

Strip descaling and surface conditioning by Eco Pickled Surface technology

Eco Pickled Surface (EPS) is a new environmentally friendly and low cost alternative to acid pickling, providing the product with a rust inhibitive surface. This technology accomplishes mechanical removal of scale using a patented slurry blast technology in which a mixture of water and abrasive material impinges against the moving strip of steel. The force, angle and uniformity of slurry impact against the steel strip are precisely controlled to achieve complete scale removal. The first processing line using this new technology has been released to book orders.



Coil with Eco Pickled Surface

Eco Pickled Surface (EPS) is a new environmentally friendly and low cost alternative to acid pickling, providing the product with a rust inhibitive surface. EPS, developed by The Materials Works, Ltd. (TMW), accomplishes mechanical removal of scale using a patented slurry blast technology in which a mixture of carrier liquid (water) and abrasive material impinges against the moving strip of steel.

EPS has progressed forward to the point that the first processing line, EPS Alpha, has been released to TMW's Processing Division to book processing orders. This important step is the result of a great number of successful EPS trials for companies trying the new process for their stamping, high gloss cabinet finishes, general fabrication (punch, form, weld, laser, paint), cold roll, prepaint, galvanize, etc. applications. Companies have run very intense sample trials to see EPS mitigate small pits, scratches, and bruises. To date EPS has not failed in trial or production mode when replacing acid pickling.

With the EPS Alpha Line now in processing mode, TMW's Processing Division recently analyzed operating costs. Direct Alpha operating costs are significantly less than acid pickle costs. Profit margins are higher when selling EPS Dry since customers are willing to pay more for EPS Dry due to the many

problems associated with rust inhibitive oil. EPS Dry will not only replace pickled and oiled, but also pickled dry and hot rolled black coils since EPS is rust inhibitive.

There is currently market interest in using EPS for several different types of configurations. Some companies are interested in purchasing EPS coil lines. One other area of interest is retrofitting acid pickling line by replacing acid tanks with EPS cells. And another area of interest for large pickling lines is to EPS prior to acid pickling so as not to disrupt large volume pickling lines' business.

The current Alpha EPS coil line supports 6 mm x 1,828 mm. There are plans to build a 9.5 mm x 1,828 mm EPS coil line next. This Beta line will provide the same EPS product except that it will employ multiple improvements that have been found to increase throughput and efficiency. Once Beta's new style blasting cells are developed, TMW will then release the sale of EPS licenses. Currently, these new blasting cells are being tested at a research facility. The Alpha EPS coil line with an EPS license is currently on sale; however, Alpha cannot leave TMW until the Beta line is running. In addition to running production on Alpha for their processing customers, TMW is also still running trials for processing customers and potential licensees.

Kevin Voges, President, **The Material Works, Ltd.** Red Bud, IL, USA

Contact: www.thematwks.com
E-mail: kevinv@thematwks.com