



Mining And Surface Certification (Pty) Ltd

2015/021934/07

IN TERMS OF REGULATION 21.17.2 OF THE MINERALS ACT (INCORPORATION THE MINE HEALTH AND SAFETY ACT) AND REGULATION 9 (1) OF THE ELECTRICAL MACHINERY REGULATIONS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT

IA CERTIFICATE	MASC MS/20-8336X	Issue	0
Issue Date	01 Septembers 2020	Expiry Date	01 September 2023
*Based on Certificate No	EXA 15 ATEX 0042	Issue / Variations / Amendment	1
Requested by	Nautitech Mining, Middelburg, 1050, South Africa		
Manufacturer	Solexy USA, LLC 10178 International Blvd, Cincinnati (OH) 45246		
Description	<p>The Solexy RX series Antenna Coupler permits the installation of non-Ex certified radio antenna in the hazardous area. It acts as capacitive coupling between an RF transmitter/receiver installed in an enclosure and passive antenna installed outside the enclosure directly connected to the antenna coupler or through cable connection, and it also acts as a flameproof bushing suitable to be mounted to the cable entry of a flameproof enclosure engaged in a threaded flameproof joints. The antenna coupler blocks DC signals and provides very high impedance to low frequency AC signals; it blocks power voltage in the event of a radio transmitter/receiver fault. If a radio transmitter/receiver is installed in a safe area, the Antenna Coupler protects the output signal using a cable connected to an antenna that is installed in the hazardous area.</p> <p>*See base certificate for technical data.</p>		
Equipment	Antenna Coupler	Type	RX Series
MARKING: Original marking as per certificate * remains applicable. IA number to be added.	Type RX Series Antenna Coupler Ex Marking Ex db mb [ia Ma] I Mb Ex db mb [ia Ga] IIA/IIB/IIC T5/T6 Gb Ex mb tb [ia Da] IIIC T100°C/T80°C Db IA Number MASC MS/20-8336X Warnings See Base Certificate * and original marking		
Quality Assurance report (QAR) / Notification (QAN):	"It is a requirement under ATEX that all equipment for category 1 and 2 areas must have 3rd party quality assurance from a notified body. This is accepted to cover the equipment's quality requirements."		
Compliance: The equipment as described above has been allocated the rating <u>Explosion Protected</u> utilizing the SANS/IEC Standards: <ul style="list-style-type: none"> • SANS (IEC) 60079-0:2012 General requirements • SANS (IEC) 60079-1:2015 Flameproof enclosures "d" • SANS (IEC) 60079-11:2012 Intrinsic safety "i" • SANS (IEC) 60079-18:2015 Equipment protection by encapsulation "m" • SANS (IEC) 60079-31:2014 Equipment protection by enclosure "t" 			
Special conditions of safe use "X": <ul style="list-style-type: none"> • None 			
Conditions of manufacture: <ul style="list-style-type: none"> • None 			
 C Welthagen TECHNICAL SPECIALIST		 D.P Visser TECHNICAL SPECIALIST	

This certificate covers all units sold as long as the QAR/QAN remains valid.
According to the relevant requirements of the MHS Act and the OHS Act, production units of explosion protected equipment are required to comply with third party quality assurance (an approved mark scheme or batch testing by an accredited test laboratory).

Apparatus in hazardous locations is subject to the following provisions as applicable, which shall be adhered to:
SANS 10086 requirements;
Any conditions mentioned in the above report
Any restrictions and conditions enforced by the chief inspector of mines or chief inspector of factories
Any relevant requirements of the MHS Act.

This certificate may only be reproduced in full.
This certificate is not transferable and remains the property of the issuing body

Mining And Surface Certification (Pty) Ltd
Unit 5 Lelyta Park, 45 Jurg Ave. Hennopspark Ext 87
Centurion, 0157

/ ANNEX A...

IA CERTIFICATE: MASC MS/20-8336X

Antenna Coupler

Page 2 of 2

ANNEX A

This document is based on and must be read in conjunction with certificate EXA 15 ATEX 0042	
Description (According to Base Certificate *)	
"Refer to description in Base Certificate * (and any applicable schedules/issues/versions)."	
Standard compliance	See Base Certificate *
Special conditions of safe use ("X")	<ul style="list-style-type: none">• None
Conditions of manufacture	<ul style="list-style-type: none">• None
Conditions of Certification	<ul style="list-style-type: none">• This IA Certificate covers all units sold from the date of this document to the expiry date of this certificate.• As per ARP 0108 a maximum three yearly review is required on this IA Certificate (expiry is determined as per the QAR/QAN/QMS expiry date).• The apparatus must be additionally marked with the MASC marking details above.• This approval only covers the equipment as certified above and does not include any scheduled additions or variations / amendments / new issues to the certificate(s), made after the above date.• The equipment does not need to be re-tested when used on the conditions and with such restrictions as prescribed by the certificate on which this IA Certificate is based and any other conditions in this IA Certificate.• The certification on which this IA Certificate is based must remain valid.• The extent of the requirements in the ARP 0108 (or regulations), SANS 10108 and any other applicable regulations on the certification of the equipment must remain unchanged.• The Ex quality assurance notification/report for the equipment must remain valid.
Conclusion:	<ul style="list-style-type: none">• From the above and the selective examination of the documentation, nothing contrary to the requirements of the applicable standards was found, provided that the equipment / component is used as described in the above document / certificate and according to the MASC conditions below. A MASC IA certificate is issued based on the work done as per the Base Certificate *.• The routine tests for production units according to the Base Certificate * must be complied with (if applicable).

This document is issued based on Mining And Surface Certification's Standard Contract terms and conditions available on request.

While every endeavour is made to ensure that a test / assessment / inspection is representative and accurately performed, and that a report / certificate is accurate in the quoted results and conclusions drawn from the test / assessment / inspection, MASC or its directors/employees shall in no way be liable for any error made in carrying out the test / assessment or for any erroneous statement, whether in fact or in opinion, contained in a report / certificate issued pursuant to a test / assessment / inspection.

MASC takes no responsibility for any non-conformances, exclusions or any results / assessments / inspections not in compliance with the standards. By marking the equipment in accordance with the documentation / standard, the manufacturer / applicant attests on his own responsibility that the equipment / installation has been designed and constructed in accordance with the applicable requirements of the relevant standards and documentation, that the routine verifications / routine tests have been correctly completed and the equipment / installation complies with the documentation and standard(s).

This document is only for use and application in South Africa. It is issued based on National interpretations and accepted practices

EC – TYPE EXAMINATION CERTIFICATE

[1]

[2] Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC[3] EC-Type Examination Certificate Number: **EXA 15 ATEX 0042**Issue: **1**[4] Equipment or Protective System **Antenna Coupler**Type: **RX Series**[5] Manufacturer: **Solexy USA, LLC**[6] Address: **10178 International Blvd , Cincinnati (OH) 45246**

[7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

[8] Ex-Agencija, Notified Body number 2465 according to Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment or protective system intended for use in potentially explosive atmospheres given in Annex II of the Directive.

The examination and test results are recorded in confidential report number: **EXA 15CR056**

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012 +A11:2013**EN 60079-1:2014****EN 60079-11:2012****EN 60079-18:2015****EN 60079-31:2014**

except in respect of those requirements listed at item 18 of the Schedule.

[10] If the sign 'X' is placed after the certificate number, it indicates that the equipment or protective system is subject to specific conditions for safe use specified in the schedule to this certificate.

[11] This EC-Type Examination Certificate relates only to the design, examination and test of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

**I M2 (M1) Ex db mb [ia Ma] I Mb****II 2 (1) G Ex db mb [ia Ga] IIA/IIB/IIC T5/T6 Gb****II 2 (1) D Ex mb tb [ia Da] IIIC T100°C/T80°C Db**

Date: 20.11.2015.

PB.13.TC.1047/MK

Prepared:

Damir Korunić, dipl.ing.el.

**Ex-Agencija**

Department of equipment certification

Approved:

Stipo Đerek, dipl.ing.el.



[13]

SCHEDULE

[14] EC - TYPE EXAMINATION CERTIFICATE No.: EXA 15 ATEX 0042

[15] Description of Equipment or Protective System

The Solexy RX series Antenna Coupler permits the installation of non-Ex certified radio antenna in hazardous area. It acts as capacitive coupling between an RF transmitter/receiver installed in enclosure and passive antenna installed outside enclosure directly connected to the antenna coupler or through cable connection, and it also acts as a flameproof bushing suitable to be mounted to the cable entry of a flameproof enclosure engaged in a threaded flameproof joint. The antenna coupler blocks DC signals and provides very high impedance to low frequency AC signals; it blocks power voltage in the event of a radio transmitter/receiver fault. If a radio transmitter/receiver is installed in a safe area, the Antenna Coupler protects the output signal using a cable connected to an antenna that is installed in hazardous area.

Technical data:

Maximum input voltage: $U_m = 250 V_{AC}$ (50 Hz/60 Hz) or $250 V_{DC}$

Maximum input RF frequency: 6 GHz

Minimum internal impedance of RF transmitter allowed: 50 Ω

The equipment is intended to be used in an ambient temperature range according to the following table:

Gas	Dust	T_a
T5	T100°C	$-40^\circ\text{C} \leq T_a \leq 85^\circ\text{C}$
T6	T80°C	$-40^\circ\text{C} \leq T_a \leq 70^\circ\text{C}$

Maximum service temperature T_s of antenna coupler when installed on other equipment shall not exceed 85°C.

Refer to Table 2, Table 3, Table 4, Table 5, Table 6 and Table 7 which show relation between applicable combination of gas/dust group vs. type of antenna coupler, maximum allowable RF transmitter output power vs. frequency, maximum allowable antenna gain and type of antenna coupler.

Type designation coding

XXX	X	X	XX	XX	X	XX
1	2	3	4	5	6	7

Table 1

1	Coupler Series	RXF	RP-SMA female antenna connection
		RXN	N female antenna connection
		RXB	BNC female antenna connection
		RXT	TNC female antenna connection
		RXS	SMA female antenna connection
2	Threading	M	M25x1.5
		3	3/4" npt-m
3	Material	S	AISI 303
		C	AISI 316
		L	AISI 316L
4	Coaxial/Radio connector	xx	2 digit for coax connector assembled on coax cable
5	Coaxial cable length	xx	2 digit for coaxial cable length (in inches) (00 for double connector execution)
6	Version	x	1 digit for version
7	Certification marking	X0	Atex – IECEx
		N0	UL-CSA
		XN	Atex – IECEx – UL-CSA (double marking)



Table 2

Group I

		Radio Power, mW(dBm)											
Code		H	J	K	L	M	N	O	P	Q	R	S	T
Maximum Frequency [MHz]	100	3753 (35,7)	3892 (35,9)	4004 (36.0)	4147 (36,1)	4410 (36,4)	4560 (36,5)	4743 (36,7)	5120 (37.0)	5445 (37,3)	5644 (37,5)		
	200	3699 (35,6)	3726 (35,7)	3753 (35,7)	3808 (35,8)	3864 (35,8)	3920 (35,9)	4032 (36.0)	4205 (36,2)	4500 (36,5)	4620 (36,6)	4743 (36,7)	
	300	3672 (35,6)	3699 (35,6)	3726 (35,7)	3726 (35,7)	3753 (35,7)	3781 (35,7)	3836 (35,8)	3920 (35,9)	4032 (36.0)	4089 (36,1)		
	400	3591 (35,5)											
	500	3225 (35.0)											
	600	2904 (34,6)											
	700	2645 (34,2)											
	800	2420 (33,8)											
	900	2247 (33,5)											
	1000	2080 (33,1)											
	1100	1960 (32,9)											
	1200	1824 (32,6)											
	1300	1729 (32,3)											
	1400	1638 (32,1)											
	1500	1548 (31,8)											
	1600	1462 (31,6)											
	1700	1394 (31,4)											
	1800	1344 (31,2)											
	1900	1280 (31.0)											
	2000	1232 (30,9)											
	2100	1185 (30,7)											
	2200	1140 (30,5)											
	2300	1095 (30,3)											
	2400	1051 (30,2)											
	2500	1022 (30.0)											
	2600	980 (29,9)											
	2700	952 (29,7)											
	2800	924 (29,6)											
	2900	897 (29,5)											
	3000	871 (29,4)											
	3250	649 (28,1)											
	3500	520 (27,1)											
	3750	432 (26,3)											
	4000	369 (25,6)											
	4250	328 (25,1)											
	4500	288 (24,5)											
	4750	259 (24,1)											
	5000	238 (23,7)											
	5250	217 (23,3)											
	5500	198 (22,9)											
	5750	186 (22,6)											
	6000	174 (22,4)											

Table 3

Group IIA

		Radio Power, mW(dBm)											
Code		H	J	K	L	M	N	O	P	Q	R	S	T
Maximum Frequency [MHz]	100	3251 (35,1)	3328 (35,2)	3380 (35,2)	3484 (35,4)	3618 (35,5)	3753 (35,7)	4004 (36,0)	4321 (36,3)	4681 (36,7)	5120 (37,0)	5644 (37,5)	
	200	3200 (35,0)	3225 (35,0)	3251 (35,1)	3276 (35,1)	3302 (35,1)	3328 (35,2)	3406 (35,3)	3511 (35,4)	3672 (35,6)	3864 (35,8)	4176 (36,2)	4470 (36,5)
	300	3200 (35,0)		3225 (35,0)		3251 (35,1)		3276 (35,1)	3328 (35,2)	3406 (35,3)	3511 (35,4)	3672 (35,6)	3864 (35,8)
	400	3200 (35,0)				3225 (35,0)		3251 (35,1)	3276 (35,1)	3302 (35,1)	3354 (35,2)	3458 (35,3)	3591 (35,5)
	500	3200 (35,0)											
	600	3225 (35,0)											
	700	2904 (34,6)											
	800	2645 (34,2)											
	900	2420 (33,8)											
	1000	2247 (33,5)											
	1100	2080 (33,1)											
	1200	1960 (32,9)											
	1300	1824 (32,6)											
	1400	1729 (32,3)											
	1500	1638 (32,1)											
	1600	1548 (31,8)											
	1700	1462 (31,6)											
	1800	1394 (31,4)											
	1900	1344 (31,2)											
	2000	1280 (31,0)											
	2100	1232 (30,9)											
	2200	1185 (30,7)											
	2300	1140 (30,5)											
	2400	1095 (30,3)											
	2500	1051 (30,2)											
	2600	1022 (30,0)											
	2700	980 (29,9)											
	2800	952 (29,7)											
	2900	924 (29,6)											
	3000	897 (29,5)											
	3250	871 (29,4)											
	3500	649 (28,1)											
	3750	520 (27,1)											
	4000	432 (26,3)											
4250	369 (25,6)												
4500	328 (25,1)												
4750	288 (24,5)												
5000	259 (24,1)												
5250	238 (23,7)												
5500	217 (23,3)												
5750	198 (22,9)												
6000	186 (22,6)												
		174 (22,4)											

Table 4

Group IIB

Radio Power, mW(dBm)														
Code		H	J	K	L	M	N	O	P	Q	R	S	T	
Maximum Frequency [MHz]	100	2761 (34,4)	2832 (34,5)	2904 (34,6)	2976 (34,7)	3075 (34,8)	3200 (35,0)	3380 (35,2)	3500 (35,4)					
	200	2737 (34,3)	2761 (34,4)	2784 (34,4)		2808 (34,4)	2856 (34,5)	2904 (34,6)	3001 (34,7)	3125 (34,9)	3276 (35,1)	3500 (35,4)		
	300	2737 (34,3)		2761 (34,4)			2784 (34,4)	2808 (34,4)	2856 (34,5)	2904 (34,6)	2976 (34,7)	3125 (34,9)	3276 (35,1)	
	400	2737 (34,3)				2761 (34,4)		2784 (34,4)	2808 (34,4)	2832 (34,5)	2880 (34,5)	2952 (34,7)	3050 (34,8)	
	500	2737 (34,3)					2761 (34,4)		2784 (34,4)	2808 (34,4)	2832 (34,5)	2880 (34,5)	2952 (34,7)	
	600	2737 (34,3)						2761 (34,4)		2784 (34,4)	2808 (34,4)	2832 (34,5)	2880 (34,5)	
	700							2645 (34,2)						
	800							2420 (33,8)						
	900							2247 (33,5)						
	1000							2080 (33,1)						
	1100							1960 (32,9)						
	1200							1824 (32,6)						
	1300							1729 (32,3)						
	1400							1638 (32,1)						
	1500							1548 (31,8)						
	1600							1462 (31,6)						
	1700							1394 (31,4)						
	1800							1344 (31,2)						
	1900							1280 (31,0)						
	2000							1232 (30,9)						
	2100							1185 (30,7)						
	2200							1140 (30,5)						
	2300							1095 (30,3)						
	2400							1051 (30,2)						
	2500							1022 (30,0)						
	2600							980 (29,9)						
	2700							952 (29,7)						
	2800							924 (29,6)						
	2900							897 (29,5)						
	3000							871 (29,4)						
	3250							649 (28,1)						
	3500							520 (27,1)						
	3750							432 (26,3)						
	4000							369 (25,6)						
	4250							328 (25,1)						
	4500							288 (24,5)						
4750							259 (24,1)							
5000							238 (23,7)							
5250							217 (23,3)							
5500							198 (22,9)							
5750							186 (22,6)							
6000							174 (22,4)							

Table 5

Group IIC		Radio Power, mW(dBm)										
	Code	J	K	L	M	N	O	P	Q	R	S	T
Maximum Frequency [MHz]	100	1843 (32,6)	1862 (32,6)	1901 (32,7)	1960 (32,9)	2000 (33,0)						
	200	1786 (32,5)		1805 (32,5)	1824 (32,6)	1843 (32,6)	1862 (32,6)	1920 (32,8)	1980 (32,9)	2000 (33,0)		
	300	1767 (32,4)	1786 (32,5)			1805 (32,5)	1824 (32,6)	1843 (32,6)	1862 (32,6)	1920 (32,8)	1980 (32,9)	2000 (33,0)
	400	1767 (32,4)		1786 (32,5)				1805 (32,5)	1824 (32,6)	1862 (32,6)	1901 (32,7)	1940 (32,8)
	500	1767 (32,4)			1786 (32,5)				1805 (32,5)	1824 (32,6)	1862 (32,6)	1881 (32,7)
	600	1767 (32,4)					1786 (32,5)			1805 (32,5)	1824 (32,6)	1862 (32,6)
	700	1767 (32,4)					1786 (32,5)			1805 (32,5)		1843 (32,6)
	800	1767 (32,4)						1786 (32,5)			1805 (32,5)	1824 (32,6)
	900	1767 (32,4)							1786 (32,5)			1805 (32,5)
	1000	1767 (32,4)							1786 (32,5)			1805 (32,5)
	1100	1767 (32,4)								1786 (32,5)		
	1200	1767 (32,4)								1786 (32,5)		
	1300						1729 (32,3)					
	1400						1638 (32,1)					
	1500						1548 (31,8)					
	1600						1462 (31,6)					
	1700						1394 (31,4)					
	1800						1344 (31,2)					
	1900						1280 (31,0)					
	2000						1232 (30,9)					
	2100						1185 (30,7)					
	2200						1140 (30,5)					
	2300						1095 (30,3)					
	2400						1051 (30,2)					
	2500						1022 (30,0)					
	2600						980 (29,9)					
	2700						952 (29,7)					
	2800						924 (29,6)					
	2900						897 (29,5)					
	3000						871 (29,4)					
	3250						649 (28,1)					
	3500						520 (27,1)					
	3750						432 (26,3)					
	4000						369 (25,6)					
	4250						328 (25,1)					
	4500						288 (24,5)					
	4750						259 (24,1)					
	5000						238 (23,7)					
	5250						217 (23,3)					
	5500						198 (22,9)					
	5750						186 (22,6)					
	6000						174 (22,4)					

Table 6

Equipment for	Max Threshold power
Group I	6W (37,7 dBm)
Group IIA	6W (37,7 dBm)
Group IIB	3,5W (35,4 dBm)
Group IIC	2W (33,0 dBm)
Group III	6W (37,7 dBm)

The maximum allowable antenna gain shall be calculated using following formula:

$$\text{Antenna gain (dBi)} = \text{Max threshold power (dBm)} - \text{RF radio output power (dBm)} + \text{Coax cable loss (dB)}^*$$

*when used for antenna connection to Solexy Antenna Coupler

In case of device with multiple antennas, each antenna gain shall be calculated according to above formula.

For maximum allowable RF transmitter output power (Table 2 to Table 5), if RF transmitter frequency is between values in table, use next higher value.

For antenna gain calculation and installation group following tables shall be considered:

Table 7

Antenna coupler type	Group
RX___H_	I, IIA, IIB, IIIA, IIIB, IIIC
RX___J_	I, IIA, IIB, IIC, IIIA, IIIB, IIIC
RX___K_	I, IIA, IIB, IIC, IIIA, IIIB, IIIC
RX___L_	I, IIA, IIB, IIC, IIIA, IIIB, IIIC
RX___M_	I, IIA, IIB, IIC, IIIA, IIIB, IIIC
RX___N_	I, IIA, IIB, IIC, IIIA, IIIB, IIIC
RX___O_	I, IIA, IIB, IIC, IIIA, IIIB, IIIC
RX___P_	I, IIA, IIB, IIC, IIIA, IIIB, IIIC
RX___Q_	I, IIA, IIB, IIC, IIIA, IIIB, IIIC
RX___R_	I, IIA, IIB, IIC, IIIA, IIIB, IIIC
RX___S_	I, IIA, IIB, IIC, IIIA, IIIB, IIIC
RX___T_	I, IIA, IIB, IIC, IIIA, IIIB, IIIC

[15.1] Documentation

Title:	Drawing No.:	Rev. level:	Date:
RX Series Antenna Coupler Execution	PD00050	00	2015-07-20
Capacitive Barrier Maximum Allowable Radio Output Power	AN00002	06	2015
Assembly, Model RXN/RXT/TRXB Explosion proof Antenna Fitting - ATEX / IECEx	DA00148	00	2014-11-20
Assembly, Model RXF/RXS Explosion proof Antenna Fitting - ATEX / IECEx	DA00149	00	2014-11-20
Dimensional drawing RXN/RXT/RXB compound thicknesses -ATEX / IECEx	DD00083	00	2014-10-24
Dimensional drawing RXF/RXS compound thicknesses -ATEX / IECEx	DD00084	00	2014-07-15
PCB Assembly RXF/RXS - ATEX / IECEx Ex to IS antenna interface	DE00157	00	2014-07-08
PCB Assembly RXN/RXT/RXB - ATEX / IECEx Ex to IS antenna interface	DE00158	00	2014-07-08
ATEX / IECEx - RX Series Product Markings Explosion Proof Antenna Coupler	DM00063	00	2014-11-12
Housing, Explosion Proof Antenna Fitting M25x1.5 Thread, full flats, RXF/RXS	MM00875	00	2014-04-24
Housing, Explosion Proof Antenna Fitting 3/4-14 NPT Thread, RXF/RXS	MM00874	00	2014-04-24
Housing, Explosion Proof Antenna Fitting M25x1.5 Thread, full flats, RXN/RXT/RXB	MM00873	00	2014-04-24
Housing, Explosion Proof Antenna Fitting 3/4-14 NPT Thread, RXN/RXT/RXB	MM00872	00	2014-04-24
Housing, Exp Proof Antenna Fitting M25x1.5 Thread, RXN/RXT/RXB	MM00913	00	2015-08-20
Housing, Exp Proof Antenna Fitting M25x1.5 Thread, RXF/RXS	MM00914	00	2015-08-20
Schematic, RX Series Explosion Proof Antenna Fitting	DS00109	03	2014-10-06
Related Drawing, RX Series EXP. Proof Antenna Fitting - ATEX/IECEx	DC00074	00	2014-10-09
Installation & Operational Manual RX Series ATEX-IECEx Version	IOM00053-03	03	2014

[16] Confidential Report No. EXA 15CR056

[16.1] Routine testing

The manufacturer shall carry out the following routine test:

Each piece of "m" equipment shall be subjected to a visual inspection. No damage shall be evident, such as cracks in the compound, exposure of the encapsulated parts, flaking, inadmissible shrinkage, swelling, decomposition, failure of adhesion (separation of any adhered parts) or softening.

[17] Specific Conditions for Safe Use 'X'

None.

[18] Essential Health and Safety Requirements

Covered by the standards listed at item 9.