

Application Note: Specifying a Coil Handling & Feeding Line

Minimum/Maximum Coil Width and thickness; for example - .120" thick @ 24" width @ 50,000 PSI yield strength and/or .080" thick @ 36" width @ 80,000 PSI yield strength. *Note – more and more lines are being specified to run a wider range of material thicknesses with the lighter gauges being higher strengths. This makes the straightening process more and more challenging.*

Material type(s): MCRS or other. Specify tensile & yield. *Note – as stated above, it's important to know the yield strength for each cross section of material to properly size the straightener, coil containment, and threading systems.*

Material finish requirements; if any. Are burnish marks or other material marking a concern.

Min/Max feed length x speed. Example: 6" move x 120 spm and 24" move x 40 spm. *The coil line must be designed with correct layout and drive sizes to meet maximum linespeed requirements and acceleration/deceleration limits.*

What feed accuracy/repeatability is required? +/- .003" is fairly standard, better accuracy is sometimes achievable.

Do you use pilots?

Is a programmable limit switch or similar device available to time feed advance and/or pilot release?

How much floor space is available? Can you provide a pit, if required?

- Compact Feed Lines as standard run 60-70 FPM net linespeeds
- Conventional Lines without a pit can run 80+ FPM net linespeeds
- Conventional Lines with correct material in loop can run 250+ FPM

Line configuration:

1. Powered reel to free loop and feed with pull through straightener.
 - i. Hands free coil threading required?
 - ii. Is true pilot release functionality required?
2. Non powered reel - powered pull off straightener to a loop supplying feed.
 - i. Coil hold down arm?
3. Coil cradle/straightener to overhead or conventional loop supplying feed.
 - i. Special coil plates to manage with camber?
4. Space saver close coupled loopless reel/straightener/feeder combination.
5. Pallet decoiler serving feed with or without straightener

If a straightener is required are there any expectations other than removing basic coil set?

Is a crop shear required to provide a clean material edge to the straightening and or feeding equipment? *This feature can be used to cut the strip for tailout after a batch run is completed or tooling problem shuts down a run and the coil must be rewound.*

Will the feed be secured to the press by: press mount or cabinet mount?

What is the minimum/maximum material passline? How frequently is the passline adjusted?

Coil size – minimum/maximum ID, OD, Width

Calculate material footage available in the coil then calculate the length of time between coil changes based on the feed length x press rate. If the run time to coil change is short you may want to consider a double ended reel or another means of staging a replacement coil to maximize press uptime.

Special features required to reduce setup time? Motorized passline, motorized straightening rolls, automatic coil centering, interface to press automation controls such as Wintriss SmartPAC?

Is there a requirement or preference for certain controls – ie. Allen Bradley, Siemens, Indramat, etc?

How will the coil be delivered to the decoiling equipment? Is a coil car, upender required, or jib crane required?

Does the coil stock need to be cleaned or oiled prior to feeding?

Assuming all specifications can be met what is most important:

- Reliability
- Price
- Delivery
- Availability of Service
- Warranty
- Brand

PR1 offers a wide variety of coil handling, feeding, and cut to length equipment to uncoil, straighten, feed, and shear metal, paper, or plastic coiled material. For more information, please refer to: [Coil Handling Equipment](#).