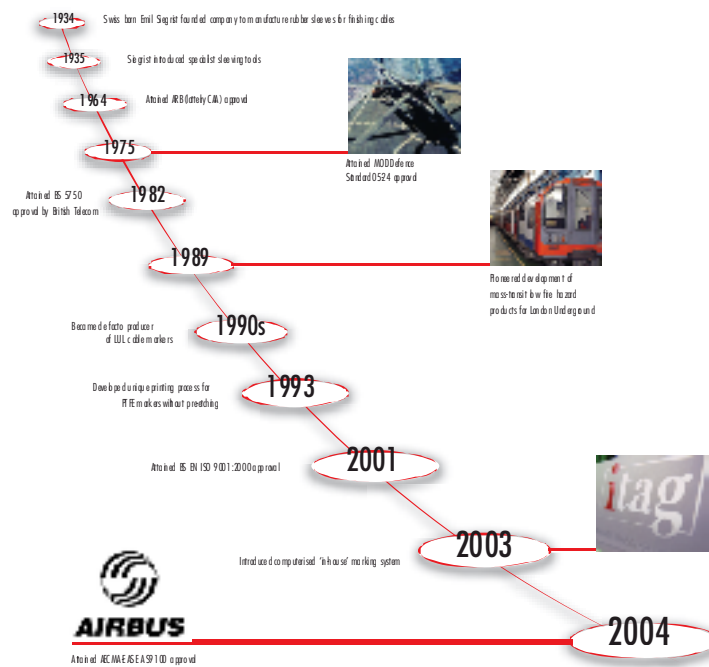




definitive dates

identification excellence recognised worldwide



Airbus

Aerospace/Aviation

Aircraft, airlines, aviation products, satellite and space



Military/Defence

Land and sea military vehicles/boats, weapons systems, radio communications



Rail

Mass transit, rolling stock, track and signalling equipment



Electronics

Component, PCB and control panel manufacturers



Communications

Global carriers, infrastructure equipment, telecommunications and network providers



Marine

Commercial industrial and military vessels



Power/Utilities

Oil & gas, generation and control equipment, district renewable energy water



Medical

Equipment, materials, hospital infrastructure



2005

Celebrating 70 years in business

Contributing to development and supply world-class cable manufacturing solutions worldwide...

Application	Temperature working range	Unlimited fire hazard properties	Physical properties			Aerospace standards			Defence standards	Rail/Mass transit	Binding and identification		American standards				Fire safety standards	Anti-mold	Colour	Grade	Material	Notes									
Y	°C	Y	°C	°F	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm										
Y	-49°C	99°C			Y			4 - 15	1			0a			1	1a				Y	Y	Y	OS	Neoprene							
Y	-49°C	99°C			Y			4 - 15	1			0a			1	1a				Y	Y	Y	OS	Neoprene							
Y	-49°C	99°C			Y			4 - 15	1			0a			2	1c				Y	Y	Y	OS	Neoprene							
Y	-49°C	120°C	150%		Y			3 - 15	2			03			4					Y	Y	Y	OS	PVC/Nitrile							
Y	-49°C	200°C	250%	Y	Y	Y	Y	150%AV	2.5 - 15				Y	Y	Y					Y	Y	Y	OS	H	Silicone						
Y	-49°C	250°C	350%	Y	Y	Y	Y	400%min	4 - 2	4		05								Y	Y	Y	OS	F	Silicone						
Y	-49°C	270°C	300%	Y	Y	Y	Y	350%min	4 - 2	3		04								Y	Y	Y	OS	F	Silicone						
Y	-49°C	180°C	250%	Y	Y	Y	Y	200%min	5.5min	4 - 2		05			5a/b/c					5	Y	Y	Y	OS		Silicone					
Y	-30°C	200°C	230%	Y	Y	Y	Y	180%min	2 - 15															OS	ICU	Silicone					
Y	-30°C	230°C	300%	Y	Y	Y	Y	240%min	3 - 15						Y		Y						Y		OS	VO	Silicone				
Y	-49°C	175°C	230%	Y	Y	Y	Y	275%min	3 - 2	3		04												OS	F	Silicone					
Y	-65°C	70%			Y			2.5 - 15				01			3	3				Y	Y	Y	OS		PVC						
Y	-65°C	70%			Y			2.5 - 15				01			3	3				Y	Y	Y	OS		PVC						
Y	-40%	70%			Y			230%min							3	3						Y	Y	OS		PVC					
Y	-65%	80/05			Y							01								3	Y	Y	Y	OS		PVC					
Y	-70%	105%			Y			280%min															Y	Y	OS		PVC				
Y	-65%	250%	400%		Y			Y	7	7		06								6	Y	Y	Y	OS		PVC					
Y	-65%	250%	400%		Y			Y	7	7		06								6	Y	Y	Y	OS		PVC					
Y	-65%	250%	400%		Y			Y	7	7		06								6	Y	Y	Y	OS		PVC					
Y	-50%	110%			Y			250%min	3-1											6	Y	Y	Y	OS		PVC					
Y	-55%	110%			Y			200%min	4-1															OS		PVC					
Y	-40%	105%	175%	Y	Y	Y	Y	380%min	7.0min	2-1	15		8	Y	Y					Y	Y	Y	OS		PVC						
Y	-40%	105%	175%	Y	Y	Y	Y	380%min	7.0min	2-1	15		8	Y	Y					Y	Y	Y	OS		PVC						
Y	-35%	105%			Y			200%min	2-1														Y	Y	OS		PVC				
Y	-40%	105%			Y				2-1														Y	Y	OS		PVC				
Y	-40%	105%			Y	Y	Y	Y	3-1														Y	Y	OS		PVC				
Y	-55%	120%	200%	Y	Y	Y	Y		3-1				Y	Y											OS		PVC				
Y	-70%	120%	200%	Y	Y	Y	Y		3-1					Y												OS		PVC			
Y	-75%	120%	25%	Y	Y	Y	Y	350%min	12.0min	2-1	10		6a							Y	Y					OS		PVC			
Y	-55%	105%						350%min		2-1													Y	Y			OS		PVC		
Y	-55%	125%			Y	Y	Y	300%min		2-1					Y		Y					Y	Y				OS		PVC		
Y	-40%	135%			Y			200%min		2-1													Y	Y				OS		PVC	
Y	-55%	135%	225%	Y	Y	Y	Y	250%min	10.0min	2-1	11A/8		1a/2b		Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	OS		PVC			
Y	-55%	135%	225%	Y	Y	Y	Y	250%min	10.0min	3-1	1B		2b		Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	OS	3-1	PVC			
Y	-55%	135%	225%	Y	Y	Y	Y	400%min	14.0min	2-1			2a		Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	OS		PVC			
Y	-55%	175%	300%	Y	Y	Y	Y	150%min	35.0min	2-1	20		3		Y					Y							OS		PVC		
Y	-200%	200%			Y	Y	Y		3-2																		OS	IP	Fluoropolymer		
Y	-55%	200%	300%	Y	Y	Y	Y	250%min	110.0min	2-1	1A		4a							Y	Y						OS	T	Viton		
Y	-67%	250%	400%	Y	Y	Y	Y	250%min		Y	41		2B	5b													OS	F	PVC		
Y	0%	150%			Y	Y														Y	Y						OS		PVC		
Y	-25%	155%	200%	Y	Y																						OS		PVC		
Y	-70%	200%	250%	Y	Y	Y	Y																				OS		PVC		
Y	-70%	250%	450%	Y	Y	Y	Y																				OS		PVC		

who we are



For over 70 years, Siegrist-Orel has been producing high performance cable marker, sleeve identification and protection products to the highest standards and specifications. Our core global client base of defence, aerospace and mass-transit companies has expanded to encompass other equally demanding industry sectors, such as telecomms, electronics, power and medical.

Our history demonstrates an outstanding track record of innovation, problem solving and product development. We have worked on a diversity of national and international projects, ranging from satellites, aircraft and submarines to musical instruments and sports equipment. Our research team has created groundbreaking specialist materials, such as the low fire hazard markers developed in the wake of the King's Cross fire. We have developed new print technology that guarantees truly indelible integrated cable marking and recently introduced a revolutionary system that is setting new standards in computerised cable marking.

As anyone who has visited our factory will testify, we take great pride in our work. Thanks to our extensive in-house testing facilities, we can certify products and materials to meet stringent national, defence and international standards. Our research and development unit offers a similar high quality service, ensuring that Siegrist-Orel customers always obtain informed advice on choosing the best materials for their application.

The exceptional skills and expertise of our dedicated staff and their 'can do' attitude are key to our ongoing success. Highly professional and totally committed to quality service, they offer unrivalled in-depth experience across all sections of the business.

When you work with Siegrist-Orel, you are dealing with a team of people who have a single goal in mind – your complete satisfaction with our products and services. Whatever the size or scale of your project, you can rely on us to develop and deliver the best value identification, protection or marking solution to meet your needs – and your budget. Quality doesn't have to come at a price!

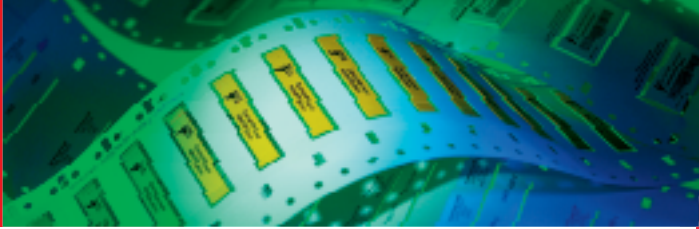
Our Mission

To become the natural choice of organisations seeking high performance cable identification solutions delivered globally by a committed team of highly skilled and experienced people, who share a tradition of integrity and excellent customer service.





As you'd expect from a company committed to achieving excellence in every aspect of its business, we hold all the requisite UK and European premier quality standards, as well as Airbus, London Underground and BAe Systems approvals.



Industry standard software functions and shortcuts include:

- Auto width and font correction
- Quick print
- Counter function (alpha/numeric)
- Reverse print order
- Multiple copies
- Collation



product configurator

Grade

Material

Product Selection - Consideration

Application	Protection	Operating Temperature	Specification	Low Fire Hazard
Electric Insulation		Economy	Fluid Resistance	
Semiconductive to 30kV	Strain relief Encapsulation Abrasion, UV etc	Space & weight saving. Thinwall variants	BS, D.Stan, MIL, ISO, IEC, UL, LUL, NSA, etc	LUL Spec BS6853 etc
Stretch, Slip, Shrink, Sheath, Kitted		-200C to +250C		Fuels, Hydraulic oils etc

Continuous Operating Temperatures

	-70C	-40C	0	50C	100C	150C	200C	250C
Elastomeric Stretch Cr	-65	Neoprene OSC, OSK & OSX		70				
		-25	pvc/nitrile OSNT		100			
	-65	Silicone OSS				180		
	-65	Low Fire Hazard Silicone OSLH (340)				180		
	-65	Part/Fully Fluorinated Silicone OSLF & OSFF					200	
	-65	High Strength Silicone OSF						250
Slip Cr	-65	pvc OSM & OSMP		70				
	-65	pvc OSB Class 85T & 105T			105			
	-65	ptfe OSTW, OSSTW & OSHW						250
Heat Shrink Cr		-40	Polyolefin Dual Wall OSDW		70			
		-40	Polyolefin Low Fire Hazard OSNH			105		
		-40	Polyolefin Dual Wall Low Fire Hazard W3NH			105		
		-40	pvc FPVC & LFT (Layflat)			105		
		-55	Polyolefin Dual Wall Flame Retarded SCM2			120		
	-75	Modified Elastomers OSNE & OSNN			120			
		-55	Polyolefin OSCH (105/125/135), OSH & OSR			135		
		-55	Kynar OSKN				175	
	-200	Fluoro Polymer OSFEP					200	
		-55	Viton OSVT				200	
		-65	ptfe OSPE					250
Silicone Sheathing Sleeve Cr		-50	Polyester SS			150		
		-25	Acrylic Coated 1kV & 3kV OSAG			155		
	-70	Silicone Rubber Coated 1kV - 7kV OSBOG					200	
	-70	Low Fire Hazard 1kV OSVSR						250

OSC	Neoprene
OSK	Neoprene
OSX	Neoprene
OSNT	PVC Nitrile
OSLH	Silicone
OSF	Silicone
OSLF	Silicone
OSS	Silicone
OSS (CL)	Silicone
OSS (VO)	Silicone
OSFF	Silicone
OSM	PVC
OSMP	PVC
OSMC	PVC
OSB	PVC
ULPVC	PVC
OSTW	PTFE
OSSTW	PTFE
OSHW	PTFE
OSDW (3:1)	Polyolefin
OSDW (4:1)	Polyolefin
OSNH	Polyolefin
OSNH (TW)	Polyolefin
FPVC	PVC
OSLFT	PVC
W3NH	Polyolefin
SCM2	Polyolefin
OSNE	Neoprene
OSNN	MOD. Elastomer
OSCH (105)	Polyolefin
OSCH (125)	Polyolefin
OSCH (135)	Polyolefin
OSH	Polyolefin
OSH 3:1	Polyolefin
OSR	Polyolefin
OSKN	Kynar
OSFEP	Fluoro Polymer
OSVT	Viton
OSPE	PTFE
SS	Polyester
OSAG	Acrylic Glass
OSBOG	Silicone Glass
OSVSR	Glass Sheathing

Welcome to our easy-to-use product configurator. First select the type of material (silicone, neoprene etc) you require from the column on this page. Read across the columns to check if the material is available in the form (continuous sleeving, markers etc) you want and check the description to make sure it is suitable. Open out the page to find out about technical details such as physical properties, fire hazard properties, temperature range and so on.

Systems Quality

Rigorous quality checks of our advanced systems and streamlined processes ensure that we deliver value, as well as quality, to our customers.

Third party accreditations include:

BS EN ISO 9001:2000 – BVQI

AS 9100 – AECMA – EASE (Airbus U.K.)

Customer Quality

Our many customer endorsements and partnerships from companies working across a wide range of industry sectors are testament to the superior level of quality service customers have come to expect as standard from Siegrist-Orel.

Product Quality

Material and product qualifications are approved to required national, defence and international standards. Qualification approval is affirmed by QinetiQ.

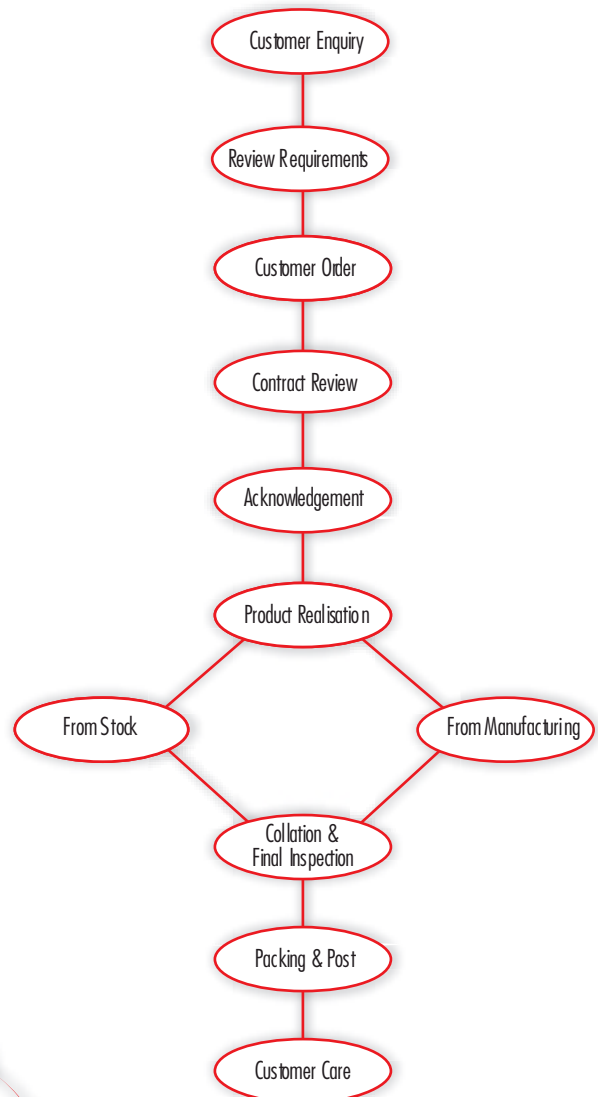
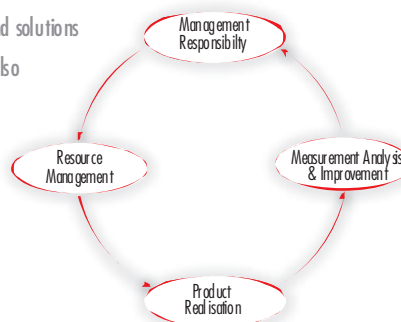
Stringent Testing and Inspection

We have extensive in-house testing and inspection facilities for electrical, physical, environmental, mechanical and chemical testing to verify and certify products to required specifications, including BS3858, BS2848, BSG198, and Def. Stan. 59-15 and 59-97.

Qualified, experienced technicians put all products and materials through rigorous inspections and tests to ensure they surpass test requirements and meet fully the vast array of ultra-stringent national, defence and international standards.

Research and Development

Over the years, Siegrist-Orel's research and development team has produced an impressive number of quality products and solutions that have not only resolved customers' problems but also contributed towards a safer environment.



Are you looking for a solution to a particular problem?

We can help

The Ultimate in Print Technology

Our High Performance Identification systems provide cable markers which are beyond compare, capable of surviving the most aggressive environments in the world, and will naturally out-perform standard products.

Advanced Ink Transfer

The unique method of ink transfer ensures that the ink actually penetrates the sleeve material and bonds with the molecules of the material substrate. The integrated ink is then sealed in, so that it is totally protected. The result is a composite mark that is completely indelible and capable of withstanding extreme temperatures, humidity and exposure to fuels and chemicals.

Outstanding Print Capability

Our skilled technicians can print virtually anything you want on the complete 360° sleeve circumference, virtually any way you want, with complete accuracy. We can reproduce everything from the most basic to the most complex numeric, alpha-numeric or alpha characters, as well as instructions, symbols, tables and even logos. Characters can be printed in single or multi-lines of any length, from once to multiple times round the sleeve, in horizontal, vertical or variaxial® (combination of horizontal and vertical) formats.

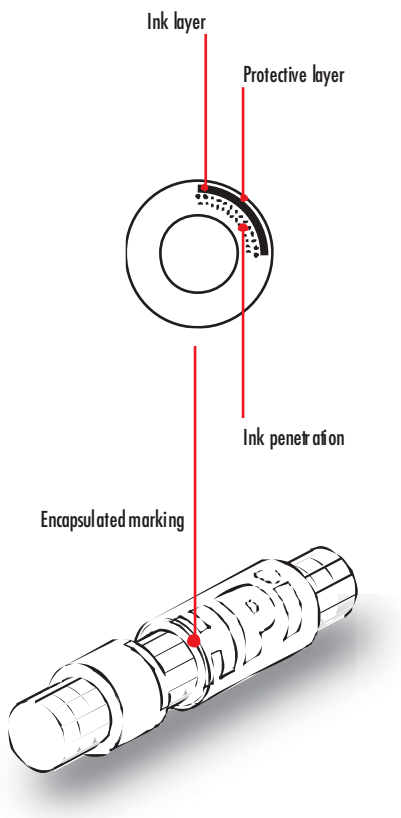
Superior Ink Quality

Specially formulated inks and technology have been developed over decades to ensure we can provide the required mark permanence and performance for each material type. We can supply black, white, red, yellow, blue and green inks, plus other colours on request.

More Applications

We can print international RCC (resistor colour coded markers) in a wide range of materials. All the IPS (industrial protection sleeving) range of products can be printed in customised form, and we can even print on notoriously difficult materials such as PTFE without the need to pre-etch.

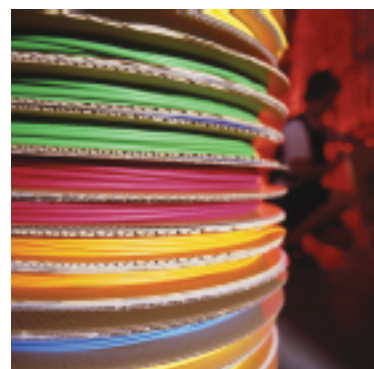
See Product Configurator to view the full range of sleeving materials suitable for High Performance Identification.



the ultimate print technology



The comprehensive range of sleeving materials suitable for High Performance Identification is featured in a product configurator at the back of this brochure.





iPS

industrial protection sleeving

Whatever type of sleeve or sleeving you require, you'll find we have a product in our range that will meet your specifications and requirements.



Our extensive selection of IPS (Industrial Protection Sleeving) covers all the sleeving applications required for today's safety-critical designs in mass-transit areas, particularly aerospace, aviation and underground rail industries.

From Basic to Sophisticated

Products range from economical PVC and Neoprene for insulation and binding applications, through to sophisticated heat shrinkable PTFE sleeves exhibiting excellent resistance to temperature and fluid contamination.

In addition to the extensive range of products listed below, we can advise on materials to meet your specific needs, whatever the size or scale of your operation.

Need to know more about our range of cable protection products? Please turn to this brochure's comprehensive Materials Description and Application Guide.

cable protection you can rely on

Sleeving Overview

Silicone

Good resistance to harsh environments

Size range 0.50mm to 50mm ID

Standard to high strength grades with exceptional tear strength and fluorinated versions for fluid resistance, plus premium grade low fire hazard material

Available as continuous sleeving, cut sleeves and printed cable markers

PTFE

Ultimate resistance to temperature and fluids, including oils, acids and fuels

Choice of grades to suit weight and insulation requirements

Available as continuous sleeving, cut sleeves and printed cable markers

Neoprene

Economy, insulation, strength and flexibility

Wide range of colours in sizes from 0.75mm to 25mm ID

Cost savings with one size fitting several wire sizes

Siegrist offers complementary sleeving tools and application lubricant (Solube®)

Available as continuous sleeving, cut sleeves and printed cable markers

PVC

Versatile and low-cost

Size range 0.5mm to 25mm ID

Minimum wall thickness and weight

Available as continuous sleeving, cut sleeves and printed cable markers

Nitrile

Resistance to mineral oils, aromatic fuels, acids and alkalis

Operates at temperatures up to 120°C

Available as continuous sleeving, cut sleeves and printed cable markers

Polyolefin Heat Shrinkable

Flame retardancy, flexibility and rapid shrink

Low cost commercial, military, high performance and dual wall materials

Size range 1.2mm ID to 102mm ID

Choice of shrink ratios and bright colours

Available as continuous sleeving, cut sleeves and printed cable markers

Braided Glass Sleeving

Basic acrylics to silicone coatings or complete saturation using silicone varnish

Available as continuous sleeving and cut sleeves

Braided Polyester/Polypropylene Sleeving

Abrasion resistant sheathing for enclosure and protection

Self-extinguishing, lightweight and easy to handle

Self-sealing with hot knife cut

Expandable, accommodating a variety of cable bundle sizes

Available as continuous sleeving and cut sleeves

Specialist Applications

Very short lengths (>1mm)

Spiral cut

LFH (low fire hazard) Fluorinated

Pre-lubricated sleeves/sleeving

Par-o-cut (semi severed)





delivering added value

To complement our range of cable marker, sleeve identification and protection products, we have a range of ancillary products and services that can be tailored to meet the specific needs of your business.

Expert Interpretation

However complex your order, our friendly, competent experts are on hand to help interpret customer drawings, customer part numbers and NATO stock numbers (NSN) quickly and efficiently.

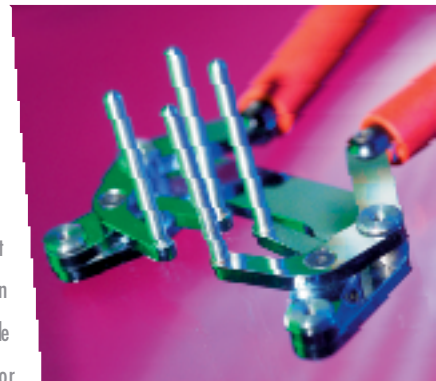
Bespoke Kitting Service

Our kitting service saves you valuable production time and can be customised to meet virtually any of your wiring requirements. Available conveniently bagged or mounted on easy-peel cards for quick, trouble-free access, the kits ensure markers are available wherever and whenever you require them. We can provide you with either a single kit or a complex series of kits that can contain loom references, mounting instructions and quality control information alongside the marker itself, which drives down the time and cost of installation. Simply provide the cable schedules and we will manufacture the entire markers and sleeving required for your train, plane or vessel, in either one master kit or a series of complex sub kits.

Materials are supplied bagged, coiled, cut to length to the required quantities or as part of individual kits. We also offer a private label service for client partners.

Integrated Manufacturing Options

We already integrate with many existing manufacturing systems, such as JIT, KanBan etc. Daily, weekly, monthly or even yearly schedules can be catered for, as can buffer stock, consignment stock, and ship to stock schemes tailored to meet the needs of a customer's individual system(s).





Outstanding Customer Care

Our customer service is legendary. Friendly, knowledgeable and approachable, our team of experts will help you decipher complex orders and advise you on the best choice of materials and print processes. This ensures you get what you want, when you want it, and where you need it.

Vendor rating schemes indicate that our customer service record is second to none, with our quality and delivery performance consistently achieving 100% scores.

We make a point of actively tracking all orders through our manufacturing ERP system and each order remains a priority until it is delivered. A contract review of every order ensures that we meet each customer's individual and specific order requirements accurately.



Our innovative computerised cable identification system enables you to print on-demand, in-house virtually any way you want - at a competitive price.

The itag system combines the 'best of breed' thermal transfer printers, specialist high performance ribbons, and intuitive bespoke software with high performance sleeves to create a fast, durable, in-house computer marking solution.

Drive Down Costs

With itag you have total control plus the capability to print a wide variety of reliable marking solutions extremely quickly and cost-effectively. The software system runs on any Windows compatible operating system. **You can harness existing cable schedules by importing data straight onto the marker.** This not only cuts time and labour costs associated with individual cable marking, it also reduces errors that can occur when translating data from schedules to final indents.

Drag and Drop

You can 'drag and drop' data from existing programs or import data from a wide range of packages, such as CAD or Microsoft programs.

Custom Made Designs

Itag's clever 'designer feature' offers you hundreds of ready-made templates, covering the whole range of cable, wire, panel and transfer labels. You can also design your own templates which could include printing instructions on the liner.

Rapid Pre-Print Service From Siegrist

If you'd rather hand everything over to us, we offer a fast 24/48/72 hour pre-print service. Simply email us your schedules and we'll do the rest.

