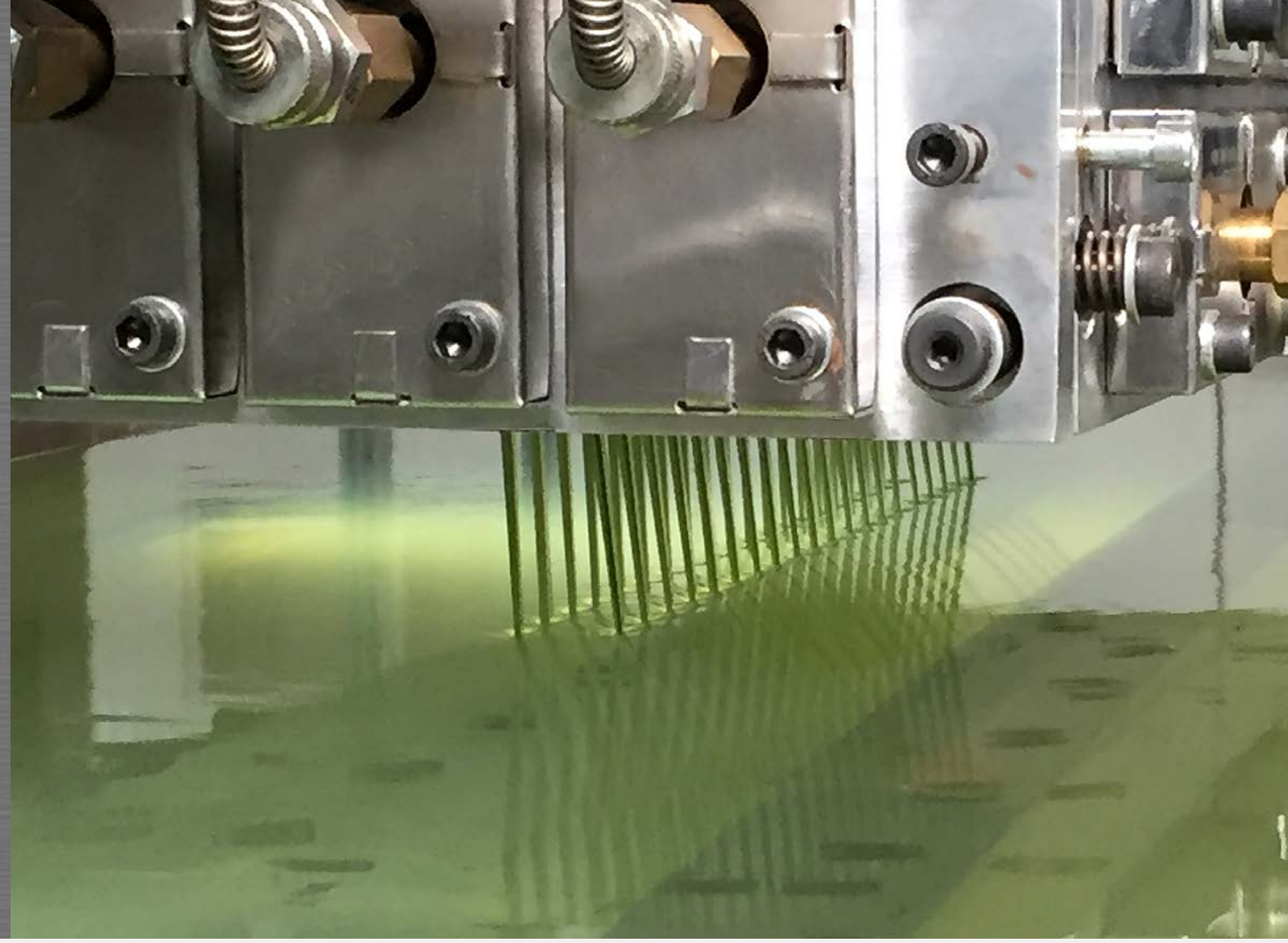

TECHNO GRASS . EXTRUSION LINE TECHNOLOGY

SIMA

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a company of the group
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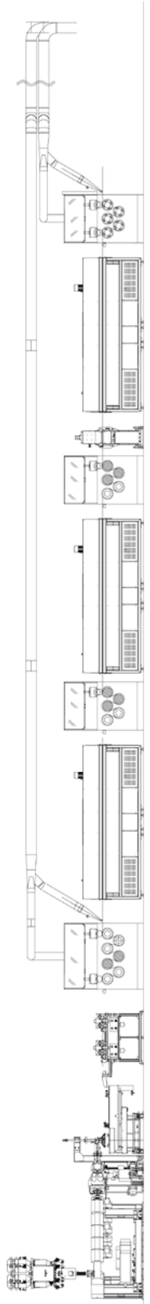
TECHNO GRASS



TECHNO GRASS
1400/90X2/LLDPE-PP

PRODUCT

Artificial grass is the last wonder application of the plastic textile sector having worldwide demand with double digit growing trend.
Polypropylene, polyethylene, PA and PET are the basic raw materials mainly used for producing yarn for sports, leisure and landscaping applications.
The artificial grass industry is a deep B2B market with a supply chain involving a broad range of process: polymer supplier, yarn producer, handling, tufting, up to field installation and maintenance. All these processes are strategic to realize a first quality product and service.
In the artificial grass sector, SIMA together with Dietze-Schell put in place their wide experience on extrusion and handling process to develop complete turn key solution producing wrapped and texturized yarn bobbins ready to be tufted.
The production of artificial turf can be done inline from extruder line or offline from an unwinding device. The texturized filaments can additionally be entangled with support yarn in a joined wrapping spindle and subsequently wound to bobbins with a precision cross winder.
The individual winding positions can be assembled to networked production lines. The compact design permits operation even in a confined space.
Fibrillated tape, various shape monofilament mono and bicomponent, bi-color or 3-colour, having technical features to comply with sport associations standard (FIFA/UEFA) or simply according to specific customer requirements, can be produced on SIMA + Dietze-Schell synthetic grass equipments.

SIMA artificial grass production process means:

SIMPLICITY & RELIABILITY
User friendly touch screen interface o allow easier leading production process. High technology to keep under control the process, then the product; this in SIMA way to have a constant quality level in the time: dimension, shrinkage, elongation, color distribution, denier constancy.

PRODUCTIVITY
From 600 up to 3.500 Tons/Year capacity, SIMA Extrusion lines are all tested in house before being delivered in assembling condition ready to produce suddenly. Small consumption of spare parts and energy due to the tailor made design of the line.

FLEXIBILITY
From fibrillated tape to monofilament, artificial grass last generation yarn can be produced by the same technology to meet different market requirements just changing set up in few minutes.

EXTRUSION TECHNOLOGY
Precision in dosing raw materials and additive in feeding process by lose-in weight system. Extruder designed for a wide range of applications and equipped by metering pump to keep constant the yarn weight. Dedicated solutions for new cross section to enhance some performance like elastic memory or co-extrusion technology for more natural look.

STRETCHING & ANNEALING
Stretching unit equipped by combinated air/water oven to perform the softness and shine. Different technology to control the relaxation of the different shape.

PRODUCT: Mono	One color Ø extruder [mm]	Two color Ø extruder [mm]	# of mono [600dtex / 2.000dtex]	Speed (*) [mt/min]	Production (**) [Kg/h]
TECHNO GRASS 800/100	100	2 X Ø65	160/96	250/180	144/207
TECHNO GRASS 1000/115	115	2 X Ø75	200/120	250/180	180/259
TECHNO GRASS 1400/140	140	2 X Ø90	288/180	250/180	259/390

PRODUCT: Tape	Ø extruder [mm]	# of tape [11.000dtex]	Speed (*) [mt/min]	Production (**) [Kg/h]
TECHNO GRASS 800/115	115	30	150	300
TECHNO GRASS 1200/140	140	45	168	500

(*) Depending on line configuration - (**) LLDPE (based), PA6, PP, PE

DIETZE-SCHELL AUTOMATIC TEXTURIZING AND WINDING TECHNOLOGY FOR COMPLETE TURN KEY SOLUTION

The DS 200 G is the air texturizing machine suitable for a wide range of technical yarn including plastic filament for artificial turf application. The unit can handle bundles of monofilament and fibrillated tape of LLDPE, PP, PA, in a yarn count up to 20.000dtex. The machine is designed for permanent operation in line with extrusion or offline from an unwinding device. The texturized filaments can also be entangled with a support yarn winding the whole bundle in perfect nature look in the down-stream precision cross winder like DS 350. The DS 352, fully automatic precision cross winder is the best solution to take up textile grass filament or bundle in a yarn count range up to 25.000dtex. The winding positions are in individual compact frames with one or two winding positions each. Empty tube are fed from machine frame back. Full bobbins are ejected on a belt or a tray in the machine frame back as well. The fully automatic bobbin swap at full production speed. DS 352 is the low labor cost technology for all artificial grass filament producers.

dietze + schell