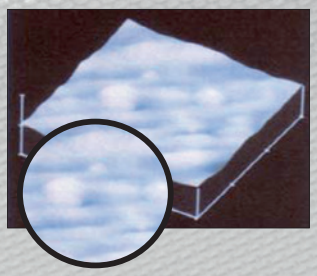
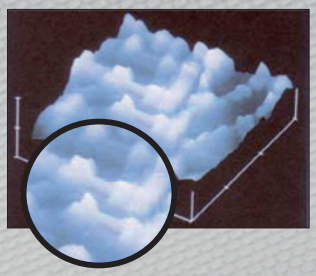

PROTECT
Special fabrics for:
Industry
Fire fighters
Search and rescue (SAR)
Police
Military
Motor sports
Object protection
IBENA®
Passionate about textiles since 1826

IBENA Soft & Dry – exceptional wearing comfort



*surface **without** vacuum-plasmatreatment*



*surface **with** vacuum-plasmatreatment*

Factors contributing to wearing comfort include a consistent high-quality appearance and high functionality combined with excellent cleanability, a pleasant feeling on the skin and quick drying. The innovative plasma protection of IBENA Soft & Dry lends these properties to the fabric.

Plasma protection works in the following way:

With our innovative IBENA Soft & Dry technique, fabric is treated using oxygen plasma generated under a vacuum. The free ions of the plasma react with the fabric causing it to be permanently reshaped. The resulting extended surface retains its new capacities even after a longer period of intensive use!

The excellent properties of the treated fabric include, among other things, greatly improved cleanability as the dirt particles do not adhere well to the new surface, faster drying and an extremely soft wearing feel. The most interesting aspect, however, is that these wide-ranging features are achieved without using any chemicals!

IBENA Soft & Dry. This is what you get ...

With its combined advantages – from permanent easy cleaning through improved comfort to fast fabric drying – IBENA Soft & Dry makes your fabric more comfortable and durable … key competitive advantages. These properties ensure maximum customer satisfaction, in particular for the following applications:

- **Industry**
- **Military**
- **Textile leasing**
- **Police**

IBENA Soft & Dry. Overview of advantages:

high cleanability ...
pleasant wearing comfort ...
fast drying ...

...and durable functionality

IBENA®
Passionate about textiles since 1826

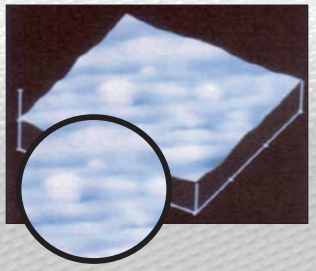
IBENA PowerShell – exceptional fabric protection

A water and oil repellent function is one of the most important characteristics of a fabric. However, this is often restricted by a kind of "wear out" effect. The innovative IBENA PowerShell technique is able to make the fabric durably water and oil repellent – while at the same time considerably increasing the degree of effectiveness.

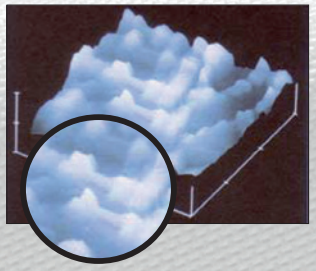
Fluorocarbon impregnation works in the following way:

Fluorocarbon compounds, which are applied immediately after oxygen-plasma treatment of the fabric, are a central element of the protective function. After reshaping the fabric surface the plasma ions also ensure that a very significant amount of the oil and water repellent fluorocarbon is sustainably bonded with the newly extended surface. Oil, dirt, water and numerous chemicals are to a large extent kept away from the fabric for a long period of time.

IBENA PowerShell retains its protective properties completely without any chemical-based post-impregnation. In order to reactivate the original fabric protection and the very high run-off time for at least 40 washing cycles (according to EN 469), drying in a normal household dryer at 60 degrees and above is adequate. This exceptional product function has been certified by accredited testing laboratories. t.

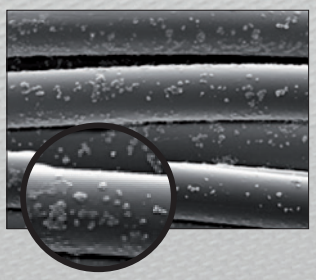


*surface **without** vacuum-plasmatreatment*



*surface **with** vacuum-plasmatreatment*

*absorption **without** vacuum-plasmatreatment*



*absorption **with** vacuum-plasmatreatment. Better absorption of water and oil repellent FC-nano-molecules*

IBENA PowerShell. Protects fabric ... and more!

IBENA PowerShell not only lends exceptional water and oil repellent properties to the fabric, it also multiplies effectiveness with the factor time. A permanent highly consistent finish adds a new dimension to fabric protection and ensures your market leadership. The high degree of resistance together with the almost unlimited duration of use of the treated fabric makes IBENA PowerShell particularly interesting for applications such as

- **Fire brigades and rescue services**
- **Police**
- **Military**
- **Chemical protection**

IBENA PowerShell. Overview of advantages:

expensive and complicated re-impregnation no longer necessary …
extremely water and oil repellent ...
very dirt resistant ...
easy to reactivate at low temperatures ...

... and durable functionality

Material	Norms										Serviceability			Application			Optional			
	Weight [g/m²] DIN EN 1227	Industrial Workers DIN EN ISO 11612	Welders DIN EN ISO 11611	Chemical Protection Type 6 DIN EN 13034	Antistatic DIN EN 1149-5	Electric Arc Protection DIN EN 61482 -1-2	Turn-Out Gear/ Station Wear Fire Fighters HuPF	Turn-Out Gear Fire Fighters DIN EN 469	Wildland Fire Fighting DIN EN 15614	Oeko-Tex® Standard 100	Long-Term Temperature Resistance	Washing Resistance DIN EN ISO 6330	Abrasion Resistance [turns] DIN EN ISO 12947-2, 12 kPa	Fire Fighters	Industry	Object Protection	Standard FC-finishing DIN EN ISO 4920 / DIN EN ISO 14419	PowerShell (permanent FC-finishing) DIN EN ISO 4920 / DIN EN ISO 14419	Standard hydrophilic-finishing	Soft & Dry (permanent hydrophilic finishing)
IBENA Premium Premium made with DuPont™ Nomex® 84% Meta-Aramide / 14% Para-Aramide / 2% Antistatic	195				X		X	X		X	250° C	$6N^{h}$,F (60° C)	≥ 60.000	X			X	X		
Nomex® Outershell Tough 75% Meta-Aramide/ 23 % Para-Aramide / 2% Antistatic	195	X A1, B1, C1			X		X	X		X	250° C	$6N^{h}$,F (60° C)	≥ 60.000	X	X		X	X		
Nomex® Comfort 93% Meta-Aramide / 5% Para-Aramide / 2% Antistatic	150	X A1, B1, C1			X					X	250° C	$6N^{h}$,F (60° C)	≥ 30.000		X		X		X	X
	170	X A1, B1, C1, F1			X	X class 1				X	250° C	$6N^{h}$,F (60° C)	≥ 30.000		X		X	X	X	X
	180	X A1, B1, C1, F1			X					X	250° C	$6N^{h}$,F (60° C)	≥ 30.000		X		X	X	X	X
	190	X A1, B1, C1			X					X	250° C	$6N^{h}$,F (60° C)	≥ 30.000		X		X	X	X	X
	220	X A1, B1, C1, F1		X	X	X class 1			X	X	250° C	$6N^{h}$,F (60° C)	≥ 30.000	X	X		X	X	X	X
	265	X A1, B1, C1, E1, F1	X class 1	X	X	X class 1				X	250° C	$6N^{h}$,F (60° C)	≥ 40.000	X	X		X	X	X	X
Nomex® III Bekinox 94% Meta-Aramide / 5% Para-Aramide / 1% Steel	265	X A1, B1, C1, E1, F1		X	X		X	X		X	250° C	$6N^{h}$,F (60° C)	≥ 40.000	X	X		X		X	
IBENA ARC made with DuPont™ Nomex® 85% Meta-Aramide / 8% MAC / 6% CO / 1% Antistatic [2-layers]	410	X A1, A2, B1, C1	X class 1		X	X class 2				X	200° C	$6N^{h}$,F (60° C)	≥ 30.000		X		X		X	X
PBI® Gold 58% Para-Aramide / 40% Polybenzimidazole / 2% Antistatic	205				X			X		X	300° C	$6N^{h}$,F (60° C)	≥ 20.000	X			X	X		
PBI® Matrix 61% Para-Aramide / 37% Polybenzimidazole / 2% Antistatic	205				X			X		X	300° C	$6N^{h}$,F (60° C)	≥ 20.000	X	X		X	X		
PBI® Triguard™ 50% Para-Aramide / 28% Viscose FR / 20% Polybenzimidazole / 2% Antistatic	180				X				X	X	200° C	$6N^{h}$,F (60° C)	≥ 20.000	X			X			
60% Nomex® / 40% Lenzing® FR 56% Meta-Aramide / 40% Viscose FR / 3% Para-Aramide / 1 % Antistatic	130				X			X		X	200° C	$6N^{h}$,F (60° C)	≥ 40.000	X						
	265				X		X		X	X	200° C	$6N^{h}$,F (60° C)	≥ 40.000	X			X			
50% Nomex® / 50% Lenzing® FR 50% Viscose FR / 50% Meta-Aramide* 50% Viscose FR / 46,5% Meta-Aramide / 2,5% Para-Aramide / 1% Antistatic	120				X					X	200° C	$6N^{h}$,F (60° C)	≥ 35.000	X						
	130*									X	200° C	$6N^{h}$,F (60° C)	≥ 40.000	X						
	300				X		X			X	200° C	$6N^{h}$,F (60° C)	≥ 40.000	X	X		X			
Aramide Fleece recycled (quilted with Nomex®/ Lenzing® FR fabric)	250									nein	200° C	$6N^{h}$,F (60° C)	≥ 30.000	X						
	280									nein	200° C	$6N^{h}$,F (60° C)	≥ 30.000	X						
Fire Blocker 70% preox. PAN / 30% Para-Aramide	240										400° C	nein			X	X				
70% Panox® / 30% Para-Aramid with aluminium coating on one side	310										400° C	nein			X	X				
Cover Systems / Bellows 100% preox. PAN with PU coating on one side	480										400° C	nein			X	X				

More qualities for special applications, e.g. racing, police, military, on request. We offer tailor-made fabrics according your requirements.

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