



Labourers of dyeing plants at Kamarpara near Tongi wash empty sacks that contained toxic dyes in the Turag, caring little for the environmental damage.



KEDGEWICKS DENIM PROCESSORS (70m³/hour) TFS FOR TEXTILE EFFLUENT & FILTER PRESS, YORKSHIRE, UK



FILTER CAKE APPROX. 35% SOLIDS

What is Foam?







FOAM = Phenomenon

Food, Beverages, Grooming Products, Soaps, Art Work

Most contain surfactants, i.e., complex molecules aggregating at the bubble surface

Does not flow like a true liquid but neither is it a crystalline solid

Under enough pressure:

Bubbles rearrange constantly and flow like a liquid







Loose Assembly

Under Pressure





Reasons For Replacement



Conventional Pad

High chemical cost, tailing, inflexible, limited speed



Vacuum Slot

High power requirement, limited moisture extraction



Sprays

Unreliable, wasteful, speed limited



Kiss Roll

Surface chemistry relevant, speed limited



Curved Blade Applicator

Not a direct metering device, surface chemistry relevant

Reasons For Replacement



Knife Coater

Speed, viscosity, and fabric dependent



Curtain Coater

Unsuitable for low add-on rates



Engraved Roller

Speed limited, add-on inflexibility



Printing

Speed and viscosity limited, wide width problems



Flooded Nip

High chemical cost, inflexible, speed limited



Controlled Delivery





Conventional: Liquid Remaining After Extraction



Conventional Caked Junctions

Directional Application Under Pressure = Spatial Application



Spacial Application of Chemistry

















Gaston Systems Foam Application

BASIC CONCEPT





EFFECT OF BLOW RATIO

APPLICATOR NOZZLE



<u>LEGEND</u>: D1 = UNFOAMED LIQUOR 20 D1 = 20:1 VOLUMETRIC EXPANSION 40 D1 = 40:1 VOLUMETRIC EXPANSION

Concentration Varies With Water Volume





CFS Applicator





CFS Foam Application and Chemical Blending











Pollution Prevention in Dyeing, Finishing, and Yarn Sizing