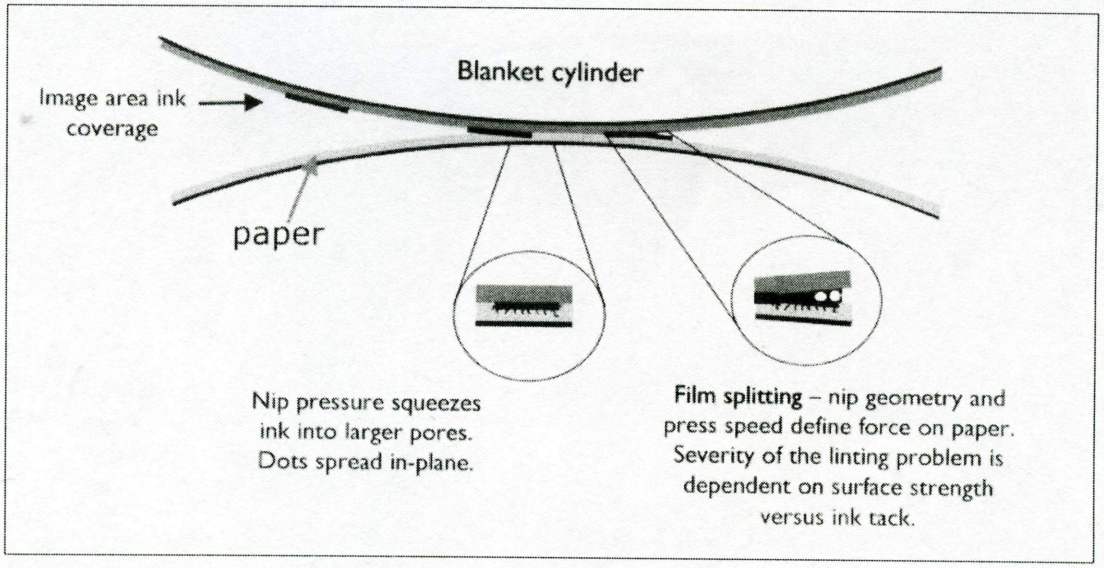

Figure 2 – *What happens in the nip of the printing press*

When is linting most likely to be a problem?

Although several factors affecting linting have already been listed, let us review them again:

- Linting occurs primarily on mechanical grades.
- Image area linting directly affects print quality and is more pronounced for refiner mechanical pulps (TMP, RMP) than for grinder type (SGW, PGW).
- Linting is clearly associated with the fiber development and is influenced by wood, both species and quality (age, moisture content, decay, etc).
- Adsorption of poorly bonding or debonding material on the surface of the fiber can contribute to linting problems. Examples of such substances can be deinking surfactants, defoamers, pitch, etc.
- Paper machine forming section design affects fines distribution. Linting is often worse on machines with a serious two-sidedness problem. It is therefore often a problem on the top side of sheets produced on Fourdrinier machines, where there is a significant filtration effect. In contrast, the bottom of the sheet produced on these machines has very few linting problems.
- Linting problems are less frequent with top formers and only occasionally seen with gap formers.
- The seriousness of the problem is highly dependent on the pressroom and printing process variables. It is common for the same rolls to exhibit different linting tendencies in different pressrooms, in part due to the large number of printing variables.
- The most important printing press factors affecting linting are:
  - Fountain solution – the amount of water on blanket (adhesion to blanket) and chemical composition of fountain solution.
  - Blanket interactions – interaction of the blanket with the surface of the paper (surface area and forces) and changes of blanket properties during printing.
  - Press design – size of cylinders, separation speed, and separation angle – all determine the nip pressures and film splitting after the nip.
  - Ink properties – ink chemistry (its tack), temperature of inking unit (affects tack) and amount of emulsified water. The importance of ink and its interaction with the paper are illustrated in Figure 2. Forces acting on the surface of the paper in the nip of the press depend on ink tack, speed of press operations, backing roll geometry rates of penetration and setting.