardless of the style of organizing used. This often means that even small system expansions require upgraded organizing equipment. Increasing the number of wires without increasing organizing capacity or considering the effect of such an expansion on wire angles can result in poor quality and scrap



Over 75 Years of Experience

With decades of experience, RJS designs Creel Systems for proper wire angles and with appropriate cord management to prevent cord threading issues before they occur. It is important to consult with RJS before considering any significant Creel Room project or expansion. Relying on RJS's expertise in the creel room is the simplest way to ensure consistent product quality



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