Corona Supplies Ltd

for all your corona needs

Technical diferences between dielectric coatings

There are various types of dielectric coatings available that can be used in a corona treaters. Dielectric coated rolls are found on corona treatment machines used to treat non conductive materials. For conductive materials the roll is bare (generally aluminium) and the dielectric is located on the electrode, which is made from ceramic.

Therefore for corona treatment systems where the roll is the dielectric, normally found in blown film and cast film extrusion, as well as wide web there are many different dielectric coatings to choose from. What are the options and which one is best?

	Silicone sleeve	**Vulcanised silicone**	**Ceramic**	**Glass**
Cost	Very economical	Economical	Expensive	Very expensive
Change of dielectric	Very easy	New coated roll or easy repair	New roll or repair	New roll, cannot repair
New coated roll	Change sleeves only	4-6 weeks	6-8 weeks	12-16 weeks
Maximum roll diameter	Maximum 200mm	Without limit	Without limit	Without limit
Maximum roll width	3m	5m	10m	10m
Speeds – Concentricity and balance of roll/effect on air gap	Up to 150m/min – bad concentricity	Up to 400m/min - Good concentricity	Up to 1000m/min – excellent concentricity	Up to 400m/min - good concentricity
Usage life	Up to a year	Years	Years – more than vulcanised silicone	Years – more than vulcanised silicone
Guarantees	No guarantee	1 year	1 to 2 years	5 years
Possible problems	Fast oxidation and sleev can be cut	Oxidation or silicone can be cut	Cannot be cut, long life against oxidation. Pinholing.	Cannot be cut, long life against oxidation. No pinholing
Energy disipation	10KW/m	10KW/m	4KW/m – UIT high powers roll must be water cooled.	2 to 4KW/m– With high power roll must be water cooled.
Static problems	No	No	No	Yes – anti static bar needed or guarantee is invalid
Deposits of slip additives or polymer	Possible	Possible	Easy to remove	Easy to remove

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