

PUBLIC RELEASE

Business Requirements Specification: Medical Scheme Contributions (MSC)

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1. DEFINITIONS AND ACRONYMS

The following definitions and acronyms have been defined to provide assistance in identifying the meaning of SARS's terminology.

Term	Description								
Alpha (A)	Alphabet A until Z only								
	Upper Case and Lower Case								
Alphanumeric	Alphabet A until Z								
(AN)	Upper Case and Lower Case Characters								
	Numbers 0 to 9 and a Decimal Point Century-Year-Month								
ССҮҮММ	Century-Year-Month								
CCYYMMDD	entury-Year-Month-Day								
Conditional Fields	ields that must be completed subject to defined conditions, e.g. mandatory if related								
	elds have been completed								
Delimited file	Pipe separated values will be used as the delimited file type								
e.g.	exempli gratia (or for example)								
Free Text (FT)	Free text includes the following:								
	 Alphabet A until Z 								
	 Upper and Lower Case Characters 								
	 Number 0 to 9 								
	o Dash (-)								
	 Space () 								
	 Inverted Commas ("") 								
	 Back slash(\) 								
	 Forward slash (/) 								
	 Question Mark (?) 								
	 ∧ At sign (@) 								
	 Ampersand (&) 								
	 Dollar sign (\$) 								
	 Exclamation Mark (!) 								
	o Hash (#)								
	• Plus (+)								
	• Equals (=)								
	• Semi colon (;)								
	 Colon (:) 								
	o Comma (,)								
	• Apostrophe (')								
	 Left and Right Brackets (()) 								
	 Full Stop (.) 								
	 Characters such as ê, ë. 								
	All special characters are allowed, however for XML development purposes the								
	following standard must be adhered to: ISO-8859-1 encoding or informally referred to								
	as Latin-1. The definition of this standard can be found on:								
	http://en.wikipedia.org/wiki/ISO/IEC_8859-1								
ID	Identifier								
Mandatory Fields	Fields that must be completed as a rule as opposed to being optional								
NoP	Nature of Person								
Numeric (N)	Numbers from 0 to 9, a decimal point and negative (-) sign.								
Optional Fields	Fields that can be completed based on applicability and availability. These fields are not								
	mandatory.								

Term	Description
SARS	South African Revenue Service
XML	Extensible Mark-up Language

2. INTRODUCTION

The submission of Medical Scheme Contribution data to SARS is currently done using the File Transfer Protocol technology as a channel of submission. Due to the limitations on this technology and additional administrative burdens placed on 3rd party data submitters, SARS is implementing the Connect: Direct technology for the submission of bulk data using the Direct Data Flow Channel.

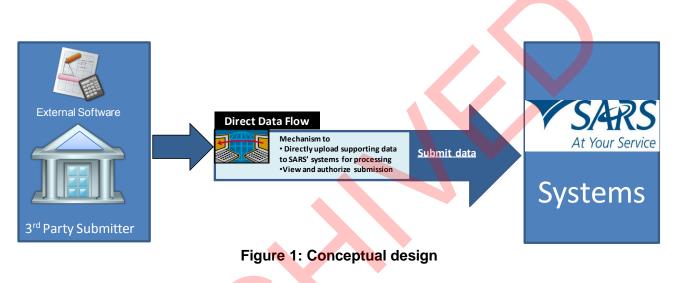
This document describes the interface between the South African Revenue Service (SARS) and a system reporting on 3rd party data extracts which are required to be submitted annually for Medical Scheme Contributions data.

Until further notice, the channels that will be available to submit Medical Scheme Contributions data to SARS will be via Connect: Direct, HTTPS and eFiling.

3. CONCEPTUAL DESIGN

Principal Member data can be captured and maintained in the organisation's proprietary system. The submitting entity will be able to generate a file containing all Principal Members' data and submit this file to SARS.

This file can be submitted using the Direct Data Flow channel. The submission will be validated and verified on SARS side before being deemed accepted.



The conceptual design is depicted in Figure 1 below.

STEP 1: Compiled data may be submitted to SARS via Direct Data Flow channel using a protocol. SARS will validate each file and respond to inform the submitting entity of the outcome of the validated file.

Once the file has been successfully submitted, the user should be able to login on eFiling to view the pre-populated declaration. The entity will also use this channel to submit and authorise the declaration to SARS.

Notes:

a) Submission via the Direct Data Flow requires enrolment and activation available on eFiling.

4. DATA VALIDATIONS TO BE PERFORMED

- a. When the proprietary system compiles the file a first level validation must be performed on all fields according to validation requirements set hereafter.
- b. The above validation is again performed when the data is received by SARS to ensure complete transmission.
- c. Before sending confirmation and acceptance of the submission SARS validates the submitted data against its systems. Submission will be rejected, accepted with warnings or partially uploaded if the data file fails this test.
- d. Data is checked against previous submissions to prevent "duplicate submissions" which is the same data submitted multiple times.

5. GENERAL RULES FOR IMPORT FILE STRUCTURES

- a. Each file submitted to SARS must only contain information for one submitting entity, **one Fund Entity**, one tax type (only Medical Scheme Contribution) and for one fiscal year.
- b. Each of the files are structured as follows:
 - Submission file header
 - Submitting entity data (fund administrator data)
 - Fund entity data (medical fund)
 - Principal member demographic data
 - Person paying account demographic data
 - Dependant demographic data
 - Principal member financial data
 - File trailer
- c. Fields are indicated as mandatory, optional or conditional as specified in this document.
- d. Data fields must not start with a space.
- e. All accounts must be reported on.
- f. A pipe delimited file format will be used, where the fields are separated by a pipe delimiter. For any field where no value is required or no value is available, the pipe delimiter must be followed by another pipe delimiter to indicate that the field is empty.
- g. Different types of validations as well as the sequence of validations to be performed on files submitted to SARS are as follows:
 - 1.SARS will reject an entire file under the following conditions:
 - File is corrupt, i.e. the file could not be read;
 - File fails structure validations, i.e. error(s) were found in the number of pipe separators in the submission file header, summary or line item level taxpayer data header, body or trailer, or specific field errors were found in the submission file header, summary or line item level taxpayer data header or trailer. Field validations on the file body are addressed in point 2 below.

2.SARS will accept an entire file under the following conditions:

- Zero fields were rejected;
- One or more records were found to be duplicates.
- 3.SARS will partially upload a file under the following conditions:
 - One or more record(s) were rejected.

- h. The fields in the file body are each subjected to the following types of validations and in the sequence as described below:
 - 1. Required: validates whether the field is required to be completed. Can be mandatory, conditional or optional. If the field is conditional, a condition rule is supplied;
 - 2. Data type: specifies the type for example, numeric or alpha numeric;
 - 3. Length type: indicates whether the length of the field can be variable or fixed;
 - 4. Length min: max specifies the minimum length and the maximum length a field can have. If the field has a fixed length type, the minimum and maximum lengths is the same. Based on the whether there is a condition rule is met, different minimum and maximum lengths are defined;
 - 5. Data validations: validates whether the field complies to format rules or belongs to a pre-defined set of values; and
 - 6. Logic validations: applies a logic validation on the value of the field.

Note: When records are being validated by SARS systems, the validations will be done in the sequence as described above. Once a field has failed any one of these validations no further validations will be done on that field. For example, if a field passes the required and data type validations (numbers 1 and 2 above) and then fails on length type (number 3), the length, data and logic validations will not be performed and the error on the length type will be recorded in the response file.

i. File Structure Validations will be done in the sequence provided in the table below. If the file fails file structure validations (File Response Code = 005), then a File Response Reason will be provided in the response file header. In the instance where the file failed validations

No	Validation	File Response Reason
1	Does the file have a header, body and trailer identifier	Missing required section either header, body, or trailer
2	Does the generic header structure pass i.e. are there the correct amount of pipes	Generic header contains the incorrect number of fields
3	Does the trailer structure pass i.e. are the number of pipes correct	Trailer contains the incorrect number of fields
4	Does the submission file header structure pass i.e. are the number of pipes correct	Product header contains the incorrect number of fields
5	Does the body structure pass i.e. are the number of pipes correct and are the records submitted in the correct sequence	One or more body items contain the incorrect number of fields, or the records were submitted in the incorrect sequence
6	Validate the generic header data – actual content according to the spec	Invalid data in generic header
7	Validate the submission file header data – actual content according to the spec	Invalid data in submission file header
8	Validate the trailer: Is the correct data used in the correct fields – actual content according to spec	Invalid data in trailer
9	Validate the trailer: Do the calculated fields in the trailer add up	Trailer calculation failed

Note – if file did not pass validation numbers 1 to 6, then the acknowledgement of receipt cannot be issued and instead a rejection message will be sent.

- j. A pipe "I" character may not be used within any field value (e.g. as a special character). If it is, it will be regarded as the start of the next field.
- k. The sections submitted must be in the sequence as specified in the file. This implies the first record in the file will be the general header, the second record will be the submitting entity demographic record, third will be the fund entity data, then all the data pertaining to the principal member, and lastly the trailer record will follow.

6. FILE LAYOUTS

During the process of the submission of data to SARS a number of messages will be sent back and forth between the SARS systems, eFiling and the Direct Data Flow Channel depending on the data requested by SARS. The maximum number of messages is 3.

The table below indicates for each message, the file number and name to be used to convey that message. It also indicates the sender and recipient for each message. For each of the files, a detail file layout is provided in the sub paragraphs.

Message Number	Message Description	File Number	File Name	Sender	Recipient
1	Medical scheme contribution submission is required as determined by the Commissioner	1	Medical scheme contribution submission	3 rd Party application / eFiling	SARS systems
2	This response will be the acknowledgement of receiving data submission before any validations have been performed	2	Response	SARS systems	3 rd Party application
3	This response is the notification of whether the file was accepted, accepted with warnings, partially uploaded or rejected. If rejected the response includes a rejection reason	2	Response	SARS systems	3 rd Party application

File Name Structure Requirements

File Name	File Name Structure Requirements
Medical scheme	Data Type Being Supplied (value of field 8)_File Layout Version (value of field 4)_Tax Reference Number (value of
contribution submission	field <a>28)_Unique File ID (value of field 5)_Message Create Date (value of field 3)
Response	Data Type Being Supplied_ File Layout Version (value of field 4)_Tax Reference Number_Unique File ID_Message
	Create Date_"R"File Response Code

Notes:

- All the field values in the file name must be separated by a "_" and there must be no spaces between any characters.
- For the purpose of creating the file name the Message Create Date in the file name must be in the format CCYYMMDDThhmmss.
- The file name must be followed by a .psv or a .txt or a .zip extension

6.1 File Layout: 1. Medical Scheme Contributions Data Submission

This section lists all the fields that are required for the Medical Scheme Contributions file. The table specifies for each field, the required length, provides a description and also indicates the relevant validation rules.

Note: The number column is used to reference fields in the table for ease of use.

No	Field Name	Description		Required	Data Tyrpo	Length	Length	Data Validations	Logic Validations				
			Туре	Condition Rule	Туре	Туре	(Min:Max)						
	SUBMISSION FILE HEADER												
1	Section Identifier	To identify the start of the section as well as identifying the type of section	Μ		A	Fixed	1:1	a) Must = H, where H = Header					
2	Header Type	To indicate the type of header in order to differentiate between various types	Μ		A	Variable	1:3	a) Must = GH, where GH = General Header					
3	Message Create Date	Date and time that the message was created	М		FT	Fixed	19:19	 a) Format must be: CCYY-MM- DDThh:mm:ss b) 24h time format must be used 	a) Must be less than or equal to today's date				
4	File Layout Version	The version of the delimited file layout that is being submitted. Sequential number, which increments with one every time that the file layout version changes once files is being submitted to the production environment. This number is provided by SARS.	Μ		N	Variable	1:4	 a) Must = 1 b) Value must not contain a decimal point Note – SARS will only support the version(s) specified above 	a) Must be greater than or equal to 1 and less than or equal to 9999				

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule			(Min:Max)		
5	Unique File ID	The submitting source must create this field when data is submitted to SARS. This field will uniquely identify this file when coupled with the source. This value must not be repeated by the submitting source (e.g. use the date time with some other unique number). This field will also be used to link the records to the original file. The field must be generated by the software from which the entity is submitting the data to SARS. When SARS sends the response file, the Unique File ID in the response file must be equal to the Unique File ID obtained from the file name of the submitted file	Μ		AN	Variable	1:64	 a) Value must not contain a decimal point b) Although this field is designed using the definition of AN (as specified in section 1.2.2 of this document), SARS will also accept dashes "-" (this is to cater for entities that have chosen to make use of a GUID). Please note this is the only exception to the AN definition that will be permitted and only on this field. 	a) Must be unique per submission and across submissions per submitting entity
6	SARS Request Reference	In the scenario where SARS sends a request file to the entity requesting data, SARS provides this reference number to use in the file to be submitted to SARS. SARS also uses this reference number when responding to the taxpayer on files submitted to SARS	C	If Data Type Being Supplied = MED then this field must be left blank	AN	Variable	 a) 0:0– If this field is left blank b) b) 1:64– If this field is completed 		

No	Field Name	Description		Required		Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Туре	1,960	(Min:Max)		
7	Test Data Indicator	This should be used to indicate if the data is for testing or is live data and should be processed. The purpose of the field is to avoid test data accidentally being processed in production and allow the source to test their submission without it being processed. Note – If SARS receives a value = T in the production environment or a value = L in the test environment, then the file will be rejected in its entirety.	Μ		A	Fixed	1:1	a) Must = T or L, where T = Test and L = Live	
8	Data Type Being Supplied	When data is submitted to SARS, this field indicates the type of data that can be found in the file, e.g. Dividends tax, VAT supporting data. When SARS sends a response on a file submitted, SARS indicates the data type on which the response is based.	Μ		AN	Fixed	3:3	a) Must = MED, where MED = Medical scheme contributions extracts data	
9	Channel Identifier	Identifies the channel from which the file was submitted, e.g. Connect Direct The channel, from which the file was submitted to SARS, must generate this identifier.	M		AN	Variable	1:10	a) Must = CD, or HTTPS where CD = Connect Direct, HTTPS = Hypertext Transfer Protocol Service	

No	Field Name	Description		Required		Length Type	Length (Min:Max)	Data Validations	Logic Validations
			Туре	Condition Rule	1		(((((((((((((((((((((((((((((((((((((((
10	Source Identifier	This identifies the file submitter and contains the security token. This value will be supplied by SARS. <i>Note</i> – For testing purposes please refer to the SARS website where a value will be supplied that can be used in the interim. This value will only be applicable for test purposes and will not be accepted in the production environment.	Μ		FT	Fixed	144:144		
11	Group ID	If the amount of data requires that it be sent in multiple files, a unique Group ID must be created on the submitting entity's system to be able to link the multiple files to the one group	Μ		AN	Variable	1:64		a) Must not be equal to a Group ID used in a previously successfully submitted group file submission per submitting entity

No	Field Name	Description		Required	Data	Length	Length	Data Validations	Logic Validations
			Type	Condition Rule	Туре	Туре	(Min:Max)		
12	Group Total	Number of files that make up a group, e.g. if the amount of data requires three files to be submitted, then the Group Total must be 3. For example, where it is required for data to be submitted in one file and the file is too large to accommodate the submission in a single file, the file can be split into smaller more	Туре М	Condition Rule	N	Variable	1:4	a) Value must not contain a decimal point	a) Must be greater than or equal to 1 and less than or equal to 9999
13	Unique	manageable files and this field must then indicate the total number of files that make up the submission. The number of this file in the	М		N	Variable	1:4	a) Value must not	a) Must be equal to or
	Group Item ID	group. This number must be an incrementing number beginning at one for each group submission, and incrementing by 1 for each file in the group.E.g. if this is the second file of the group this field must be 2.						contain a decimal point	 a) Must be equal to on greater than 1 b) Must be less than or equal to the Group Total c) Must be submitted in sequence
14	Source System	The name of the system from where the data was generated, e.g. Pastel or SAP	Μ	7	FT	Variable	1:30		
15	Source System Version	The version number system, e.g. 1.1.7.	М		FT	Variable	1:10		
16	Contact Person Name	The full names of the person to be contacted with technical queries related to this file	Μ		FT	Variable	1:90		

No	Field Name	Description		Required	Data Type	Length Type	Length (Min:Max)	Data Validations	Logic Validations
			Туре	Condition Rule			(WITI.Wax)		
17	Contact Person Surname	The surname of the person to be contacted with technical queries related to this file	М		FT	Variable	1:53		
18	Business Telephone Number 1	The primary contact telephone number for contact person	С	a) At least one of Business Telephone Number 1 or the Cell Phone Number field must be completed	AN	Variable	a) 0:0 - No condition met b) 9:15 – Condition met	 a) Only numeric values are allowed b) No spaces are allowed c) + is not allowed d) Value must not contain a decimal point 	
19	Business Telephone Number 2	A secondary contact telephone number for contact person	0		AN	Variable	 a) 0:0 – if this field is blank b) 9:15 – if this field is completed 	 a) Only numeric values are allowed b) No spaces are allowed c) + is not allowed d) Value must not contain a decimal point 	
20	Cell Phone Number	The cell phone number of the contact person	C	a) At least one of Business Telephone Number 1 or the Cell Phone Number field must be completed	AN	Variable	a) 0:0 - No condition met b) 9:15 – Condition met	 a) Only numeric values are allowed b) No spaces are allowed c) + is not allowed d) Value must not contain a decimal point e) No spaces are allowed 	

No	Field Name	Description		Required	Data Type	Length Type	Length (Min:Max)	Data Validations	Logic Validations
			Туре	Condition Rule	1		(WITTEWAX)		
21	Contact Email	The email address for the contact person	Μ		FT	Variable	5:80	 a) Must contain one @ sign b) Must contain a domain which must be indicated with a dot (.) 	
		SU	BMITTIN		TA (FUN		NISTRATOR)		
22	Section Identifier	To identify the start of the section as well as identifying the type of section	М		A	Fixed	1:1	a) Must = H , where H = Header	
23	Header Type	To indicate the type of header in order to differentiate between various types	М		A	Variable	1:3	a) Must = SE, where SE = Submitting Entity	
24	Year of Assessment	Tax year to which the certificate applies	М		N	Fixed	4:4	a) Format CCYY	a) <mark>Must be greater</mark> than or equal to 2013
25	Period Start Date	The starting date for the period that is reported by this medical scheme contribution extract	Μ		N	Fixed	<u>10:10</u>	a) Format CCYY-MM-DD	a) Date must fall within the Submission Tax year
26	Period End Date	The ending date for the period that is reported by this medical scheme contribution extract	M		N	Fixed	10:10	a) Format CCYY-MM-DD	a) <mark>Date must fall</mark> within the Submission Tax year
27	Information supplied by / Name of submitting entity	Referring to the fund submitting entity /administrator name	M		FT	Variable	1:60		

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	- Jpc	1,960	(Min:Max)		
28	Submitting Entity Income Tax Reference Number	Referring to submitting entity/ fund administrator Income Tax Reference Number	Μ		N	Fixed	10:10		 a) Modulus check 10 for IT Reference Number. Refer to section 7.1 modulus 10 check on Income Tax Number for the applicable modulus check. b) The first character can only be 0, 1, 2, 3, 7 or 9
				FUND EN	ITITY D	ATA			
29	Section Identifier	To identify the start of the section as well as identifying the type of section	М		A	Fixed	1:1	a) Must = B , where B = Body	
30	Record Type	Type of transaction	М		AN	Variable	<mark>1:6</mark>	a) Must = FE, where FE = Fund Entity	
			3						

No	Field Name	Description		Required	Data Type	Length Type	Length (Min:Max)	Data Validations	Logic Validations
			Туре	Condition Rule			(IVIIII.IVIAX)		
161	Row Number	Number of the row in the file, sequential number starting at 1 for every file submitted to SARS. In the response file, this must be the rejected row(s) from the incoming file. The row number field must start at 1 for every new file and must increment by 1 for every new row added that is classed as a body record in the file. The last body record row number in the file must be equal to the total records supplied in the trailer. This would imply that for every file the body records start at 1 and increment by 1 for each record regardless of how many different sections there might be in the body, for files where there are multiple sections in the body	Μ			Variable	1:10	 a) An incrementing number per record beginning at 1 for each file b) Value must not contain a decimal point 	 c) Must be greater than or equal to 1 and smaller than or equal to the total number of rows in the file with Section Identifier = B
31	Year of Assessment	Tax year to which the certificate applies	M		Ν	Fixed	4:4	a) Format CCYY	 a) Must be greater than or equal to 2013 b) Must equal to submitting entity year of assessment (field 24)
32	Period Start Date	The starting date for the period that is reported by this medical scheme contributions extract	M		N	Fixed	<mark>10:10</mark>	a) Format CCYY-MM-DD	a) <mark>Date must fall within the Submission Tax year</mark>

No	Field Name	Description		Required	Data Type	Length Type	Length (Min:Max)	Data Validations	Logic Validations
			Туре	Condition Rule	1				
33	Period End Date	The ending date for the period that is reported by this medical scheme contributions extract	М		N	Fixed	10:10	a) Format CCYY-MM-DD	a) <mark>Date must fall</mark> within the Submission Tax year
34	Name of Fund Entity	Referring to the organisation for whom the file is being submitted , in this case, the fund entity	Μ		FT	Variable	1:60		
35	Fund Entity Income Tax Reference Number	Referring to fund entity's Income Tax Reference Number	0		N	Fixed	10:10		 a) Modulus check 10 for IT Reference Number. Refer to section 7.1 modulus 10 check on Income Tax Number for the applicable modulus check. b) The first character can only be 0, 1, 2, 3, or 9
36	Registered Medical Scheme Number	Fund entity's registered medical scheme number	Μ		AN	Variable	1:20		
37	Total number of principal members at start of financial year	Indicates total number of principal members for the fund at start of financial year (excluding dependants)	М		Ν	Variable	<u>1:15</u>	a) Value must not contain a decimal	
38	Total number of principal members that joined medical scheme during financial year	Indicates total number of principal members that joined the fund during financial year (excluding dependants)	Z		N	Variable	<u>1:15</u>	a) Value must not contain a decimal	

No	Field Name	Description		Required	Data Type	Length Type	Length (Min:Max)	Data Validations	Logic Validations
			Туре	Condition Rule			(IVIIII.IVIAX)		
39	Total number of principal members that resigned frem medical scheme during financial year	Indicates total number of principal members that resigned from fund membership during financial year	М		N	Variable	1:15	a) Value must not contain a decimal	
40	Total number of principal members at end of financial year	Indicates total number of principal members for the fund at the end of financial year (excluding dependants)	М		N	Variable	1:15	a) Value must not contain a decimal	a) Must equal to total number of principal members at start of financial year plus total number of principal members that joined during financial year minus total number of principal members that resigned during financial year (=field 37 + field 38 – field 39)

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(Min:Max)		
41	Total fund contributions made by employer for the financial year	Sum of total fund contributions made for the current tax year by employer	М		Z	Variable	4:18	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 99999999999999999999999999999999999	

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(Min:Max)		
42	Total contributions made by principal members for the financial year	Sum of total contributions made for the current tax year by all the principal members	М		Z	Variable	4:18	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 99999999999999999999999999999999999	

No	Field Name	Description		Required	Data	Length	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Туре	Туре	(Min:Max)		
				Condition Rule					
43	Total contributions for the financial year	Sum of total fund contributions made for the current tax year by both the employer and principal members	Μ		N	Variable	4:18	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 999999999999999999999999999999 c) Must always have 2 values after the point to denote cent d) Allow negative and positive values. For negative values the cent display before the value 	a) Must equal to sum of total fund contributions made by employer for the financial year plus total contributions made by principal members for the financial year (= field 41 + field 42)
			PRINC	CIPAL MEMBER	R DEMO	GRAPHI	C DATA		
44	Section Identifier	To identify the start of the section as well as identifying the type of section	M		A	Fixed	1:1	a) Must = B, where B = Body	
45	Record Type	Type of transaction	М		AN	Variable	1:6	a) Must = PMDD, where PMDD= Principal Member Demographic Data	

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	. Jpc	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(Min:Max)		
46	Record Status	The taxpayer's system must indicate whether a record is active, i.e. valid for the submission or must be cancelled from the submission Note: Record statuses that are deemed active are new, additions and corrections. Record statuses that are deemed cancelled are deletions.	Μ		A	Fixed	1:1	a) Must = A or C, where A = Active and C = Cancelled	
47	Unique Number	The taxpayer's system must generate a unique number for each record. In the response file, the unique number would be the number specified in the file submitted to SARS to enable the submitting entity's source system to identify the line that is being responded on by SARS.	Μ		FI	Variable	1:100		a) Must be unique within the section across all files

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Type	Type	(Min:Max)		
48	Row Number	Number of the row in the file,	M		N	Variable	1:10	a) An incrementing	a) Must be greater
40		sequential number starting at	111			variable	1.10	number per	than or equal to 1
		1 for every file submitted to						record beginning	and smaller than
		SARS. In the response file,						at 1 for each file	or equal to the
		this must be the rejected						b) Value must not	total number of
		row(s) from the incoming file.						contain a	rows in the file with
		The row number field must						decimal point	Section Identifier =
		start at 1 for every new file							B
		and must increment by 1 for							2
		every new row added that is							
		classed as a body record in							
		the file. The last body record							
		row number in the file must be							
		equal to the total records							
		supplied in the trailer. This							
		would imply that for every file							
		the body records start at 1							
		and increment by 1 for each							
		record regardless of how							
		many different sections there							
		might be in the body, for files							
		where there are multiple							
		sections in the body							
49	Unique	Principal member's unique	М		AN	Variable	1: <mark>36</mark>		a) Must equal to a
	Membership	membership number							MED Unique
	Number								Number where
									Record Type =
50		Numborio unique entrite	C	Mandatary	AN	Vorichte	1.26		
50	MED Unique Number	Number is unique only to principal member (to be	С	Mandatory if	AN	Variable	<mark>1:36</mark>		a) <u>Must equal to a</u>
		created and used IF		membership number is not					Number uthere
		membership number is not							Record Type -
		unique)		unique					

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Type	Type	(Min:Max)		
51	Principal Member Nature of Person Code	Nature of person code	М		Ν	Fixed	2:2	 a) The valid tax category code table is provided below. 01 -Individual 	a) Must = 01 where 01 is individual as medical scheme can only be offered to an individual NoP, i.e. cannot be offered to a Company or a Trust.
52	Membership Commence- ment Date	Date on which principal member joined the fund	М			Fixed	10:10	a) Format CCYY-MM-DD	a) Must be smaller than today's date OR equal to today's date
53	Principal Member Surname	Personal particulars – Surname of the individual	М		FT	Variable	1:120		
54	Principal Member Initials	Personal particulars – Initials applicable only to individuals	Μ	Mandatory for Individuals	FT	Variable	a) 0:0 - No condition met b) 1:30 – Condition met		
55	Principal Member Names	Personal particulars – The first two name applicable only to individuals	M	Mandatory for Individuals	FT	Variable	a) 0:0 - No condition met b) 1:90 – Condition met	a) Names must be separated by a single space	
56	Principal Member Identity Number	Personal particulars – South African identify number of the individual taxpayer	C	At least one of the Principal Member Identity number, Principal Member Passport Number or Principal Member Date of Birth fields must be completed for Individuals	Ν	Fixed	a) 0:0 - No condition met b) 13:13 – Condition met		 a) Modulus test for identity number. Refer to section 7.3 Identification Number for the applicable modulus check

No	Field Name	Description		Required	Data Type	Length Type	Length (Min:Max)	Data Validations	Logic Validations
			Туре	Condition Rule					
57	Principal Member Passport Number	Passport number or other number (non-bar-coded RSA ID numbers) of the principal member.	С	At least one of the Principal Member Identity number, Principal Member Passport Number or Principal Member Date of Birth fields must be completed for Individuals	AN	Variable	a) 0:0 – no condition met b) 6:20 – condition met	a) Minimum of 6 characters b)a) No spaces are allowed	
58	Principal Member Passport Country of Issue	Indicates the country that issued the passport	С		A	Fixed	 a) 0:0 - no condition met b) 3:3 - condition met 	 a) Refer to section 6.4 for codes for the country that issued passport b) If this value = ZAF then Principal Member ID number must be completed 	
59	Principal Member Income Tax Reference Number	SARS assigned Income tax reference number - Personal particulars	0		N	Fixed	 a) 0:0 – if this field is blank b) 10:10 – if this field is completed 		 c) Modulus check 10 for IT Reference Number. Refer to section 7.1 modulus 10 check on Income Tax Number for the applicable modulus check. d) The first character can only be 0, 1, 2, 3, or 9

No	Field Name	Description		Required	Data	Length	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Туре	Туре	(Min:Max)		
60	Principal Member Date of Birth	Principal Member date of birth	С	At least one Principal Member Identity number, Principal Member Passport Number or Principal Member Date of Birth field must be completed for Individuals	N	Fixed	a) 0:0 – no condition met b) 10:10 – condition met	a) Format CCYY-MM-DD b) Must the first 0 digits of the Principal Member Identity Number (if Principal Member Identity Number was supplied). Do not validate CC c)b) Date must not be greater than the current date	
61	Principal Member Address Details - Physical: Unit number	Indicates unit number of the Principal Member Physical address.	0		AN	Variable	0:5		
62	Principal Member Address Details - Physical: Complex	Indicates the complex name of the Principal Member Physical address.	0		FT	Variable	0:25		
63	Principal Member Address Details - Physical: Street Number	Indicates the street number of the Principal Member Physical address.	0		AN	Variable	0:5		

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations	
			Туре	Condition Rule	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(Min:Max)			
64	Principal Member Address Details - Physical: Street/Name of Farm	Indicates the street / name of farm of the Principal Member Physical address.	С	 a) At least one, Physical address or Postal address must be completed b) If Principal Member Postal Address Line 1 is not completed this field is mandatory 	FT	Variable	 a) 0:0 – no condition met b) 1:25 – condition met 			
65	Principal Member Address Details - Physical: Suburb/ District	Indicates the suburb / district of Principal Member Physical address	C	a) If Principal Member Address Details - Physical: Street/Name of Farm is completed this field is conditional – at least one the Suburb/ District field or the City/Town fields must be completed	FT	Variable	 a) 0:0 – no condition met b) 1:34 – condition met 			

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Type	Type	(Min:Max)		
66	Principal Member Address Details - Physical: City/Town	Indicates the city / town of Principal Member Physical address	С	 a) If Principal Member Address Details - Physical: Street/Name of Farm is completed this field is conditional – at least one the Suburb/ District field or the City/Town fields must be completed 	FT	Variable	 a) 0:0 - no condition met b) 1:23 - condition met 		
67	Principal Member Address Details - Physical: Postal Code	Indicates the postal code of the Principal Member Physical address	С	a) If Principal Member Address Details - Physical: Street/Name of Farm is completed, this field is mandatory	AN	Variable	 a) 0:0 - no condition met b) 1:10 - condition met 		 a) In case there is no postal code for the residential address, use the nearest postal code
68	Postal Address same as Physical Address indicator	Indicates if the Principal Member Postal Address is the same as the physical address	0		A	Fixed	1:1	a) Must = "Y" or "N", where Y = Yes and N = No	

No	Field Name	Description		Required	Data Type	Length Type	Length (Min:Max)	Data Validations	Logic Validations
			Туре	Condition Rule			(IVIIII.IVIAX)		
69	Principal Member Postal Address Line 1	Line 1 of the Postal address of Principal Member	С	 a) At least one Physical address or Postal address field must be completed b) If Principal Member Address Details - Physical: Street/Name of Farm is not completed this field is mandatory 	FT	Variable	a) 0:0 – condition met no b) 1:35 – condition met		
70	Principal Member Postal Address Line 2	Line 2 of the Postal address of Principal Member	0		FT	Variable	0:35		
71	Principal Member Postal Address Line 3	Line 3 of the Postal address of Principal Member	0		FT	Variable	0:35		
72	Principal Member Postal Address Line 4	Line 4 of the Postal address of Principal Member	0		FT	Variable	0:35		

No	Field Name	Description		Required	Data	Length	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Туре	Туре	(Min:Max)		
73	Principal Member Postal Code	Postal code of the Principal Member	C	a) If Principal Member Postal Address Line 1 is completed this field is mandatory	AN	Variable	a) 0:0 – no condition met b) 1:10 – condition met		
74	Total Number of Dependants Indicator	Indicates the total number of dependants on the principal member's medical scheme (excluding the principal member)	М		N	Variable	1.2	a) Value must not contain a decimal	
75	Total Number of Members in March	Indicates principal member plus the total number of dependants	М		N	Variable	1:2	a) Value must not contain a decimal	
76	Total Number of Members in April	Indicates principal member plus the total number of dependants	Μ		N	Variable	<mark>1:2</mark>	a) Value must not contain a decimal	
77	Total Number of Members in May	Indicates principal member plus the total number of dependants	М		N	Variable	<mark>1:2</mark>	a) Value must not contain a decimal	
78	Total Number of Members in June	Indicates principal member plus the total number of dependants	М		N	Variable	1:2	a) Value must not contain a decimal	
79	Total Number of Members in July	Indicates principal member plus the total number of dependants	М		N	Variable	1:2	a) Value must not contain a decimal	
80	Total Number of Members in August	Indicates principal member plus the total number of dependants	M		N	Variable	1:2	a) Value must not contain a decimal	
81	Total Number of Members in September	Indicates principal member plus the total number of dependants	М		N	Variable	1:2	a) Value must not contain a decimal	

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No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(Min:Max)		
82	Total Number of Members in October	Indicates principal member plus the total number of dependants	М		N	Variable	1:2	a) Value must not contain a decimal	
83	Total Number of Members in November	Indicates principal member plus the total number of dependants	М		N	Variable	1.2	a) Value must not contain a decimal	
84	Total Number of Members in December	Indicates principal member plus the total number of dependants	М		N	Variable	12	a) Value must not contain a decimal	
85	Total Number of Members in January	Indicates principal member plus the total number of dependants	М		N	Variable	1:2	a) Value must not contain a decimal	
86	Total Number of Members in February	Indicates principal member plus the total number of dependants	Μ		N	Variable	<u>1:2</u>	a) Value must not contain a decimal	
87	Person Paying Account indicator	This refers to the person who pays the account, which can in some instances be different to the Principal Member. If this is the case, the demographic details of the individual paying the account are required.	Μ		A	Fixed	1:1	 a) Must = "Y" or "N", where "Y" if Principal Member is responsible for paying the account and "N" if Principal Members is not responsible for paying the account 	

No	Field Name	Description		Required	Data Type	Length Type	Length (Min:Max)	Data Validations	Logic Validations
			Туре	Condition Rule	1		(IVIIII.IVIAX)		
	PERSC	ON PAYING ACCOUNT I	DEMOG	RAPHIC DATA	(If Person	Paying Acc	ount Indicator =	"N", then this record is	s mandatory)
88	Section Identifier	To identify the start of the section as well as identifying the type of section	М		A	Fixed	1:1	a) Must = B, where B = Body	
89	Record Type	Type of transaction	М		AN	Variable	1:6	a) Must = PPADD, where PPADD= Person Paying Account Demographic Data	
90	Record Status	The taxpayer's system must indicate whether a record is active, i.e. valid for the submission or must be cancelled from the submission Note: Record statuses that are deemed active are new, additions and corrections. Record statuses that are deemed cancelled are deletions.	М		A	Fixed	1:1	a) Must = A or C, where A = Active and C = Cancelled	
91	Unique Number	The taxpayer's system must generate a unique number for each record. In the response file, the unique number would be the number specified in the file submitted to SARS to enable the submitting entity's source system to identify the line that is being responded on by SARS.	M		FT	Variable	1:100		a) Must be unique within the section across all files

No	Field Name	Description		Required	Data	Length	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Туре	Туре	(Min:Max)		
			туре	Condition Rule					
92	Row Number	Number of the row in the file,	М		N	Variable	1:10	a) An incrementing	a) Must be greater
		sequential number starting at						number per	than or equal to 1
		1 for every file submitted to						record beginning	and smaller than
		SARS. In the response file,						at 1 for each file	or equal to the
		this must be the rejected						b) <mark>Va</mark> lue must not	total number of
		row(s) from the incoming file.						<mark>co</mark> ntain a	rows in the file with
		The row number field must						decimal point	Section Identifier =
		start at 1 for every new file							В
		and must increment by 1 for							
		every new row added that is							
		classed as a body record in							
		the file. The last body record							
		row number in the file must be					·		
		equal to the total records							
		supplied in the trailer. This							
		would imply that for every file							
		the body records start at 1							
		and increment by 1 for each							
		record regardless of how							
		many different sections there							
		might be in the body, for files							
		where there are multiple							
		sections in the body.							
93	Unique	Principal Member's unique	M		AN	Variable	1: <mark>36</mark>		a) Must equal to a
	Membership	membership number							MED Unique
	Number	·							Membership
									Number where
									Record Type =
									PMDD
04		Number is unique only to	C	Mandatory if	AN	Variable	1.26		
94	MED Unique Number	Number is unique only to Principal Member (to be	С	Mandatory if	AN	Variable	<mark>1:36</mark>		a) Must equal to a
1		created and used IF		membership					MED Unique
1		membership number is not	-	number is not					Number where
		unique)		unique					Record Type =
									PMDD

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule			(Min:Max)		
95	Person Paying Account Nature of Person Code	Nature of person code	М		N	Fixed	2:2	 a) The valid tax category code table is provided below. 01 -Individual 02 -Company/CC 03 -Trust 04 -Public/Local authority & Municipality 06 -Partnership 13 - Foreign Individual 14 - Foreign Company 15 - Other 	a) Must = 01 where 01 is individual as medical scheme can only be offered to an individual NoP, i.e. cannot be offered to a Company or a Trust.
96	Person Paying Account Surname/ Registered Name	Personal particulars – Surname of the individual or Registered name of the organisation	М		FT	Variable	1:120		
97	Person Paying Account Initials	Personal particulars – Initials applicable only to individuals	M	Mandatory for Individuals	FT	Variable	a) 0:0 - No condition met b) 1:30 – Condition met		
98	Person Paying Account Names	Personal particulars – The first two names applicable only to individuals	М	Mandatory for Individuals.	FT	Variable	a) 0:0 - No condition met b) 1:90 – Condition met	a) Names must be separated by a single space	

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	- 71		(Min:Max)		
99	Person Paying Account Identity Number	Personal particulars – South African identify number of the individual taxpayer	C	At least one of the Person Paying Account Identity number, Person Paying Account Passport Number or Person Paying Account Date of Birth fields must be completed for Individuals	Z	Fixed	a) 0:0 - No condition met b) 13:13 – Condition met		 a) Modulus test for identity number. Refer to section 7.3 Identification Number for the applicable modulus check
100	Person Paying Account Passport Number	Passport number or other number (non-bar-coded RSA ID numbers) of the Person Paying Account	С	At least one of the Person Paying Account Identity number, Person Paying Account Passport Number or Person Paying Account Date of Birth fields must be completed for Individuals	AN	Variable	 a) 0:0 – no condition met b) 6:20 – condition met 	a) Minimum of 6 Sharacters b) <u>a)</u> No spaces are allowed	
101	Person Paying Account Passport Country of Issue	Indicates the country that issued the passport	c	Mandatory if Passport Number has been completed	A	Fixed	 a) 0:0 - no condition met b) 3:3 - condition met 	 a) Refer to section 6.4 for codes for the country that issued passport b) If this value = ZAF then Person Paying Account ID number must be completed 	
				<u>.</u>					

No	Field Name	Description		Required	Data Type					Data Validations	Logic Validations
			Туре	Condition Rule							
102	Person Paying Account Income Tax Reference Number	SARS assigned Income tax reference number - Personal particulars	0		N	Fixed	 a) 0:0 - if this field is blank b) 10:10 - if this field is completed 		 a) Modulus check 10 for IT Reference Number. Refer to section 7.1 modulus 10 check on Income Tax Number for the applicable modulus check. b) The first character can only be 0, 1, 2, 3, or 9 		

No	Field Name	Description		Required	Data	Length	Length	Data Validations	Logic Validations
			Type	Condition Rule	Туре	Туре	(Min:Max)		
			Туре						
103	Person Paying Account Other Registration Number	Entity registration number with a recognised institution or body in SA e.g. CC number	0	 a) If Person Paying Account Nature of person = 1 (individual), this field must be blank b) If Person Paying Account Nature of person = (2 or 3), this field must be populated c) If Person Paying Account Nature of person = (4- 15), this field must be blank 	AN	Variable	0:30	 a) Invalid if it consist of alpha only or special characters only b) If Person Paying Account Nature of person = 2, this field must have the following format CCYY/NNNNN/ NN c) If Person Paying Account Nature of person = 3, this field must have the following format NNNNCCYY 	 a) If Person Paying Account Nature of person = 2, the CCYY must be validated to be from 1800 and up but smaller than current calendar year. The last two digits of this number must be validated to be either of the following: 06, 07, 08, 09, 10, 11, 20, 21, 22, 23, 24, 25, 26. a) If Person Paying Account Nature of person = 3, the CCYY must be validated to be from 1800 and up but smaller than or equal to current calendar year

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Type	Type	(Min:Max)		
104	Person Paying Account Date of Birth	Person paying account date of birth	С	At least one Person Paying Account Identity number, Person Paying Account Passport Number or Person Paying Account Date of Birth field must be completed for Individuals	N	Fixed	a) 0:0 – no condition met b) 10:10 – condition met	a) Format CCYY-MM-DD b) Must - the first 6 digits of the Person Paying Account Identity Number (if Person Paying Account Identity Number was supplied). Do not validate CC or company e)b) Date must not be greater than the current date	
105	Person Paying Account Address Details - Physical: Unit number	Indicates unit number of the Person Paying Account Physical address.	0		AN	Variable	0:5		
106	Person Paying Account Address Details - Physical: Complex	Indicates the complex name of the Person Paying Account Physical address.	0		FT	Variable	0:25		
107	Person Paying Account Address Details - Physical: Street Number	Indicates the street number of the Person Paying Account Physical address.	0		AN	Variable	0:5		

No	Field Name	Description		Required	Data	Length	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Туре	Туре	(Min:Max)		
108	Person Paying Account Address Details - Physical: Street/Name of Farm	Indicates the street / name of farm of the Person Paying Account Physical address.	C	 a) At least one, Physical address or Postal address must be completed b) If Person Paying Account Postal Address Line 1 is not completed this field is mandatory 	FT	Variable	 a) 0:0 - no condition met b) 1:25 - condition met 		
109	Person Paying Account Address Details - Physical: Suburb/ District	Indicates the suburb / district of Person Paying Account Physical address	С	a) If Person Paying Account Address Details - Physical: Street/Name of Farm is completed this field is conditional – at least one the Suburb/ District field or the City/Town fields must be completed	FT	Variable	 a) 0:0 – no condition met b) 1:34 – condition met 		

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule			(Min:Max)		
110	Person Paying Account Address Details - Physical: City/Town	Indicates the city / town of Person Paying Account Physical address	С	a) If Person Paying Account Address Details - Physical: Street/Name of Farm is completed this field is conditional – at least one the Suburb/ District field or the City/Town fields must be completed	FT	Variable	a) 0:0 – no condition met b) 1:23 – condition met		
111	Person Paying Account Address Details - Physical: Postal Code	Indicates the postal code of the Person Paying Account Physical address	c	a) If Person Paying Account Address Details - Physical: Street/Name of Farm is completed, this field is mandatory	AN	Variable	 a) 0:0 – no condition met b) 1:10– condition met 		a) In case there is no postal code for the residential address, use the nearest postal code
112	Postal Address same as Physical Address indicator	Indicates if the Person Paying Account Postal Address is the same as the physical address	0		A	Fixed	1:1	a) Must = "Y" or "N", where Y = Yes and N = No	

No	Field Name	Description		Required	Data	Length	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Туре	Туре	(Min:Max)		
113	Person Paying Account Postal Address Line 1	Line 1 of the Postal address of Person Paying Account	С	 a) At least one Physical address or Postal address field must be completed b) If Person Paying Account Address Details - Physical: Street/Name of Farm is not completed this field is mandatory 	FT	Variable	a) 0:0 – condition met no b) 1:35 – condition met		
114	Person Paying Account Postal Address Line 2	Line 2 of the Postal address of Person Paying Account	0		FT	Variable	0:35		
115	Person Paying Account Postal Address Line 3	Line 3 of the Postal address of Person Paying Account	0		FT	Variable	0:35		
116	Person Paying Account Postal Address Line 4	Line 4 of the Postal address of Person Paying Account	0		FT	Variable	0:35		

No	Field Name	Description		Required	Data Type	Length Type	Length (Min:Max)	Data Validations	Logic Validations
			Туре	Condition Rule					
117	Person Paying Account Postal Code	Postal code of the Person Paying Account	С	a) If Person Paying Account Postal Address Line 1is completed this field is mandatory	AN	Variable	 a) 0:0 - no condition met b) 1:10 - condition met 		
PF	RINCIPAL M	EMBER-DEPENDANT D	DEMOGF	RAPHIC DATA (If Principa	I Member N	lumber of Depend	dants Indicator >0; this	s record is mandatory)
118	Section Identifier	To identify the start of the section as well as identifying the type of section	М		A	Fixed	1:1	a) Must = B, where B = Body	
119	Record Type	Type of transaction	М		AN	Variable	1:6	a) Must = PMDDD, where PMDDD= Principal Member Dependant Demographic Data	
120	Record Status	The taxpayer's system must indicate whether a record is active, i.e. valid for the submission or must be cancelled from the submission Note: Record statuses that are deemed active are new, additions and corrections. Record statuses that are deemed cancelled are deletions.	M		A	Fixed	1:1	a) Must = A or C, where A = Active and C = Cancelled	

No	Field Name	Description		Required	Data Type	Length Type	Length (Min:Max)	Data Validations	Logic Validations
			Туре	Condition Rule					
121	Unique Number	The taxpayer's system must generate a unique number for each record. In the response file, the unique number would be the number specified in the file submitted to SARS to enable the submitting entity's source system to identify the line that is being responded on by SARS.	М		FT	Variable	1:100		a) Must be unique within the section across all files
122	Row Number	Number of the row in the file, sequential number starting at 1 for every file submitted to SARS. In the response file, this must be the rejected row(s) from the incoming file. The row number field must start at 1 for every new file and must increment by 1 for every new row added that is classed as a body record in the file. The last body record row number in the file must be equal to the total records supplied in the trailer. This would imply that for every file the body records start at 1 and increment by 1 for each record regardless of how many different sections there might be in the body, for files where there are multiple sections in the body.	М		N	Variable	1:10	 a) An incrementing number per record beginning at 1 for each file b) Value must not contain a decimal point 	 a) Must be greater than or equal to 1 and smaller than or equal to the total number of rows in the file with Section Identifier = B

No	Field Name	Description		Required	Data Type	Length Type	Length (Min:Max)	Data Validations	Logic Validations
			Туре	Condition Rule			(IVIIII.IVIAA)		
123	Unique Membership Number	Principal Member's unique membership number	М		AN	Variable	1:36		a) Must equal to a MED Unique Membership Number where Record Type = PMDD
124	MED Unique Number	Number is unique only to Principal Member (to be created and used IF membership number is not unique)	С	Mandatory if membership number is not unique	AN	Variable	1.36		a) Must equal to a MED Unique Number where Record Type = PMDD
125	Principal Member Dependant Surname	Personal particulars – Surname of the individual	М		FT	Variable	1:120		
126	Principal Member Dependant Initials	Personal particulars – Initials applicable only to individuals	М	Mandatory for Individuals	FT	Variable	a) 0:0 - No condition met b) 1:30 – Condition met		
127	Principal Member Dependant Names	Personal particulars – The first two name applicable only to individuals	М	Mandatory for Individuals	FT	Variable	a) 0:0 - No condition met b) 1:90 – Condition met	a) Names must be separated by a single space	
	•					<u>.</u>			

No	Field Name	Description		Required	Data Type	Length Type	Length (Min:Max)	Data Validations	Logic Validations
			Туре	Condition Rule			(IVIIII.IVIAX)		
128	Principal Member Dependant Identity Number	Personal particulars – South African Identify Number of the Individual taxpayor	С	At least one of the Principal Member Dependant Identity number, Principal Member Dependant Passport Number or Principal Member Dependant Date of Birth fields must be completed for Individuals	N	Fixed	a) 0:0 - No condition met b) 13:13 – Condition met		 a) Modulus test for identity number. Refer to section 7.3 Identification Number for the applicable modulus check
129	Principal Member Dependant Passport Number	Passport number or other number (non-bar-coded RSA ID numbers) of the Phoepa Member-Dependant	С	At least one of the Principal-Member Dependant Identity number, Principal-Member Dependant Passport Number or Principal Member Dependant Date of Birth fields must be completed for Individuals	AN	Variable	a) 0:0 – no condition met b) <mark>6:20</mark> – condition met	 Alinimum of 6 Characters b)a) No spaces are allowed 	
130	Principal Member Dependant Passport Country of Issue	Indicates the country that issued the passport	C		A	Fixed	 a) 0:0 – no condition met b) 3:3 – condition met 	 a) Refer to section 6.4 for codes for the country that issued passport b) If this value = ZAF then Dependant ID number must be completed 	

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule			(Min:Max)		
131	Principal Member Dependant Income Tax Reference Number	SARS assigned Income tax reference number - Personal particulars	0		N	Fixed	 a) 0:0 - if this field is blank b) 10:10 - if this field is completed 		 a) Modulus check 10 for IT Reference Number. Refer to section 7.1 modulus 10 check on Income Tax Number for the applicable modulus check. b) The first character can only be 0, 1, 2, 3, or 9
132	Principal Member Dependant Date of Birth	Principal-Member-Dependant date of birth	C	At least one Principal-Member Dependant Identity number, Principal-Member Dependant Passport Number or Principal Member Dependant Date of Birth field must be completed for Individuals	N	Fixed	a) 0:0 – no condition met b) 10:10 – condition met	a) Format CCYY-MM-DD b) Must the first 0 digits of the Principal Member Dependant Identity Number Dependant Identity Number Dependant Identity Number Dependant Identity Number CC. e)b) Date must not be greater than the current date	

No	Field Name	Description		Required	Data Type	Length Type	Length (Min:Max)	Data Validations	Logic Validations
			Туре	Condition Rule			(IVIIII.IVIAX)		
			PRI	NCIPAL MEMB	ER FIN/		ОАТА		
133	Section Identifier	To identify the start of the section as well as identifying the type of section	М		A	Fixed	1:1	a) Must = B, where B = Body	
134	Record Type	Type of transaction	Μ		AN	Variable	1:6	a) Must = PMFD, where PMFD = Principal Member Financial Data	
135	Record Status	The taxpayer's system must indicate whether a record is active, i.e. valid for the submission or must be cancelled from the submission Note: Record statuses that are deemed active are new, additions and corrections. Record statuses that are deemed cancelled are deletions.	Μ		A	Fixed	1:1	a) Must = A or C, where A = Active and C = Cancelled	
136	Unique Number	The taxpayer's system must generate a unique number for each record. In the response file, the unique number would be the number specified in the file submitted to SARS to enable the submitting entity's source system to identify the line that is being responded on by SARS	M			Variable	1:100		a) Must be unique within the section across all files

No	Field Name	Description		Required	Data	Length	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Туре	Туре	(Min:Max)		
				Condition Rule					
137	Row Number	Number of the row in the file, sequential number starting at 1 for every file submitted to SARS. In the response file, this must be the rejected row(s) from the incoming file. The row number field must start at 1 for every new file and must increment by 1 for every new row added that is classed as a body record in the file. The last body record row number in the file must be equal to the total records supplied in the trailer. This would imply that for every file the body records start at 1 and increment by 1 for each record regardless of how many different sections there might be in the body, for files where there are multiple sections in the body	М		Z	Variable	1:10	 a) An incrementing number per record beginning at 1 for each file b) Value must not contain a decimal point 	 a) Must be greater than or equal to 1 and smaller than or equal to the total number of rows in the file with Section Identifier = B

No	Field Name	Description		Required	Data Type	Length Type	Length (Min:Max)	Data Validations	Logic Validations
			Туре	Condition Rule					
138	Unique Membership Number	Principal Member's unique membership number	M		AN	Variable	1:36		a) Must equal to a MED Unique Membership Number where Record Type = PMDD
139	MED Unique Number	Number is unique only to Principal Member (to be created and used IF membership number is not unique)	С	Mandatory if membership number is not unique	AN	Variable	1:36		a) Must equal to a MED Unique Number where Record Type = PMDD
<mark>162</mark>	Medical Fund Contributions Source Code	Source code for monthly medical fund contributions	Μ		N	Fixed	a) <mark>4:4</mark>	a) Valid if in section 6.3 Medical Scheme Contributions Source Codes Table	

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Type	Type	(Min:Max)		
140	March Contributions	Total Rand value of contributions made for the month of March (including cents). Only standard membership contribution fees to be stipulated and no extra fees (e.g. vitality fees).	C	 a) Mandatory if the Account Start-Date is before the end of that month. E.g. if the Start- Date is on the 31st of the month then that field for that month is mandatory b) Mandatory if the period start date is within this month Mandatory if the period end date is within this range 	N	Variable	a) 0:0 - No condition met b) 4:18 – Condition met	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 999999999999 c) Must always have 2 values after the point to denote cent 	

No	Field Name	Description		Required	Data	Length	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Туре	Туре	(Min:Max)		
141	April Contributions	Total Rand value of contributions made for the month of April (including cents). Only standard membership contribution fees to be stipulated and no extra fees (e.g. vitality fees).	C	 a) Mandatory if the Account Start-Date is before the end of that month. E.g. if the Start-Date is on the 31st of the month then that field for that month is mandatory b) Mandatory if the period start date is within this month Mandatory if the period end date is within this range 	N	Variable	a) 0:0 - No condition met b) 4:18 – Condition met	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 999999999999 c) Must always have 2 values after the point to denote cent 	

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	туре	туре	(Min:Max)		
142	May Contributions	Total Rand value of contributions made for the month of May (including cents). Only standard membership contribution fees to be stipulated and no extra fees (e.g. vitality fees).	C	 a) Mandatory if the Account Start-Date is before the end of that month. E.g. if the Start-Date is on the 31st of the month then that field for that month is mandatory b) Mandatory if the period start date is within this month Mandatory if the period end date is within this range 	Z	Variable	a) 0:0 - No condition met b) 4:18 - Condition met	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 999999999999 c) Must always have 2 values after the point to denote cent 	

No	Field Name	Description		Required	Data	Length	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Туре	Туре	(Min:Max)		
143	June Contributions	Total Rand value of contributions made for the month of June (including cents). Only standard membership contribution fees to be stipulated and no extra fees (e.g. vitality fees).	C	 a) Mandatory if the Account Start-Date is before the end of that month. E.g. if the Start-Date is on the 31st of the month then that field for that month is mandatory b) Mandatory if the period start date is within this month Mandatory if the period end date is within this range 		Variable	a) 0:0 - No condition met b) 4:18 – Condition met	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 99999999999999999999999999999 c) Must always have 2 values after the point to denote cent 	

No	Field Name	Description		Required	Data Type	Length Type	Length (Min:Max)	Data Validations	Logic Validations
			Туре	Condition Rule					
144	July Contributions	Total Rand value of contributions made for the month of July (including cents). Only standard membership contribution fees to be stipulated and no extra fees (e.g. vitality fees).	С	 a) Mandatory if the Account Start-Date is before the end of that month. E.g. if the Start-Date is on the 31st of the month then that field for that month is mandatory b) Mandatory if the period start date is within this month Mandatory if the period end date is within this range 	N	Variable	a) 0:0 - No condition met b) 4:18 – Condition met	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 99999999999999999999999999999 c) Must always have 2 values after the point to denote cent 	

No	Field Name	Description		Required	Data	Length	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Туре	Туре	(Min:Max)		
145	August Contributions	Total Rand value of contributions made for the month of August (including cents). Only standard membership contribution fees to be stipulated and no extra fees (e.g. vitality fees).		 a) Mandatory if the Account Start-Date is before the end of that month. E.g. if the Start-Date is on the 31st of the month then that field for that month is mandatory b) Mandatory if the period start date is within this month Mandatory if the period end date is within this range 	Z	Variable	a) 0:0 - No condition met b) 4:18 - Condition met	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 999999999999999999999999999999 c) Must always have 2 values after the point to denote cent 	

No	Field Name	Description		Required	Data	Length	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Туре	Туре	(Min:Max)		
146	September Contributions	Total Rand value of contributions made for the month of September (including cents). Only standard membership contribution fees to be stipulated and no extra fees (e.g. vitality fees).	C	 a) Mandatory if the Account Start-Date is before the end of that month. E.g. if the Start-Date is on the 31st of the month then that field for that month is mandatory b) Mandatory if the period start date is within this month Mandatory if the period end date is within this range 	N	Variable	a) 0:0 - No condition met b) 4:18 - Condition met	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 9999999999999999999999999999 c) Must always have 2 values after the point to denote cent 	

No	Field Name	Description		Required	Data	Length	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Туре	Туре	(Min:Max)		
147	October Contributions	Total Rand value of contributions made for the month of October (including cents). Only standard membership contribution fees to be stipulated and no extra fees (e.g. vitality fees).	C	 a) Mandatory if the Account Start-Date is before the end of that month. E.g. if the Start-Date is on the 31st of the month then that field for that month is mandatory b) Mandatory if the period start date is within this month Mandatory if the period end date is within this range 	Σ	Variable	a) 0:0 - No condition met b) 4:18 – Condition met	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 99999999999999999999999999999999999	

No	Field Name	Description		Required	Data	Length	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Туре	Туре	(Min:Max)		
148	November Contributions	Total Rand value of contributions made for the month of November (including cents). Only standard membership contribution fees to be stipulated and no extra fees (e.g. vitality fees).	C	 a) Mandatory if the Account Start-Date is before the end of that month. E.g. if the Start-Date is on the 31st of the month then that field for that month is mandatory b) Mandatory if the period start date is within this month Mandatory if the period end date is within this range 	Z	Variable	a) 0:0 - No condition met b) 4:18 – Condition met	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 99999999999999999999999999999 c) Must always have 2 values after the point to denote cent 	

No	Field Name	Description		Required	Data	Length	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Туре	Туре	(Min:Max)		
149	December Contributions	Total Rand value of contributions made for the month of December (including cents). Only standard membership contribution fees to be stipulated and no extra fees (e.g. vitality fees).	C	 a) Mandatory if the Account Start-Date is before the end of that month. E.g. if the Start-Date is on the 31st of the month then that field for that month is mandatory b) Mandatory if the period start date is within this month Mandatory if the period end date is within this range 	N	Variable	a) 0:0 - No condition met b) 4:18 – Condition met	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 99999999999999999999999999999999999	

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Type	туре	(Min:Max)		
150	January Contributions	Total Rand value of contributions made for the month of January (including cents). Only standard membership contribution fees to be stipulated and no extra fees (e.g. vitality fees).	C	 a) Mandatory if the Account Start-Date is before the end of that month. E.g. if the Start-Date is on the 31st of the month then that field for that month is mandatory b) Mandatory if the period start date is within this month Mandatory if the period end date is within this range 	N	Variable	a) 0:0 - No condition met b) 4:18 – Condition met	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 99999999999999999999999999999999999	

No	Field Name	Description		Required	Data Type	Length Type	Length (Min:Max)	Data Validations	Logic Validations
			Туре	Condition Rule			(
151	February Contributions	Total Rand value of contributions made for the month of February (including cents). Only standard membership contribution fees to be stipulated and no extra fees (e.g. vitality fees).	C	 a) Mandatory if the Account Start-Date is before the end of that month. E.g. if the Start-Date is on the 31st of the month then that field for that month is mandatory b) Mandatory if the period start date is within this month Mandatory if the period end date is within this range 	Z	Variable	a) 0:0 - No condition met b) 4:18 – Condition met	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 99999999999999999999999999999 c) Must always have 2 values after the point to denote cent 	

No	Field Name	Description		Required	Data Type	Length Type	Length (Min:Max)	Data Validations	Logic Validations
			Туре	Condition Rule			(WITT.WAX)		
163	Total medical fund contributions amount	Total monthly contributions made by the principal member for the current tax year	M			Variable	4:18	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 9999999999999999 c) Must always have 2 values after the point to denote cent 	a) Sum of all monthly contributions (field 140 to field 151)
164	Benefits not covered-tax allowable source code	Source code for benefits not covered - tax allowable				Fixed	a) <mark>4:4</mark>	a) Valid if in section 6.3 Medical Scheme Contributions Source Codes Table	

No	Field Name	Description		Required	Data	Length	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Туре	Туре	(Min:Max)		
1-0									
152	Benefits not covered-tax allowable amount	Benefits not covered by the scheme for income tax purposes	C	a) Mandatory if benefits not covered – tax allowable source code is completed	N	Variable	a) 0:0-Ne condition mei b)a) 4:18 - Condition mei	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 999999999999999999999999999999999999	
153	Benefits not covered- special amount	Benefits not covered by the scheme for special dependants	0		N	Variable	a) 0:0 No condition me b)a) 4.18 - Condition Mat	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 999999999999999999999999999999999999	

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule			(Min:Max)		
165	Monthly Capped Amount Source Code	Source code for monthly capped amount	Ō		N	Fixed	a) 4:4	a) Valid if in section 6.3 Medical Scheme Contributions Source Codes Table	
154	Monthly Capped Amount	Capped monthly amount in respect of tax deductions	C	a) Mandatory if monthly capped amount source code is completed	N	Variable	a) 4:18 – Condition mei	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 999999999999 c) Must always have 2 values after the point to denote cent 	
<mark>166</mark>	Interest on Savings Source Code	Source code for interest on savings			N	Fixed	a) <mark>4:4</mark>	a) Valid if in section 6.3 Medical Scheme Contributions Source Codes Table	
									·

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule			(Min:Max)		
155	Interest on Savings Amount	Interest on savings plans	C	a) Mandatory if interest on savings source code is completed	N	Variable	a)	 a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 9999999999999 c) Must always have 2 values after the point to 	
156	Refunds	Savings plans refunds to members	0		Ν		a) 0:0 No condition met b) 4:18 – Condition met	 denote cent a) If 1.00 or greater, no leading zeros allowed. If <1.00, there must be 1 zero before the decimal b) Must be greater than or equal to 0.00 and smaller than or equal to 999999999999999999999999999999999999	

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	туре	Туре	(Min:Max)		
				FILE	FRAILEF	R			
157	Section Identifier	To identify the start of the section as well as identifying the type of section.	М		A	Fixed	1:1	Must = "T"	
158	Total Number of Records	This is the sum of all records contained in the body of the delimited file. This sum excludes the header and the trailer records.	Μ		N	Variable	1:15	a) Value must not contain a decimal	 a) Must be greater than or equal to 1 and less than or equal to 999999999999999 b) Must be equal to the total of all lines with a section identifier of B
159	File Hash Total	Calculation based on all the characters in the file. Must use MD5 calculation. Note – If you do not provide this field, the file will be accepted with warning, however SARS will not be able to confirm the integrity of the contents of the file submitted.	MW		AN	Fixed	32:32		 a) Must use MD5 calculation b) Use all sections, except those where the section identifier = T. c) File hash total calculation must equal this field value

No	Field Name	Description			Required	Data Type	Length	Length	Data Validations	Logic Validations
				Turne	Condition Rule	Туре	Туре	(Min:Max)		
				Туре	Condition Rule					
160	Sum of all monetary fields	Sum of monetary contained in the file	fields	M		N	Variable	4:33	 a) No leading zeros allowed b) Must be greater than or equal to 0.00 and smaller than or equal to 99999999999999999999999999999999999	 a) Must be greater than or equal to 0.01 and smaller than or equal to 999999999999999999999999999999999999
										Opening Balance, Closing Balance

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6.2 File Layout: 2. Response

The table below lists all the fields that are required for the file containing the response to supporting data files submitted to SARS. The table specifies for each field, the required length, provides a description and also indicates the relevant validation rules.

Note: The number column is used to reference fields in the table for ease of use in this specification document.

Below is the layout of the PSV response file header that is submitted from SARS to the taxpayer.

No	Field Name	Description	I	Required	Data	Length	Length	Data Validations	Logic Validations
			Туре	Condition Rule	Туре	Туре	(Min:Max)		
			Type						
				REQUEST / RESP	ONSE FIL	E HEADER			
1	Section Identifier	To identify the start of the section as well as identifying the type of section	Μ		A	Fixed	1:1	a) Must = H, where H = Header	
2	Header Type	To indicate the type of header in order to differentiate between various types	Μ		A	Fixed	1:3	a) Must = GH, where GH = General Header	
3	Message Create Date	Date and time that the message was created	M			Fixed	19:19	 a) Format must be: CCYY-MM- DDThh:mm:ss b) 24h time format must be used 	a) Must be less than or equal to today's date
4	File Layout Version	The version of the delimited file layout that is being submitted. Sequential number, which increments with one every time that the file layout version changes once file is being submitted to the production environment. This number is provided by SARS	M		Ν	Variable	1:4	 a) Must = 1 b) Value must not contain a decimal point Note – SARS will only support the version(s) specified above 	a) Must be greater than or equal to 1 and less than or equal to 9999

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	- 71	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(Min:Max)		
5	Unique File ID	The submitting source must create this field when data is submitted to SARS. This field will uniquely identify this file when coupled with the source. This value must not be repeated by the submitting source (e.g. use the date time with some other unique number). This field will also be used to link the records to the original file. The field must be generated by the software from which the entity is submitting the data to SARS. When SARS sends the response file, the Unique File ID in the response file must be equal to the Unique File ID obtained from the file name of the submitted file	C	a) If File Response Code = 001, 002, 003, 004, 005, 006, 011 or 012 then this field is mandatory	AN	Variable	a) 0:0 – No condition met b) 1:64 – Condition met	a) Value must not contain a decimal point	a) Must equal the Unique File ID of the submitted file
6	SARS Request Reference	In the scenario where SARS sends a request file to the entity requesting data, SARS provides this reference number to use in the file to be submitted to SARS. SARS also uses this reference number when responding to the taxpayer on files submitted to SARS	c	a) If Data Type Being Supplied = MED, then this field must be left blank		Variable	a) 0:0 – If field is left blank b) 1:64 – If field is complete		

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(Min:Max)		
7	Test Data Indicator	This should be used to indicate if the data is for testing or is live data and should be processed. The purpose of the field is to avoid test data accidentally being processed in production and allow the source to test their submission without it being processed. Note – If SARS receives a value = T in the production environment or a value = L in the test environment, then the file will be rejected in its entirety	Μ		A	Fixed	a) 1:1	a) a) Must = T or L, where T = Test and L = Live	
8	Data Type Being Supplied	When data is submitted to SARS, this field indicates the type of data that can be found in the file, e.g. Dividends tax, VAT supporting data. When SARS sends a response on a file submitted, SARS uses the Data_Type_Being_Supplied from the file name of the file submitted to SARS	С	a) If File Response Code = 001, 002, 003, 004, 005, 006, 011 or 012 then this field is mandatory	AN	Fixed	a) 0:0 – No condition met b) 3:3 – Condition met	a) Must = MED, where MED = Medical scheme contributions extracts data	
9	Source Identifier	This identifies the file submitter and contains the security token. This value will be supplied by SARS	C	a) If File Response Code = 001, 003, 004, 005, 006, 011 or 012 then this field is mandatory	AN	Fixed	 a) 0:0 – no condition met b) 144:144 – condition met 		a) Validate that this value = the value supplied by SARS

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	1900	1,960	(Min:Max)		
10	Group ID	If the amount of data requires that it be sent in multiple files, a unique Group ID must be created on the submitting entity's system to be able to link the multiple files to the one group	С	a) If File Response Code = 001, 003, 004, 005, 006, or 012 then this field is mandatory	AN	Variable	 a) 0:0 - no condition met b) 1:64 - condition met 		
11	Group Total	Number of files that make up a group, e.g. if the amount of data requires three files to be submitted, then the Group Total must be 3. For example, where it is required for data to be submitted in one file and the file is too large to accommodate the submission in a single file, the file can be split into smaller more manageable files and this field must then indicate the total number of files that make up the submission	C	a) If File Response Code = 001, 003, 004, 005, 006, or 012 then this field is mandatory	Z	Variable	a) 0:0 – no condition met b) 1:4 – condition met	a) Value must not contain a decimal point	a) Must be greater than or equal to 1 and less than or equal to 9999
12	Unique Group Item ID	The number of this file in the group. This number must be an incrementing number beginning at one for each group submission, and incrementing by 1 for each file in the group. E.g. if this is the second file of the group this field must be 2	C	a) If File Response Code = 001, 003, 004, 005, 006, or 012 then this field is mandatory	Ν	Variable	 a) 0:0 – no condition met b) 1:4 – condition met 	a) Value must not contain a decimal point	 a) Must be equal or greater than 1 b) Must be less than or equal to the Group Total c) Must be submitted in sequence

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No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	- 77	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(Min:Max)		
13	File Response Code	This is the status for the entire submitted file, reflecting the result of technical and business validations performed on the incoming file	Μ		N	Fixed	3:3	 a) Must = 001, 002, 003, 004, 005 or 006, 011 or 012 Refer to section 7.8 for the list of codes Note: Refer to section 5 General Rules for Import File Structures for the detailed error messages 	
14	File Response Reason	The reason why the file was rejected in its entirety	С	a) If File Response Code is equal to 005 this field is mandatory	FI	Variable	a) 0:0 – No condition met b) 1:100 – Condition met		
15	Transaction Date	The date for which data is required	С	a) If Data Type Being Supplied = MED the field must be left blank					
16	Tax Period	This is the period for which data is required	C	a) If Data Type Being Supplied = MED, the field must be left blank					
17	Transaction Year	The transaction year for which the data is required	0		N		 a) 0:0 - if this field is blank b) 4:4- if this field is completed 	a) Format CCYY	 a) Must be greater than or equal to 1900 and less than or equal to current year

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	- Jpc	1,900	(Min:Max)		
18	SLA Requirement Date	This is the date by which the taxpayer has to submit the required data	C	a) If Data Type Being Supplied = MED, the field must be left blank	FT	Fixed	 a) 0:0 - if this field is blank b) 10:10- if this field is complete d 		
		REQUEST / RESPONSE		(This section must o	only be co		· · ·		-
19	Section Identifier	To identify the start of the section as well as identifying the type of section.	М		A	Fixed	1:1	a) Must = B, where B = Body	
20	Row Number	Number of the row in the file, sequential number starting at 1 for every file submitted to SARS. In the response file, this must be the rejected row(s) from the incoming file. The row number field must start at 1 for every new file and must increment by 1 for every new row added that is classed as a body record in the file. The last body record row number in the file must be equal to the total records supplied in the trailer. This would imply that for every file the body records start at 1 and increment by 1 for each record regardless of how many different sections there might be in the body, for files where there are multiple sections in the body	М		N	Variable	1:10	a) Value must not contain a decimal point	 a) Must be greater than or equal to 1 and less than or equal to 999999999 b) If the Section Identifier of the section within which the record from the submission file resides is not equal to "B", the Row Number must = zero (0). c) c) If the Section Identifier of the section within which the record from the submission file = "B", the Row Number must equal the Row Number of the record to be responded on from the submission file

No	Field Name	Description	Required		Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	31		(Min:Max)		
21	Unique Number	The taxpayer's system must generate a unique number for each record. In the response file, the unique number would be the number specified in the file submitted to SARS to enable the submitting entity's source system to identify the line that is being responded on by SARS.	М			Variable	1:100		 a) If the Section Identifier of the section within which the record from the submission file resides is not equal to "B" and not equal to "T", the Unique Number must contain the value contained in the corresponding Header Type field, e.g. "GH" or "SE" b) If the Section Identifier of the section within which the record from the submission file resides is equal to "T", the Unique Number must equal "T" c) If the Section Identifier of the section within which the record from the submission file = "B", the Unique Number must equal the Unique Number of the record to be responded on from the submission file

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	1960	1,900	(Min:Max)		
22	Field Name	For fields that are rejected or accepted with a warning, this field must display the field that failed validation	С	a) If Response Code = 001, 002, 003, 004, 005 or 006, this field is mandatory	FT	Variable	a) 0:0 – No condition met b) 1:100 – Condition met		
23	Overall Field Status	To indicate the status of the field as specified per data type. A field may be rejected or accepted with warning	С	a) If Field Name contains a value, this field is mandatory	A		a) 0:0 – No condition met b) 1:1 – Condition met	a) Must = R or W, where R = Rejected and W = Accepted with a warning	
24	Response Code	Indicating the status of a field after validations were applied	Μ		AN	Fixed	3:3	a) Must = 001, 002, 003, 004, 005, 006 or 500 Refer to section 7.8 for the list of codes	
25	Response Reason	For fields that are rejected or accepted with a warning, this field must display the reason for the failed validation	M		FT	Variable	1:300		
26	Field Value	For fields that are rejected or accepted with a warning, this field must display the value of the field that was submitted to SARS.	C	a) If Start Range and End Range is empty and if Response Code contains a value, this field is mandatory	FT	Variable	a) 0:0 – No condition met b) 1:120 – Condition met		

No	Field Name	Description		Required	Data Type	Length Type	Length	Data Validations	Logic Validations
			Туре	Condition Rule	туре	туре	(Min:Max)		
27	Start Range	Where the response applies to multiple lines, this field will indicate the start of the range of applicable rows.	С	a) If the Response Code, Field Name and Response Reason repeat for more than 10 sequential rows, this field is mandatory	N	Variable	a) 0:0 – No condition met b) 1:10 – Condition met	a) Value must not contain a decimal point	a) Must be greater than or equal to 1 and less than or equal to 9999999999
28	End Range	Where the response applies to multiple lines, this field will indicate the end of the range of applicable rows.	С	a) If the Response Code, Field Name and Response Reason repeat for more than 10 sequential rows, this field is mandatory	N	Variable	a) 0:0 – No condition met b) 1:10 – Condition met	a) Value must not contain a decimal point	b) Must be greater than or equal to 1 and less than or equal to 9999999999
		REQUEST / RESPONSE F		R (This section mus	t only be c	-			
29	Section Identifier	To identify the start of the section as well as identifying the type of section.	Μ		A	Fixed	1:1	a) Must = T, where T = Trailer	
30	Total Number of Records	This is the sum of all records contained in the body of the delimited file. This sum excludes the header and the trailer records	Μ		N	Variable	1:15	a) Value must not contain a decimal point	 a) Must be greater than or equal to 1 and less than or equal to 9999999999 b) Must be equal to the total of all lines with a section identifier of B

No	Field Name	Description	Туре	Required Condition Rule	Data Type	Length Type	Length (Min:Max)	Data Validations	Logic Validations
31	File Hash Total	Calculation based on all the characters in the file. Must use MD5 calculation.	Μ		AN	Fixed	32:32		 a) Must use MD5 calculation b) Use all sections, except where Section Identifier = T c) File hash total calculation must equal this field value

6.3 Medical Scheme Contributions Source Codes Table

Code	Description
4005	Medical Fund Contributions
4020	Benefits Not Covered – Tax Allowable
4486	Monthly Capped Amount
4201	Interest on Savings Plan

6.4 Codes for the Country that issued the Passport

Code	Country of Issue	Code	Country of Issue	Code	Country of Issue
AFG	Afghanistan	GRC	Greece	PNG	Papua New Guinea
ALA	Eland Islands	GRL	Greenland	PRY	Paraguay
ALB	Albania	GRD	Grenada	PER	Peru
DZA	Algeria	GLP	Guadeloupe	PHL	Philippines
ASM	American Samoa	GUM	Guam	PCN	Pitcairn
AND	Andorra	GTM	Guatemala	POL	Poland
AGO	Angola	GGY	Guernsey	PRT	Portugal
AIA	Anguilla	GIN	Guinea	PRI	Puerto Rico
ΑΤΑ	Antarctica	GNB	Guinea-Bissau	QAT	Qatar
ATG	Antigua and Barbuda	GUY	Guyana	KOR	Republic of Korea
ARG	Argentina	НТІ	Haiti	REU	Reunion
ARM	Armenia	HMD	Heard and McDonald Islands	ROU	Romania
ABW	Aruba	VAT	Holy See (Vatican City State)	RUS	Russian Federation
AUS	Australia	HND	Honduras	RWA	Rwanda
AUT	Austria	НКС	Hong Kong Special Administrative Region of China	SHN	Saint Helena
AZE	Azerbaijan	HUN	Hungary	KNA	Saint Kitts and Nevis
BHS	Bahamas	ISL	Iceland	LCA	Saint Lucia
BHR	Bahrain	IND	India	SPM	Saint Pierre and Miquelon
BGD	Bangladesh	IDN	Indonesia	VCT	Saint Vincent and the Grenadines
BRB	Barbados	IRN	Iran, Islamic Republic of	WSM	Samoa
BLR	Belarus	IRQ	Iraq	SMR	San Marino
BEL	Belgium	IRL	Ireland	STP	Sao Tome and Principe
BLZ	Belize	IMN	Isle of Man	SAU	Saudi Arabia
BEN	Benin	ISR	Israel	SEN	Senegal
BMU	Bermuda	ITA	Italy	SRB	Serbia
BTN	Bhutan	JAM	Jamaica	SYC	Seychelles
BOL	Bolivia	JPN	Japan	SLE	Sierra Leone

Code	Country of Issue	Code	Country of Issue	Code	Country of Issue
BIH	Bosnia and Herzegovina	JEY	Jersey	SGP	Singapore
BWA	Botswana	JOR	Jordan	SVK	Slovakia
BVT	Bouvet Island	KAZ	Kazakhstan	SVN	Slovenia
BRA	Brazil	KEN	Kenya	SLB	Solomon Islands
ЮТ	British Indian Ocean Territory	KIR	Kiribati	SOM	Somalia
BRN	Brunei Darussalam	кwт	Kuwait	ZAF	South Africa
BGR	Bulgaria	KGZ	Kyrgyzstan	SGS	South Georgia and South Sandwich Is.
BFA	Burkina Faso	LAO	Lao People's Democratic Republic	ESP	Spain
BDI	Burundi	LVA	Latvia	LKA	Sri Lanka
КНМ	Cambodia	LBN	Lebanon	SDN	Sudan
CMR	Cameroon	LSO	Lesotho	SUR	Suriname
CAN	Canada	LBR	Liberia	SJM	Svalbard and Jan Mayan Islands
	Canaua		Libyan Arab	33141	15101105
CPV	Cape Verde Cayman	LBY	Jamahiriya	SWZ	Swaziland
СҮМ	Islands	LIE	Liechtenstein	SWE	Sweden
CAF	Central African Republic	LTU	Lithuania	CHE	Switzerland
тср	Chad	LUX	Luxembourg	SYR	Syrian Arab Republic
CHL	Chile	мас	Macao Special Administrative Region of China	TWN	Taiwan, Province of China
CHN	China	MDG	Madagascar	ТЈК	Tajikistan
CXR	Christmas Island	мwi	Malawi	THA	Thailand
сск	Cocas (Keeling) Island	MYS	Malaysia	MKD	The former Yugoslav Republic of Macedonia
COL	Colombia	MDV	Maldives	TLS	Timor-Leste
СОМ	Comoros	MLI	Mali	TGO	Тодо
COG	Congo	MLT	Malta	TKL	Tokelau
СОК	Cook Islands	MHL	Marshall Islands	TON	Tonga
CRI	Costa Rica	ΜΤQ	Martinique	тто	Trinidad and Tobago

Code	Country of Issue	Code	Country of Issue	Code	Country of Issue
CIV	Côte d'Ivoire	MRT	Mauritania	TUN	Tunisia
HRV	Croatia	MUS	Mauritius	TUR	Turkey
CUB	Cuba	MYT	Mayotte	ткм	Turkmenistan
					Turks and
СҮР	Cyprus	MEX	Mexico	TCA	Caicos Islands
	Czech		Micronesia, Federated		
CZE	Republic	FSM	States of	τυν	Tuvalu
PRK	Democratic People's Republic of	MDA		UGA	
PKN	Korea Democratic		Moldova	UGA	Uganda
	Republic of				
COD	the Congo	МСО	Monaco	UKR	Ukraine
	_				United Arab
DNK	Denmark	MNG	Mongolia	ARE	Emirates
DJI	Diibouti	MNE	Montonogra	GBR	United Kingdom of Great Britain
DJI	Djibouti		Montenegro	GDK	(Citizen) United
DMA	Dominica	MSR	Montserrat	GBD	Kingdom of Great Britain (Dependent Territories Citizen)
	Dominican	4			United Kingdom of Great Britain (National
DOM	Republic	MAR	Morocco	GBN	Overseas)
ECU	Ecuador	MOZ	Mozambique	GBO	United Kingdom of Great Britain (Overseas citizen)
EGY	Egypt	MMR	Myanmar	GBP	United Kingdom of Great Britain (Protected person)
SLV	El Salvador	NAM	Namibia	GBS	United Kingdom of Great Britain (Subject)
					United
GNQ	Equatorial Guinea	NRU	Nauru	TZA	Republic of Tanzania United States
ERI	Eritrea	NPL	Nepal	USA	of America
EST	Estonia	NLD	Netherlands	URY	Uruguay

Code	Country of Issue	Code	Country of Issue	Code	Country of Issue
ETH	Ethiopia	ANT	Netherlands Antilles	UMI	US Minor Outlying Islands
FLK	Falkland Islands (Malvinas)	NTZ	Neutral Zone	UZB	Uzbekistan
FRO	Faroe Islands	NCL	New Caledonia	VUT	Vanuatu
FJI	Fiji	NZL	New Zealand	VAT	Vatican City State (Holy See)
FIN	Finland	NIC	Nicaragua	VEN	Venezuela
FRA	France	NER	Niger	VNM	Viet Nam
FXX	France, Metropolitan	NGA	Nigeria	VGB	V <mark>irg</mark> in Islands (British)
GUF	French Guiana	NIU	Niue	VIR	Virgin Islands (United States)
PYF	French Polynesia	NFK	Norfolk Island	WLF	Wallis and Futuna Islands
ATF	French Southern Territories - TF	MNP	Northern Mariana Islands	ESH	Western Sahara
GAB	Gabon	NOR	Norway	YEM	Yemen
GMB	Gambia	PSE	Occupied Palestinian Territory	ZMB	Zambia
GEO	Georgia	OMN	Oman	ZWE	Zimbabwe
DEU	Germany	РАК	Pakistan	ZNC	Any country not on this list
GHA	Ghana	PLW	Palau		
GIB	Gibraltar	PAN	Panama		

6.5 Identification Type Code Table

Code	Description
001	South African ID number
002	Foreign ID number
003	Foreign Passport number
004	South African company/ close corporation registration number
005	Foreign company registration number
006	ISIN number
007	South African trust registration number
008	Foreign trust registration number
009	Internal identification number
010	

6.6 File Response Codes

Code	Description
001	Acknowledgement of receipt
002	Rejected: entire file rejected as contains critical errors. The file must be corrected and
	resubmitted to enable processing
003	Successfully uploaded: all records accepted and processed.
004	Accepted with warnings: This can be any combination of accepted fields, fields
	accepted with a warning and duplicate records.
005	Rejected: entire file rejected as it contains file structure errors. The file must be
	corrected and resubmitted to enable processing.
006	Partial upload: This can be any combination of accepted fields, rejected fields, fields
	accepted with a warning or duplicate records.
011	Rejected: entire file rejected as the file was submitted as part of a group and one or
	more of the files in the group failed the validations associated with the submission of a
	file as part of a group.
012	Rejected: Group submission incomplete and service level agreement expired for SARS
	to wait for all files in a group to be submitted.

6.7 Response Codes

Code	Description
001	Mandatory field left blank – Mandatory field does not contain a value.
002	Incorrect field length – Field length does not comply with the specification.
003	Incorrect field format – Field format does not comply with the specification.
004	Invalid field value – Field can only have a defined set of values. The value supplied
	in the field does not appear in the defined set of values.
005	Invalid Logic – Field value does not meet a logic rule i.e. A + B must be equal to
	this field or Field does not pass Mod 10 test
006	SARS System Rejection – Field failed because it does not meet a data or business
	rule requirement within a SARS system i.e. Tax Reference number does not exist
500	Duplicate Record already existing

7. MODULUS TESTS

7.1 Modulus 10 check on Income Tax Number

This validation is performed where the IT number is completed or where the PAYE reference number starts with 0, 1, 2, 3 or 9.

The last character is a check digit, calculated by applying the following algorithm:

Digit	Formula
Digit 1	Multiply by 2 (Add result to total)* See below
Digit 2	Add to total
Digit 3	Multiply by 2 (Add result to total)* See below
Digit 4	Add to total
Digit 5	Multiply by 2 (Add result to total)* See below
Digit 6	Add to total
Digit 7	Multiply by 2 (Add result to total)* See below
Digit 8	Add to total
Digit 9	Multiply by 2 (Add result to total)* See below

* When the result of the line item calculation exceeds 9, add the individual digits together to obtain a single digit result (e.g. 18 = 1+8 = 9)

Digit 10: Check digit

If the last digit of Total > 0 Then

The Check Digit should be equal to the result of 10 – (Total MOD

10) If the last digit of Total = 0 Then

The Check Digit should be equal to zero

Example:

Tax Reference Number = 0001339050

Digit	Formula	Result
Digit 1	0 x 2	0
Digit 2	0	+ 0
Digit 3	0 x 2	+ 0
Digit 4	1	+ 1
Digit 5	3 x 2	+ 6
Digit 6	3	+ 3
Digit 7	9 x 2 = 18 (1 + 8 = 9)	+ 9
Digit 8	0	+ 0
Digit 9	5 x 2 = 10 (1 + 0 = 1)	+ 1
Total		20

Last Digit of Total is not greater than zero 0 so the check digit equal 0 and the number is therefore valid.

7.2 Tax Reference Number

The odd positioned digits of the tax reference number (1, 3, 5, 7 and 9) are multiplied by 2. If the answer is greater than 10 the digits are added together to get the calculated value. Add these calculated values and the even positioned digits of the Tax reference number (2, 4, 6 and 8) together. Subtract the last character of this calculation from 10 to get the check digit. If this is not equal to the last digit of the Tax reference number as entered, then this does not pass the modulus 10 test.

7.3 Identification Number

Even positions of the identification number (2, 4, 6, 8, 10, and 12) are multiplied by 2. If the answer is greater than 10 the digits are added together to get the calculated value. Add these calculated values and the odd positions of the identification number (1, 3, 5, 7, 9, and 11) together. Subtract the last character of this calculation from 10 to get the check digit. If this is not equal to the last character of the identification number as entered, then this does not pass the modulus 10 tests.

8. MD5 CALCULATION

The following calculation must be used for determining the file hash total.

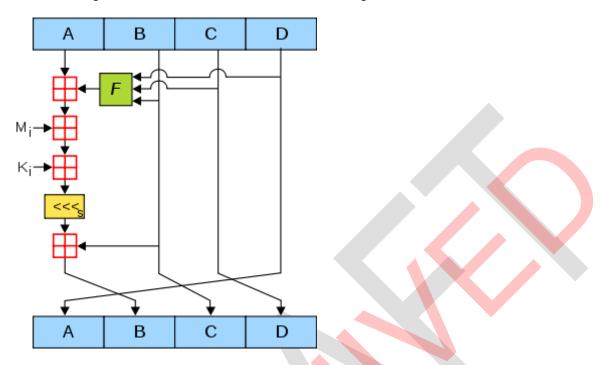


Figure 1.One MD5 operation. MD5 consists of 64 of these operations, grouped in four rounds of 16 operations. *F* is a nonlinear function; one function is used in each round. M_i denotes a 32-bit block of the message input, and K_{id} denotes a 32-bit constant, different for each operation. \ll_S denotes a left bit rotation by *s* places; *s* varies for each operation. \boxplus Denotes addition modulo 2³².

MD5 processes a variable-length message into a fixed-length output of 128 bits. The input message is broken up into chunks of 512-bit blocks (sixteen 32-bit <u>little endian</u> integers); the message is <u>padded</u> so that its length is divisible by 512. The padding works as follows: first a single bit, 1, is appended to the end of the message. This is followed by as many zeros as are required to bring the length of the message up to 64 bits fewer than a multiple of 512. The remaining bits are filled up with a 64-bit <u>little endian</u> integer representing the length of the original message, in bits.

The main MD5 algorithm operates on a 128-bit state, divided into four 32-bit words, denoted *A*, *B*, *C* and *D*. These are initialized to certain fixed constants. The main algorithm then operates on each 512-bit message block in turn, each block modifying the state. The processing of a message block consists of four similar stages, termed *rounds*; each round is composed of 16 similar operations based on a non-linear function *F*, modular addition, and left rotation. Figure 1 illustrates one operation within a round. There are four possible functions *F*; a different one is used in each round:

$$F(X, Y, Z) = (X \land Y) \lor (\neg X \land Z)$$

$$G(X, Y, Z) = (X \land Z) \lor (Y \land \neg Z)$$

$$H(X, Y, Z) = X \oplus Y \oplus Z$$

$$I(X, Y, Z) = Y \oplus (X \lor \neg Z)$$

 \oplus , \wedge , \vee , \neg denote the <u>XOR</u>, <u>AND</u>, <u>OR</u> and <u>NOT</u> operations respectively.

The MD5 hash is calculated according to this algorithm:

//Note: All variables are unsigned 32 bits and wrap modulo 2^32 when calculating varint[64] r, k *IIr specifies the per-round shift amounts* r[0..15] := {7, 12, 17, 22, 7, 12, 17, 22, 7, 12, 17, 22, 7, 12, 17, 22} r[16..31] := {5, 9, 14, 20, 5, 9, 14, 20, 5, 9, 14, 20, 5, 9, 14, 20} r[32..47] := {4, 11, 16, 23, 4, 11, 16, 23, 4, 11, 16, 23, 4, 11, 16, 23} r[48..63] := {6, 10, 15, 21, 6, 10, 15, 21, 6, 10, 15, 21, 6, 10, 15, 21} //Use binary integer part of the sines of integers (Radians) as constants: forifrom 0 to 63 $k[i] := floor(abs(sin(i + 1)) \times (2 pow 32))$ end for //(Or just use the following table): k[0..3] := { 0xd76aa478, 0xe8c7b756, 0x242070db, 0xc1bdceee } k[4.. 7] := { 0xf57c0faf, 0x4787c62a, 0xa8304613, 0xfd469501 } k[8..11] := { 0x698098d8, 0x8b44f7af, 0xffff5bb1, 0x895cd7be } k[12..15] := { 0x6b901122, 0xfd987193, 0xa679438e, 0x49b40821 } k[16..19] := { 0xf61e2562, 0xc040b340, 0x265e5a51, 0xe9b6c7aa } k[20..23] := { 0xd62f105d, 0x02441453, 0xd8a1e681, 0xe7d3fbc8 } k[24..27] := { 0x21e1cde6, 0xc33707d6, 0xf4d50d87, 0x455a14ed } k[28..31] := { 0xa9e3e905, 0xfcefa3f8, 0x676f02d9, 0x8d2a4c8a } k[32..35] := { 0xfffa3942, 0x8771f681, 0x6d9d6122, 0xfde5380c } k[36..39] := { 0xa4beea44, 0x4bdecfa9, 0xf6bb4b60, 0xbebfbc70 } k[40..43] := { 0x289b7ec6, 0xeaa127fa, 0xd4ef3085, 0x04881d05 } k[44..47] := { 0xd9d4d039, 0xe6db99e5, 0x1fa27cf8, 0xc4ac5665 } k[48..51] := { 0xf4292244, 0x432aff97, 0xab9423a7, 0xfc93a039 } k[52..55] := { 0x655b59c3, 0x8f0ccc92, 0xffeff47d, 0x85845dd1 } k[56..59] := { 0x6fa87e4f, 0xfe2ce6e0, 0xa3014314, 0x4e0811a1 } k[60..63] := { 0xf7537e82, 0xbd3af235, 0x2ad7d2bb, 0xeb86d391 } //Initialize variables: varint h0 := 0x67452301 varint h1 := 0xEFCDAB89 varint h2 := 0x98BADCFE varint h3 := 0x10325476 //Pre-processing: append "1" bit to message **append** "0" bits **until** message length in bits \equiv 448 (mod 512) append length to message /* bit (not byte) length of unpadded message as64-bit little-endian integer */ //Process the message in successive 512-bit chunks: for each512-bit chunk of message break chunk into sixteen 32-bit little-endian words w[j], $0 \le j \le 15$ //Initialize hash value for this chunk: **var***int* a := h0 varint b := h1 varint c := h2 varint d := h3 //Main loop:

forifrom 0 to 63 if $0 \le i \le 15$ then f := (b and c) or ((not b) and d) g := i else if 16 ≤ i ≤ 31 f := (d and b) or ((not d) and c) g := (5×i + 1) **mod** 16 else if 32 ≤ i ≤ 47 f := b xor c xor d g := (3×i + 5) **mod** 16 else if 48 ≤ i ≤ 63 f := c **xor** (b **or** (**not** d)) g := (7×i) mod 16 temp := d d := c c := b b := b + leftrotate((a + f + k[i] + w[g]), r[i])a := temp end for //Add this chunk's hash to result so far: h0 := h0 + ah1 := h1 + b h2 := h2 + ch3 := h3 + d end for varchar digest[16] := h0 append h1 append h2 append h3 // (expressed as little-endian) //leftrotate function definition leftrotate (x, c) return (x << c) or (x >> (32-c));

Note: Instead of the formulation from the original <u>RFC 1321</u> shown, the following may be used for improved efficiency (useful if assembly language is being used - otherwise, the compiler will generally optimize the above code. Since each computation is dependent on another in these formulations, this is often slower than the above method where the nand/and can be parallelised):

 $(0 \le i \le 15)$: f := d xor (b and (c xor d)) (16 ≤ i ≤ 31): f := c xor (d and (b xor c))

Source: http://en.wikipedia.org/wiki/MD5