



SDI

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WHY SDI?

SDI has been manufacturing equipment for over 20 years and has earned an international reputation as a premier supplier of industry-specific cleaning systems, supplies and solutions.

SDI is the largest privately held supplier in the United States. Through continuous R&D, SDI outperforms other competitors in both cleaning and quality. SDI offers a full range of sheet, web and edge cleaning units and our equipment is fully guaranteed and supported by a world-wide technical support/spares service. SDI offered the first completely silicone-free cleaning system and is still unsurpassed in this area today. SDI Polymer rollers are high quality and ground to guarantee perfect balance. With standard and customizable models, SDI can provide the ideal cleaning system for your application.

WHAT IS CONTACT CLEANING?

Unlike vacuum systems that clean without touching the surface, Contact Cleaners use a system of special rollers in contact with a surface to pick up particles and transfer them to an adhesive roll. Cleaning can be either single or double sided. In a contact cleaning system the polymer pick-up roller penetrates the boundary layers that make vacuum systems less efficient at removing small particles. For this reason contact cleaning is a much more efficient way of removing small particles from sheets or webs. Contact Cleaning is used before many critical processes such as Printing, Laminating, Coating and Packaging.

HOW IT WORKS, WHY IT WORKS, & WHEN IT WON'T WORK

How it works

Contact cleaners use high energy polymer pick up rollers which come in contact with the particles. The particles form a temporary bond with the polymer pick-up roller and then get transferred to an adhesive roll where they are permanently captured. The polymer



pick-up rollers have more surface energy than the substrate being cleaned and the adhesive roll has higher surface energy than the polymer pick-up roller which allows the polymer pick-up roller to clean the substrate and the adhesive roller to clean the polymer pick-up roller. The adhesive roll will eventually become fully loaded at which time it is peeled or replaced. The adhesive rolls are offered in pre-sheeted or continuous form. SDI contact cleaners offer integrated anti-static systems as an option.

Why it works

Particles on a surface are held by several forces which make it difficult to remove them. The main forces involved are static charge and Van der Waals forces. Static charge is often induced in surfaces when they touch each other, especially if they are far apart on the tribo-electric scale. Van der Waals forces are typically seen when two very flat surfaces come in to contact with each other. The surface energy of a polymer pick-up roller has to be sufficient to overcome the static attractive forces and any Van der Waals forces. By breaking through the boundary layer and coming into direct contact with the particles SDI polymer pick-up rollers can more easily overcome the forces keeping the particles tied to a surface, this is why contact cleaning systems from SDI work so efficiently.

When contact cleaning won't work

Contact cleaning works best with dry unattached particles (lint, dust, hairs, etc.), It will not remove oily finger prints, grease or particles which are physically adhered to a surface. If the contamination level is too high, SDI offers a line of rotary vacuum systems as well.