

**TECHNICAL DATA SHEET**

**STERILIZATION FLAT/GUSSET REEL, 60gsm**

<b>TECHNICAL DATA SHEET</b>	<b>PRODUCT CODE</b>	:	<b>4AFR (Flat Reel) - 4AGR (Gusset Reel)</b>		
	<b>RELATED STANDARDS</b>	:	4A Medical flat and gusseted reels are manufactured according to EN 868-5 and ISO 11607 standards. The indicator used in the reel production is classified as Class 1 Type Indicator according to the ISO 11140-1 standard. 4A Medical Reels meet the requirements of 93/42/EEC Medical Device Directive regulations		
	<b>INTENDED USE</b>	:	4A Medical reels are designed to provide excellent barrier for sterile medical device packaging purposes. Reels meet the Medical Industry's requirement for high quality, hygiene and safety levels. 4A Medical reels are used for the packing of the Medical Devices before sterilization and it maintains the sterility of the products after sterilization. 4A Medical reels are ease to package and indicator used for the sterilization provides information with the sterilization status of the medical devices. Sterilized material in sterilization package is storable for up to 5 years after the sterilization in a clean room conditions.		
	<b>FILLING VOLUME</b>	:	According to DIN 58953-7 (German national standard): Sealeable paper bags and sealeable pouches and reels shall be filled up to 3/4 max of their volume. This limits avoids too high stress / burdon to the seals. Below the bottom seal there must be space of minimum 30 mm between load and sealing area. There is no known limit bu standarts for weight and it is based on experience. However, it is suggested to follow the 3/4 rule. In terms of solid, heavy load (metal instruments), it is the weight itself, in case of any sharp objects which could damage the material, and the volume of condensate (directly related to mass=weight) which is created during the steam sterilization.		
	<b>OPERATION CONDITIONS</b>	:	4A Medical reels are used for steam, ethylene oxide, formaldehyde sterilization methods. The sterilization conditions should be determined by the end user regarding to material to be sterilized.		
	<b>SPECIFICATIONS</b>	:			
<b>MEDICAL PAPER</b>	<b>PROPERTIES</b>		<b>UNITS</b>	<b>STANDARD</b>	<b>TYPICAL VALUE</b>
	SUBSTANCE		g/m <sup>2</sup>	ISO 536	60,0
	THICKNESS		µm	ISO 534	76
	BENDTSEN POROSITY		ml/min	ISO 5636-3	650
	AIR PERMEANCE		µm (Pa*s)	ISO 5636-3	7,4
	BENDTSEN ROUGHNESS FS		ml/min	ISO 8791-2	250
	BENDTSEN ROUGHNESS WS		ml/min	ISO 8791-2	250
	PORE SIZE		µm	EN 868-2 (app.D)	17
	TENSILE STRENGTH, MD		kN/m	EN ISO 1924-2	5,9
	TENSILE STRENGTH, CD		kN/m	EN ISO 1924-2	2,9
	WET TENSILE STRENGTH, MD		kN/m	ISO 3781	1,6
	WET TENSILE STRENGTH, CD		kN/m	ISO 3781	0,9
	BURST STRENGHT		kPa	ISO 2758	300
	WET BURST		kPa	ISO 3689	100
	TEARING STRENGHT MD		mN	ISO 1974	600
	TEARING STRENGHT CD		mN	ISO 1974	650
	COBB TEST (60s)		g/m <sup>2</sup>	ISO 535	15,0
	WATER REPELLENCY		s	EN 868-2 (app.E)	30,0
	FLOUORESCENCE		pts/dm <sup>2</sup>	EN 868-2 (app.B)	0,0
	FREE FROM LEAD AND HEAVY METALS AND TOXIC MATERIALS				

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LAMINATED FILM	PROPERTIES	UNIT	TYPICAL VALUE	
	THICKNESS	Micron	LAM.FILM	52 ± 5
			PE	40 ± 5
			PET	12 ± 2
BREAKING FACTOR	N/15mm	35		
TEAR STRENGTH MD/CD	mN	300		
BOND STRENGHT	N/m	265		
ELONGATION	%	70		
TEMPERATURE DURABILITY	min/degrees	30 min/140C		
FREE FROM LEAD AND HEAVY METALS AND TOXIC MATERIALS				

**PRODUCT SPECIFICATION :**

POUCH	PROPERTIES	UNIT	TYPICAL VALUE
	SEAL STRENGTH	N/15mm	2,5
	BUBBLE TEST		None
	PINHOLE DETERMINATION		None
	DIMENSION CONTROL	cm or mm	Desired dimensions
	LEAKAGE TEST		None
	PEEL DIRECTION		None
	INDICATOR CONTROL		Returns the specified color

INDICATOR	STERILIZATION METHOD	BEFORE STERILIZATION	AFTER STERILIZATION
	STEAM	BLUE	GREEN
	EO	PINK	ORANGE
	FORMALDEHYDE	PURPLE	GREEN
<b>PACKAGING:</b>	4A Medical reels are packaged in carton boxes as below: Flat Reels are 200m long and Gusset Reels are 100m long.		

Product dimensions	Pieces in carton
50mm X 200m /	10
75mm X 200m / 75mm X 100m	8
100mm X 200m / 100mm X 100m	8
120mm X 200m / 120mm X 100m	4
150mm X 200m / 150mm X 100m	4
200mm X 200m / 200mm X 100m	4
250mm X 200m / 250mm X 100m	2
300mm X 200m / 300mm X 100m	2
350mm X 200m / 350mm X 100m	2
400mm X 200m / 400mm X 100m	2
420mm X 200m / 420mm X 100m	2
450mm X 200m / 450mm X 100m	2
500mm X 200m / 500mm X 100m	2

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