



Technical Resource

Useful Information Concerning the Acidity of Woods and Fingerprints

Acidity of Woods

7							
6				5.8	6.05		
5			4.4	4.6	5.0	ALKALINE	↑
4		3.9	4.0			NEUTRAL	
3	3.2	3.4				ACIDIC	↓
2	2.7						
1							
	PINE	OAK	SPRUCE	POPLAR	BEECH		

Overall, pine and oak are very acidic and can contribute greatly to corrosion issues. Avoid contact of metal with woods, especially pine and oak. By placing ARMOR WRAP® VCI Paper or ARMOR POLY® between these materials (or ARMOR SHIELD® VCI Corrugated or Chipboard) it will eliminate the contact corrosion and protect the metals from rust.

Fingerprints

Fingerprints and perspiration are one of the biggest contributors to corrosion in terms of handling of metal. Sodium Chloride (salt) is transferred onto metal via fingerprints along with other acidic chemicals found in perspiration. This is also more readily seen in hot manufacturing plants where workers tend to sweat more than normal. For instance, normally a person sweats 3-5 grams/day (containing mostly salt and water). In a hot environment where someone is sweating profusely, this amount increases, by average, to 15-30 grams/day. Overall, sweat is made up of a weak solution of urea, potassium, lactic acid and other electrolytes. As a rule, women tend to run more acidic than men. Additionally, it has been shown that they run even higher levels of acidity during menstrual cycles and pregnancy.

For these reasons, it is very important that any workers coming into contact with metal (such as packagers, inspectors, machine operators) wear protective gloves to avoid the transfer of oils, acids and other contaminants onto the metal. It is recommended that clean cotton gloves be used and replenished as they become dirty or contaminated. This is a key step in the process of reducing overall corrosion within a manufacturing process.