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820
TY

SPECIFICATIONS

TECHNICAL RUBBER ARTICLES, SHEETS

AND RUBBER STOCK FOR SPECIAL MACHINES

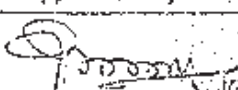
AND ENGINES FOR THEM

TY 005 - 216 - 75

(Instead of TY 38 105 1264 - 72 .

TY 38 105 003 - 73)

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Translated by	Authenticated by	ARMoured VEHICLE PROJECT	
SUSEELA KUMARI		AYADI	
Date	Compiled by	SPECIFICATION No	
28-3-92	D.K. SHARAN	TY 005 - 216 - 75	
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820 (1)

Specifications

Technical rubber articles, sheets and rubber stock for special machines and engines for them.

TY 005 216 - 75

Instead of the specifications 38 105 1264 - 72 and TY 38 105 003 - 73.

Introduced for the duration :

01.01.76 to 01.01.91.

These present specifications are applicable for rubber technical articles, from here on wards referred as ПТДМ (Rubber, rubber armoured, rubber porous cloth) intended for making up a set of special machines and engines for them, sheets and rubber stock for manufacturing the specified ПТДМ.



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Table 1

Diameter		Section (width, height)		Accuracy Class	
Nominal	Limit deviations	Nominal		Limit deviations	
	upto 5	± 0.1	Upto 2.5	± 0.1	± 0.2 - 0.1
Above 5	" 10	± 0.2	Above 2.5	" 5	+ 0.2 - 0.1
"	10 " 20	± 0.3	"	5 " 10	± 0.2 - 0.2
"	20 " 40	± 0.4	"	10 " 20	± 0.4 + 0.6
"	40 " 60	± 0.6			- 0.4
"	60 " 100	± 0.8	"	20 " 50	± 0.6 ± 1.0 - 0.6
"	100 " 140	± 1.0			
"	140 " 180	± 1.2	"	50	± 1.2 % ± 1.5%
"	180 " 210	± 1.5			
"	210 " 250	± 2.0			
"	250	± 1.0 %			

NOTE: Upon agreement between the supplier and customer checking of positive and negative tolerances are allowed provided keeping of field of tolerances and deformation characteristics specified by the present specifications. Packing ring for movable joints is suggested to manufacture as per 1st accuracy class.

Packing rings of the round section with dimensions as per GOST 9833-73 are made without drawing the drawings with conventional designation as per the following structure :

XXX - XXX - XX - X GOST 9833 - 73

XXXX TY 005 216 - 75

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Table 3

MM					
Diameter			Section		
Nominal	Limit deviations	Width	Nominal	Limit deviations	Height
		Nominal	Limit deviations	Nominal	Limit deviations
upto 30	± 0.5	upto 6	± 0.25	upto 6	± 0.5
Above 30 "	± 0.6	Above 6 " 15	$+ 0.4$	Above 6 " 10	$+ 0.8$
" 60 "	± 0.8		$- 0.3$		$- 0.5$
" 220 "	± 1.0	" 15 " 20	$+ 0.7$	" 10 " 15	$+ 1.5$
			$- 0.5$		$- 0.5$
" 700 "	± 1.5	" 20 " 30	$+ 1.0$	" 15 " 30	$+ 2.0$
			$- 0.7$		$- 0.5$
" 1500	± 2.0	" 30	$+ 5.0\%$	" 30	$+ 7.0\%$
			$- 3.0\%$		$- 3.0\%$

1.4.5. Limit deviations of dimensions of protective cases is specified in Table 4.

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Table 4

MM

Over all dimensions		Thickness of Diameter		Limit	
Diameter		Height		Nominal	Limit deviations
Nominal	Limit deviations	Nominal	Limit deviations		
Upto 10	± 0.3	Upto 10	± 0.3	Upto 2.5	± 0.2
Above 10 "	25 ± 0.5	Above 10 "	25 ± 0.5	Above 2.5 "5.0	± 0.3
" 25 "	50 ± 0.8	" 25 "	50 ± 0.8	" 5.0	± 0.5
" 50 "	100 ± 1.0	" 50 "	100 ± 1.0		
" 100 "	150 ± 1.5	" 100	$\pm 1.0\%$		
" 150 "	200 ± 2.0				
" 200 "	250 ± 2.5				
" 250 "	$\pm 1.2\%$				

1.4.6. Limit deviations of dimensions of gaskets and plug are specified in Table 5.



MM

Table 5

Overall dimensions
(length & width)

Cross section (width and height)

Overall dimensions (length & width)				Cross section (width and height)			
Nominal		Limit deviations		Nominal		Limit deviations	
Above	upto до 5		±0,2	Above	upto до 2,5		±0,2
Cv. 5	" 10		±0,3	Cv. 2,5	" 5		±0,3
"	10 " 25		±0,5	"	5,0 " 10		±0,5
"	25 " 50		±0,8	"	10 " 25		±0,7
"	50 " 100		±1,0	"	25 " 50		±1,0
"	100 " 150		±1,5	"	50 " 100		±1,5
"	150 " 200		±2,0				
"	200 " 250		±2,5	"	100 " 150		±2,0
"	250		±1,2%	"	150		±1,5%

1.4.7. Limit deviations of dimension of membrane and diaphragm are specified in Table 6.

Table 6

MM

Thickness

Over all dimensions

Diameter

Diameter		Height		Diameter		Limit deviation	
Nominal		Limit deviation		Nominal		Limit deviation	
upto до 10		±0,2		upto до 10		±0,3	upto до 2,5
Above			Above				
Cv. 10	" 25	±0,3	Cv. 10	" 25	±0,5	Cv. 2,5	" 5,0
"	25 " 50	±0,5	" 25	" 50	±0,7	" 5,0	
"	50 " 100	±1,0	" 50	" 100	±1,0		
"	100 " 150	±1,5	" 100		±1,0%		
"	150 " 200	±2,0					
"	200 " 250	± 2,5					
"	250	±1,2%					

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1.4.8. Limit deviations of dimensions of rubber metallic and rubber shock absorbers are established upon agreement between the supplier and the customer and specified in drawings.

1.4.9. Limit deviations of dimensions of vibro insulating supports are specified in Table 7.

Table 7

MM				<i>Cross</i>			
Over all dimensions				Section (height, thickness)			
Nominal	Limit deviations			Nominal	Limit deviations		
<i>Above</i> CB.5	<i>upto</i> Do 5		±0,3	<i>Above</i> CB.2,5	<i>upto</i> Do 4		±0,4
"	" 10		±0,5	" 4	" 6		±0,5
"	" 20		±0,6	" 6	" 10		±0,6
"	" 40		±0,8	" 10	" 20		±0,8
"	" 60		±1,0	" 20	" 40		±1,3
"	" 100		±1,3	" 40	" 60		±1,6
"	" 150		±1,5	" 60	" 100		±2,0
"	" 250		±2,0	" 100	" 150		±2,5
			±1,5%	" 150			±2,0%

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NOTE: When cutting PTA_M from plate, taper and shrinkage cavity of edges within the limit deviations of dimensions are allowed.

1.4.10.1. Plates should be delivered with width from 250 to 800 mm. with length from 250 to 1000 mm. Limit deviations on width and length for all dimensions should be ± 15 mm.

1.4.10.2. Difference in thickness of each plate should not exceed half of the fields of limit deviations, sheets of rubber in the base CK ϕ - field of the limit deviations.

1.4.11. Limit deviations on thickness of plate with fabric gaskets and articles of them are specified in Table 9.

Table 9

MM						
Thickness of plates and PTD _M			Overall dimensions of PTA (diameter, length and width)			
Nominal		Limit deviations	Nominal		Limit deviations	
	Upto 3	± 0.4		upto 10	± 0.8	
Above 3	upto 5	± 0.6	Above 10	upto 25	± 1.0	
"	5	± 1.0	"	25	" 50	± 1.5
"	10	± 1.2	"	50	" 100	± 2.0
"	15	± 1.5	"	100	" 150	± 3.0
"	20	± 2.0	"	150	" 250	± 3.5
"	30	± 3.0	"	250		$\pm 1.5\%$

NOTE: When cutting PTA_M from plate, taper and shrinkage cavities of edges with on the limit deviations of dimensions are allowed.

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1.4.11.1. Plates are should be delivered with width from 250 to 800 mm. with length from 250 to 1000 mm. Limit deviations for the width and length for all dimensions ± 15 mm.

1.4.11.2. Difference in thickness of sheets should not exceed half of the field of limit deviation.

1.4.12. Limit deviations of dimensions of porous sheets, article of them and porous of ПТАМ are specified in Table 10.

Table 10

MM

Spongy sheets and article of them		Spongy components.			
Thickness of plate and ПТАМ		Over all dimensions of ПТАМ (diameter, length and width)		Nominal	Limit deviations
Nominal	Limit deviations	Nominal	Limit deviations.		
3	+1,0 -0,5	above upto 50 Св.3 до 50	$\pm 1,0$	upto до 3	$\pm 0,5$
4-7	$\pm 1,0$	" 50 " 100	$\pm 2,0$	Above. Св.3 " 20	$\pm 1,0$
8, 10, 12, 14	$\pm 1,5$ -1,0	" 100 " 200	$\pm 3,0$	" 20 " 100	$\pm 2,0$
16, 18, 20, 22, 25, 28, 30	$\pm 1,5$	" 200 " 400	$\pm 5,0$	" 100 " 500	$\pm 3,0$
32, 35, 38, 45, 50	$\pm 2,0$	" 400 " 700	$\pm 10,0$	" 500	$\pm 5,0$
55, 60, 65, 70, 75	$\pm 2,5$	" 700 " 1000	$\pm 15,0$		
		" 1000	$\pm 25,0$		

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NOTE:

1. When cutting PTA, W from plates taper and cavities of edges with in the limit deviations of dimensions.

2. Measuring of plate thickness should be carried out at a distance from the edge of plate should not exceed 20 mm.

1.4.12.1. Plate with thickness from 3 to 10 mm should be delivered in unglued form, above 10 mm in glued form (from many vulconized plates) and unglued form.

1.4.12.2. Length and width of plates of all thickness from 200 to 500 mm plates of big dimensions may be produced.

1.4.12.3. Difference in thickness of plates should not exceed the area of limit deviation.

1.4.13. Limit deviations of dimensions of bush and inserts for flexible elements of coupling and valves should be fixed upon agreement between supplier and customer.

1.4.14. Limit deviations of dimensions of sections of cords of circular, rectangular and square sections and cords of chamfered sections are specified in Table 11.

Table 11

MM		Limit deviations.
Nominal dimensions		
	upto 2	± 0.3
Above 2	" 4	± 0.4
" 4	" 6	± 0.6
" 6	" 10	± 0.8
" 10	" 20	± 1.2
" 20	" 30	± 2.0
" 30		± 2.5

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1.4.15. Limit tolerances of dimensions of section of frame tape are specified in Table 12.

Table 12

MM			
Thickness of wall		Width, Height	
Nominal	Limit deviations	Nominal	Limit deviations
From 1 upto 1.5	± 0.5 0.3	From 3 upto 5	± 0.6
		Above 5 " 8	± 1.0
Above 1.5 " 2.0	± 0.5	" 8 " 12	± 1.5
" 2.0 " 2.5	± 0.8	" 12	± 2.0
" 2.5	± 0.9		

1.4.16. Limit deviations of dimensions of section of porous profile is specified in Table 13.

Table 13

MM	
Nominal deviations	Limit deviations
From 2.5 upto 5	± 0.5
Above 5 " 10	± 1.0 0.5
" 10 " 20	± 1.5 $- 1.0$
" 20 " 30	± 2.0
" 30	$\pm 10\%$

1.4.17. Limit deviations of dimensions of pipes of different profiles and articles of them are specified in Table 14.

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Table 14

MM

Inner diameter		Thickness of wall		Cutting pitch (height of the article)	
Nominal	Limit deviations	Nominal	Limit deviations	Nominal	Limit deviations
From upto от 2 до 3	$\pm 0,3$	From upto от 1,25 до 2,0	From upto от 1,25 до 3,0 upto 0,3	до 5	$\pm 0,6$
Above Св.3 " 6	$\pm 0,5$	" 1,25 " 3,0	Above Св.3,0 upto 4,0 upto 0,4	Св.5 " 20	$\pm 0,8$
" 6 " 10	$\pm 0,8$	" 1,25 " 3,0		" 20 " 50	$\pm 1,0$
" 10 " 16	$\pm 1,0$	" 1,25 " 3,0		" 50	$\pm 1,5$
" 16 " 24	$\pm 1,5$	" 2,0 " 6,0	Св.4,0 upto 5,0 upto 0,5		
" 24 " 40	$\pm 1,8$	" 2,0 " 8,0			
" 40	$\pm 10\%$				

NOTE: Pipes with inner diameter above 6 to 10 mm and with thickness of wall upto 1.9 mm; with diameter above 10 to 16 mm and with thickness of wall upto 2.9 mm; with diameter above 16 to 40 mm and thickness of wall upto 3.9 mm; with diameter above 40 and with thickness of wall upto 4.9 cannot be used for dust splash guard.

1.4.18. Limit deviations of dimensions of rolled sheets and articles of them are specified in Table 15.

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2. ACCEPTANCE RULES

2.1. Checking of the quality of ПТДМ, sheets and rubber stock and the compliance of them the present specification should be carried out by the manufacturing plant.

2.2. ПТДМ, sheets and rubber stock should be presented for acceptance by batches of each name separately.

2.3. Batches of ПТДМ is, manufactured from one grade of rubber, one name and dimension and drawn up document about the quality (certificate). Dimension of batch ПТДМ depending upon the type of ПТДМ and should not exceed 5000 pcs.

2.4. Batches of un moulded articles are considered to be the article manufactured from one grade of rubber, one name and dimension with weight not exceeding 1000 kg, drawn up a document about the quality (certificate).

Batches of plates are considered to be the articles, manufactured from one grade of rubber, with weight not exceeding 1000 kg with completion of batches from some or different thickness of plate, drawn up document about the quality, (certificate) with specifying in it the weight of sheet of each thickness.

2.5. To check the quality, ПТДМ, sheets and rubber stock should be subjected to type, periodic and acceptance tests.

2.5.1. Type tests should be carried out before beginning, series production. When changing the design, materials on the techno-

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logy of manufacture affecting the quality of PTA₁ plates and rubber stocks as per all characteristics of Table 20. When accepting the mould type test should be carried out as per paras 1,2,6 of Table 20.

2.5.2. Periodic test should be carried out at least once in a month for checking the stability of production.

2.5.3. Each batch of PTA₁ and sheets and each batch of rubber stock should be subjected to periodic test.

2.6. Characteristics to be checked during tests is given in Table 20.

Table 20

Characteristic	Method and means of checking	Quantity of specimens to be checked.	Type of tests		
			Type test	Periodic test	Acceptance test
(1)	(2)	(3)	(4)	(5)	(6)
1. External appearance of PTA ₁ sheets and rubber stock.	Inspection or comparison with test specimen.	Complete check.	X	-	X
2. Dimensions of PTA ₁ and sheets.	Vernier caliper				
2.1. Test dimensions.	Vernier Caliper Template, gauge or other measuring tool.	5% of the mean mandrel and batch, but at least 3 pcs.	X	-	X
2.2. Dimensions according to the drawings for complete check.		Complete check			

Continuation of Table 20

(1)	(2)	(3)	(4)	(5)	(6)
2.3. Other dimensions.	-	3 pcs. min.	X	-	-
3. Physico-mechanical characteristic of rubber.	In compliance with tables 16 and 17.				
3.1. For rubber metallic bushes and packing ring.	- do -	3 layings min.	X	X	X
					(Each laying of conventional strength, elongation relative residual deformation after, rupture, hardness and change of weight in the regions, strength connected with metal. Upon agreement with customers representative change of weight in the areas may be guaranteed by the manufacturer.)
3.2. For the remaining article of monolithic rubber	In compliance with Tables 16 and 17.	Not less than on 3 on layings.	X	X	-
	In compliance with Table 17.				
	In compliance with Tables 16 and 17.				

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Continuation of Table 20

(1)	(2)	(3)	(4)	(5)	(6)
3.3. For porous rubber	In compliance with Tables 16 & 17.	Same	X	X	-
3.4. Trade rubber	In compliance with Tables 16 & 17.	Each laying	X	As per Para 2.12 (As per para 2.12)	X
4. Changing of weight PTA in the regions. (if indicating in the drawing.	GOST 9.030-74.	0.3% of the batch, but at least 3 pcs.	X	-	X
5. Changing of weight of sheets of cords and pipes on the regions.	Same	One specimen from each thickness, but at least 3 specimens from batch of different thickness. Test is carried out on specimens with thickness not exceeding 3 mm. with thickness from 1.0 to 2.0 mm.	X	-	X
6. Difference in Thickness of sealing ring. (if indicated in the drawing.	Procedure (appendix 7) in compliance with para 5.9 GOST 8752-79.	0.2% of the batches, but at least 10 pcs.	X	-	X
7. Apparent density of porous sheets	On compliance with Table 17	Not less than on 3 sheets.	X	X	X
8. Apparent density of porous PTA (specified in the drawing.	In compliance with the standard, specified in the drawing.	Not less than on 3 articles.	X	-	X

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three layings in the test procedure of production not less than once in a month.

2.13. If the test results are unsatisfactory on any of the characteristics repeated test should be carried out on double quantity of specimen of rubber stock for this characteristics.

NOTE: Before repeated test mixing of all layers of rubber stock is allowed.

2.14. If the repeated test results are unsatisfactory even though from one of the characteristic the laying of rubber stock should be rejected.

2.15. Further complete analysis of each laying of rubber stock should be carried out until getting stable results not less than on 5 layings.

3. TEST PROCEDURE

3.1. Physico-mechanical characteristics of properties of rubber should be in compliance with the standard, given in Tables 16 and 17.

3.2. Type of tests and test procedure of rubber to be checked during the test are given in Table 21.

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Table 21

Type of test	Procedure and means of checking
(1)	(2)
1. External view	Visually
2. Presence of inclusions	Visually by the way of inspection of surface and cut of rubber stock.
3. Tensile strength	GOST 270-75, specimen, of type I or II
4. Elongation at rupture	Same
5. Relative residual deformation after rupture	"
6. Shore hardness. A	GOST 263-75
7. Coefficient of resistance to cold for elastic reduction after compression.	GOST 13808-79
8. Temperature limit of brittleness.	GOST 7912-74
9. Change of elongation after aging in air.	GOST 9.024-74
10. Change of weight during the influence of standard liquid.	GOST 9.030-74
11. Relative residual deformation at static compression after aging.	GOST 9.029-74
12. Binding strength of rubber with metal when breaking.	GOST 209-75
13. Binding strength of rubber with cloth.	GOST 6768-75
14. Density (theoretical density)	GOST 267-73

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(1)	(2)
15. Apparant density of porous rubber.	GOST 409-77 or in compliance with appendix 2.
16. Resistance to compression of porous rubber.	In compliance with appendix 3.
17. Residual deformation of compression of porous rubber.	In compliance with appendix 4.
18. Resitance to cold of porous.	In compliance with appendix 5.

3.3. Testing of PTA_M

3.3.1. Testing of PTA_M should be carried out on stands, in imitators or directly on the units as per the test-procedure agreed in the established order.

4. TRANSPORTATION AND STORAGE

4.1. PTA_M sheets and rubber stock should be transported in packed condition with any type of transport which abserving the rules on transportation, established for the given type of transport.

Road transport - "General rules on transportation of load" by truely approved by the Ministry of Road transport PCeCP 30.07.71 ;

Railway transport - " Rules on transportation of loads " MOSCOW 1977 "Specifications on transportation and securing of loads " approved by the Ministry of communications USSR in 1969.

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Shipping transport - "General special rules on transportation of load", approved by the Ministry of shipping USSR in 1979 ;

River transport : "Rules of transportation of loads", approved by the Ministry of river transport of 14.08.79, No. 114.

Air transport - " Load transportation, manual for inner air lines of USSR", approved by the Ministry of civil aviation: of 25.03.75. "Rules on transportation of load through air lines" approved by the Ministry of civil aviation in 1971.

4.2. If PTA_М and sheets are transporting in minus temperatures they should not be subjected to mechanical influence and before starting production they should withstand at temperature $(20 \pm 5)^{\circ}\text{C}$ not less than 24 hours.

4.3. PTA_М, sheets and rubber mix should be stored in dark room, protected against the influence of direct sunlight and at a distance not less than 1m from hot devices. The hot devices should be shielded to rectify the direct influence of hot rays.

4.4. It is not allowed to keep PTA_М, sheets, rubber stock in one room with organic solvents, pitroleum products, lubricating materials, acids, alkalis, oxidising agents and other corrosive products, distructing rubber.

4.5. PTA_М, sheets in free condition as well as these assembled in the units may be stored in room which is not hot at an ambient temperature from $- 50$ to 50°C .

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5.11. Recommendations for the assembly of PTA_W are applicable for new machines and also during repair work.

5.12. After storage during minus temperature, before assembly PTA_W should be kept at temperature $(20 \pm 5)^{\circ}\text{C}$ for not less than 24 hrs.

5.13. Requirements for the assembly of packing rings.

5.13.1. Before the assembly of thread of component through which carry out assembly of ring, should be lubricated with thin layer of lubricant or operating means.

5.13.2. Ring, working in plane flange joints is not recommended to lubricate in operating means. During their assembly lubricant should be used.

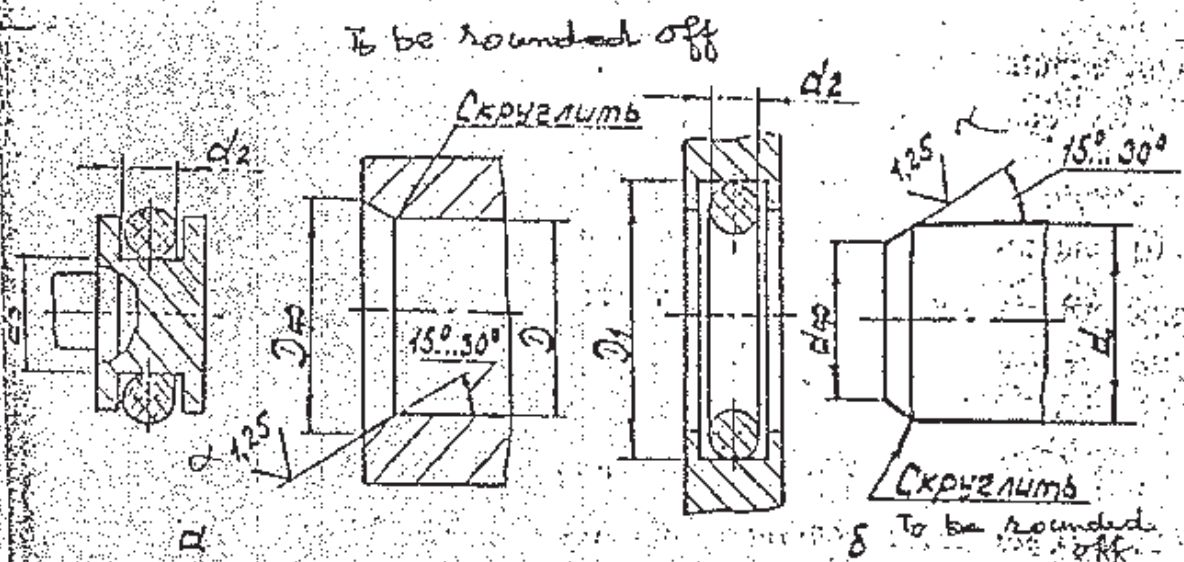
5.13.2. Degree of compression for the section of ring in assembled form should be ensured by the design of packing. Unit or the conditions of assembly and set up 12-25 % for movable joint and for fixed joint degree of compression, is as follows:

- facial 15 - 40%
- radial 15 - 28%

NOTE: Degree of compression of ring is determined as per the following formula: $\epsilon = \frac{d_2 - h}{d_2} \cdot 100$



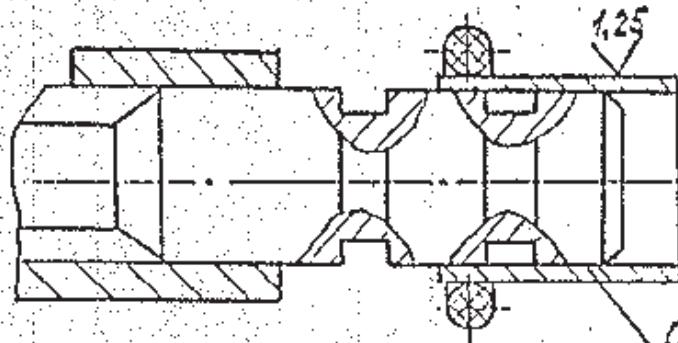
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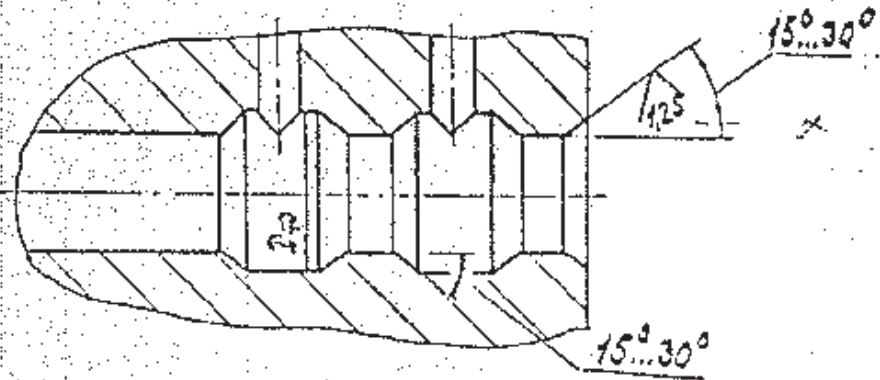
$$D_{\text{ф}} = d_3 + 2d_2 + 1$$

Fig-1.
Puc.1

$$d_{\text{ф}} = D - 2d_2 - 1$$



Puc.2 Fig-2.



Puc.3 Fig-3

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Where ϵ = degree of compression, %

d_2 - Diameter of section of ring of circular section or height of ring of right angle section, mm.

h - Depth of groove of mounting, place in assembled unit, mm.

5.13.4. Degree of stretching of ring along the inner diameter should be within 0.3-12.0%, degree of pressing along the external diameter for front seal - 3% max. (clearance is allowed).

NOTE:

1. Degree of stretching is determined by the following formula :

$$H_1 = \frac{d_3 - d_1}{d_1} \cdot 100,$$

Where H_1 - Degree of stretching, %

d_3 - Inner diameter of mounting place, mm (Fig. I)

d_1 - Inner diameter of ring, mm.

2. Degree of pressing is determined as per the following formula :

$$H_2 = \frac{(d_1 + 2d_2) - D_1}{d_1 + 2d_2} \cdot 100,$$

H_2 - Degree of pressing, %

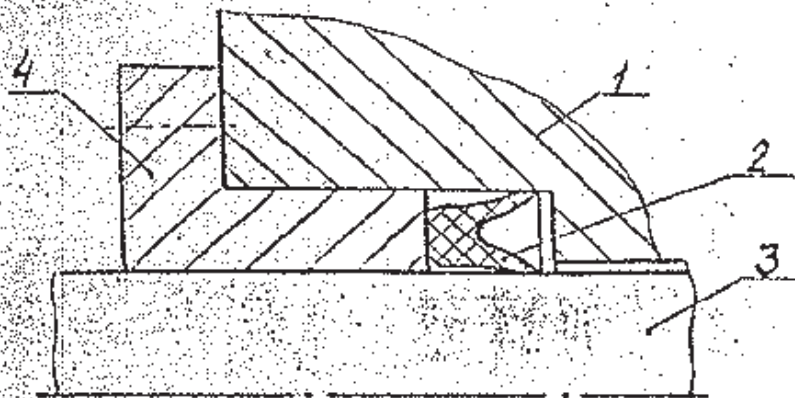
D_1 - External diameter of mounting place, mm (Fig 1)

d_1 - Inner diameter of ring, mm.

d_2 - Diameter of the section of ring, mm.

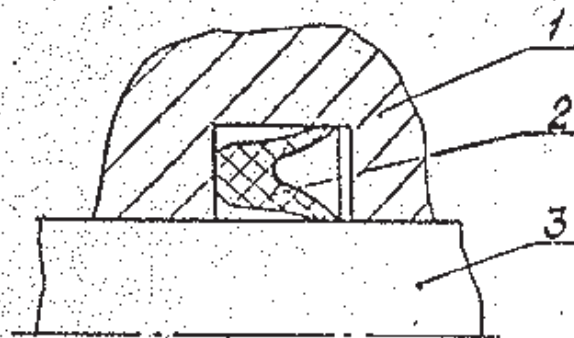
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Groove of open type
Канавка открытого типа



Body
1. Корпус
Sealing Ring
2. Манжетка
Rod
3. Шток
Cover
4. Крышка

Groove of closed type.
Канавка закрытого типа



Body
1. Корпус
Sealing Ring
2. Манжетка
Rod
3. Шток

Fig - 4.
Рис. 4

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5.17. Requirements for the assembly and operation of shock absorbers and vibration insulating supports.

5.17.1. Voltage against load and over load should not exceed those specified in Table 22.

Table 22

Type of deformation	MPa (Kgf/cm ²)		
	Permissible voltage		
	Static load	Impact short-term load	Sustained dynamic load
Contraction	2.94 - 4.90 (30 - 50)	2.45 - 4.90 (25 - 50)	0.98 - 1.47 (10 - 15)
Shift,	0.98 - 1.96 (10 - 20)	0.98 - 1.96 (10 - 20)	0.29 - 0.49 (3 - 5)

5.17.2. Operation of shock absorbers in resonance area is not allowed.

5.17.3. Designs of mounting place for the shock absorber should avoid the contact of deformed rubber with sharp sides or edges.

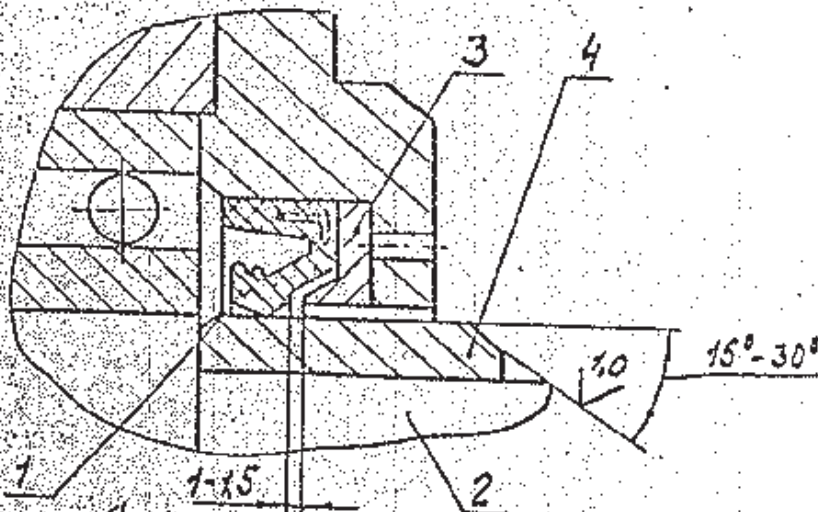
5.17.4. Preliminary deformation of pressing should not exceed 40%.

5.17.5. When installing the shock absorbers and vibration insulating supports at the places which are not protected against influence of sun rays, it is suggested that the rubber should be coated with light ozone resistant castings or coatings with paraffin alloy with petrolatum in ratio 1:1 or covered with thick covers.

5.18. Requirements for the assembly and operation of rubber and rubber-metal bushes.

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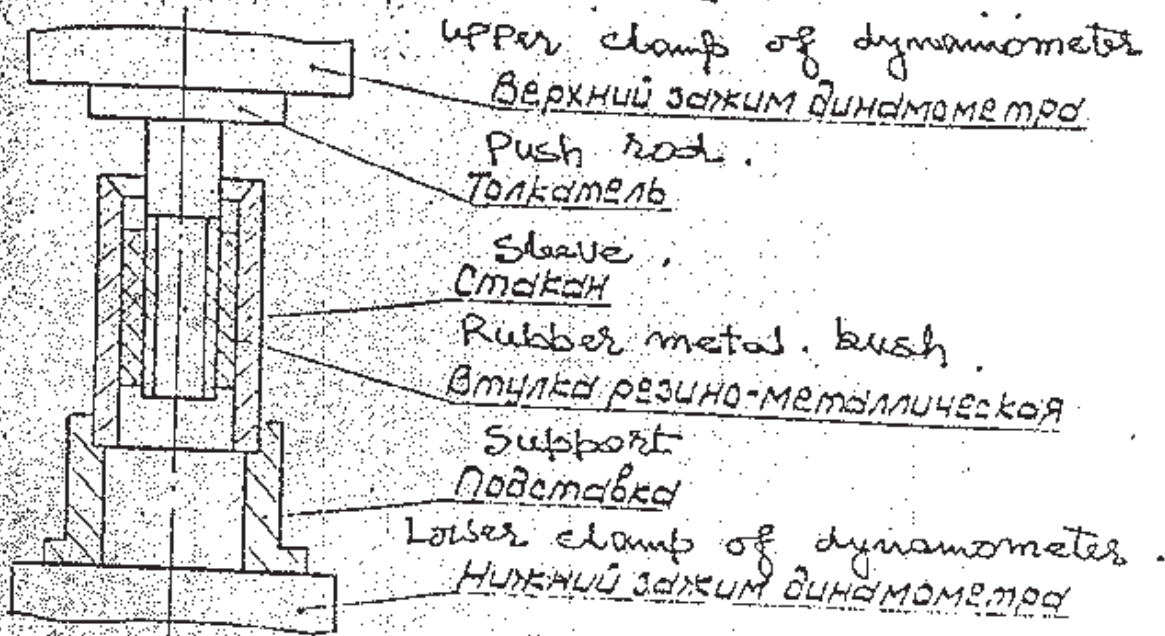
5.18.1. Pressing of bushes should be carried out using fixture (Fig. 6) with application of special lubrication.



Sealing Ring Shaft stop Bush
 1-Манжетка; 2-Вал; 3-упор; 4-Втулка

Рис. 5 Fig. 5

Diagram of pressing - pressing out of rubber-metal bush.
 Схема запрессовки-выпрессовки резино-металлической втулки.



Upper clamp of dynamometer
 Верхний зажим динамометра

Push rod
 Толкатель

Sleeve
 Стакан

Rubber metal bush
 Втулка резино-металлическая

Support
 Подставка

Lower clamp of dynamometer
 Нижний зажим динамометра

Рис. 6 Fig. 6

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Physico-mechanical properties of porous rubber

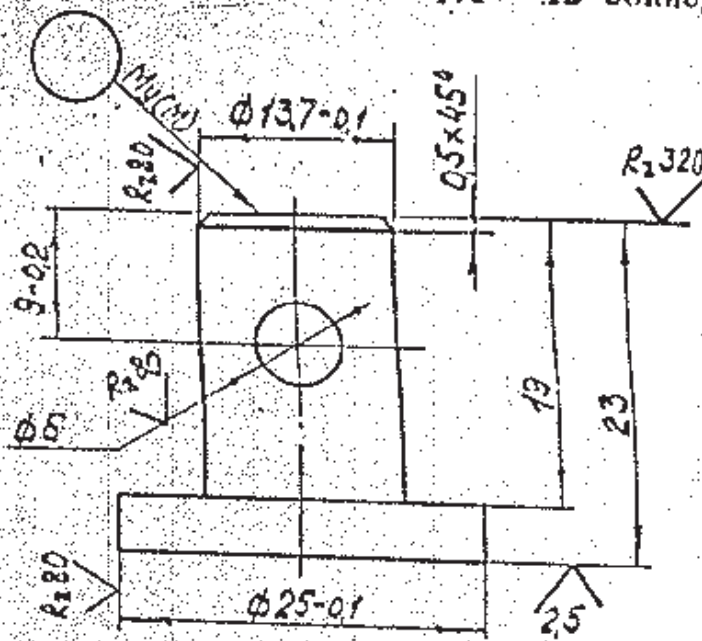
Table 17

Code of rubber	Type of rubber	Conditions of Vulcanization		Physico-mechanical characteristics				Resistance to cold		
		Temperature, °C	Time, min.	Seaming density	Compressive resistance, at compression by 50% Mpa.	Residual deformation at compression by 50%, max %.		Maximum brittleness temperature °C.	KV, min at temperature °C.	
						23 °C	70 °C		45	50
1-3069	СКМС АРКМ-15 СКА	151 ± 3	20 ± 1	500-600	0.15-0.29	30	55	52	-	0.40
3-105	НК, СКБ	164 ± 3	20 ± 1	500-800	0.15-0.29	30	70	40	-	0.20
1-3059	СКЭПТ	164 ± 3	30 ± 1	500-600	0.13-0.23	20	60	50	-	0.14
1-3067	СКМС-30П	As per existing technological regulations.		150-500	0.08-0.25	70	-	40	0.20	-
35	СКБ			150-500	0.08-0.25	75	-	35	0.05	-
1-3082-1	СКМС-30АРКМ-15 СКД	174 ± 3	15 ± 1	500-850	0.25-0.49	-	30	40	-	0-12
3-141	СКМС-30 АРКМ-15, НК	174 ± 3	15 ± 1	500-850	0.25-0.49	-	30	35	0.05	-
3-133	СКЭПТ	170 ± 3	I Stage 13 ± 0.5 II Stage 17 ± 1	350-600	0.12-0.29	-	90	50	-	0.15
3-168	СКМ-3 СКМС-30 АРКМ-15	As per existing technological regulations.		350-500 For sheet of size 5 mm. 350-530	0.10-0.25	75	-	45	0.20	-

The fungus should be manufactured from steel 20 GOST 1050-74 or other material upon agreement between the supplier and customer.

NOTE: Upon agreement between the supplier and customer the quantity the supplier and customer the quantity of fungus can be reduced.

1.5. Metallic group should be in compliance with the sketch for the design, dimension and surface finish.



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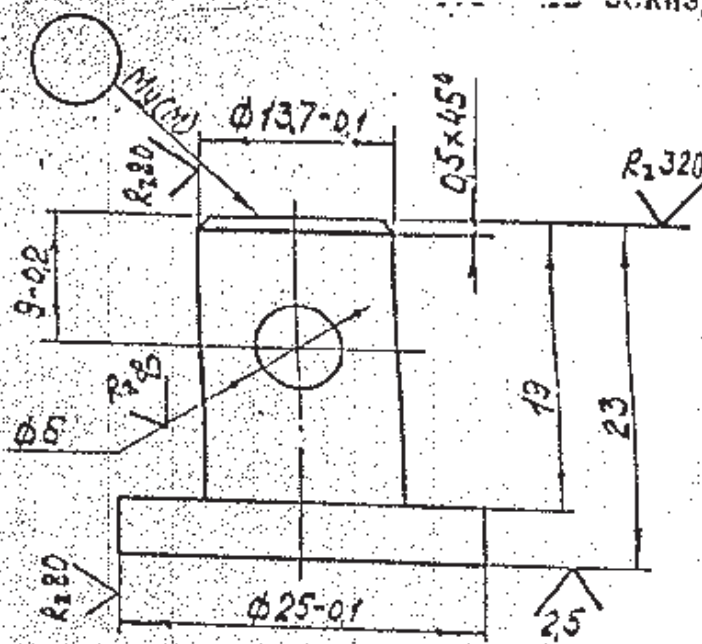
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The fungus should be manufactured from steel 20 GOST 1050-74 or other material upon agreement between the supplier and customer.

NOTE: Upon agreement between the supplier and customer the quantity the supplier and customer the quantity of fungus can be reduced.

1.5. Metallic group should be in compliance with the sketch for the design, dimension and surface finish.



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the test specimen should be brought to the room temperature.

4. MARKING AND PACKING

4.1. In case of acceptance, accessories, which are accepted by QID and customers representatives should be marked by the stamp of the customers representatives.

4.2. Presence of marking and stamp of production nature, which is not specified by the present instructions on the accessories, for example component number, interplant marking which are applied on the surface, indicated in the drawings, any of the places subjected to further machining, or on the casted unmachined surfaces.

4.3. Fungus is should be marked in compliance with the designation in the drawing by marks "M" and 'MY' which specifying the grade of material, for example: CT-25. The marking should be applied by punching or electric spark method.

4.4. Accessories and fungus should be delivered for packing, ensuring the keeping of their surfaces. Each packed case should have label, on which a stamp of QID, customers representative (in case of its acceptance) accessory number and the quantity is recorded.

4.5. Accessory and fungus which are wrapped in a paper or placed in a durable wooden boxes GOST 18573-78, GOST 16511-77, GOST 16536-78, GOST 2991-76, GOST 15841-77, which are protecting accessory against damages.

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From of a Certificate:

Certificate NO: _____

for accessory No. _____

(Manufacturing plant)

Name of the accessory	Number (designation of the accessory)	Mark of COST or specifications of the alloy	Actual hardness of the accessory	Quantity of "groups" belongs to accessory	Quantity of accessories	Note

X - to be filled if the norm of hardness of alloy is specified in the drawing on accessory.

Form of stamp:

Customer's representative

Statement on fitness and permission for delivery.

Stamp here.

Factory director

QID chief

Statement of customer's representative

Customer's representative.

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4.7. Accessory and the 'groups' should be stored under the conditions, ensuring their preservation against corrosion and mechanical damages should be protected against the effect of moisture, acid vapor and dirt.



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Recommended appendix 2.

DETERMINATION OF APPARENT SOLIDITY
POROUS RUBBER

The procedure is based on hydrostatic weighing of test specimen of porous rubber and is intended for the evaluation of apparent solidity of porous rubber and articles.

1. TEST SPECIMEN FOR THE TEST

1.1. Test specimen of any shape, and specially vulcanized or cut from the finished articles.

1.2. Weight of the test specimen should be not less than 0.002 kg.

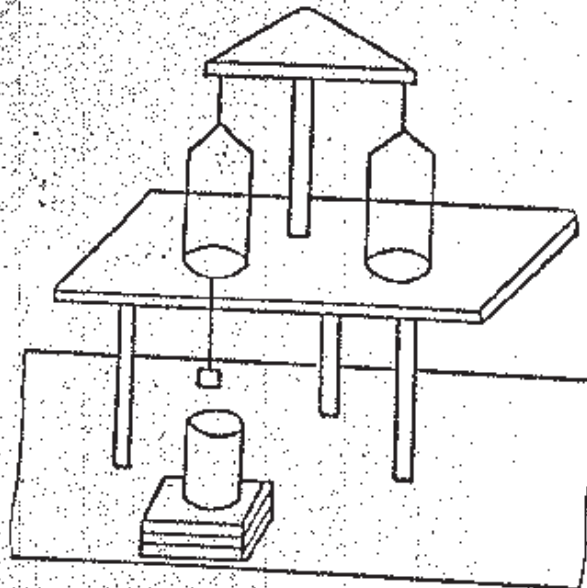
NOTE: Minimum weight of the test specimen can be 0.01 kg at apparent density of rubber less than 300 kg/m^3 .

2. DEVICES AND FIXTURES

2.1. Device for hydrostatic weighing consists of laboratory balances of class 4 with maximum weighing, not exceeding 200 gm and with scale denominated in GOST 24104-80E, needle for pricking to the left pan of the laboratory balances is rigidly secured and cup with distilled water

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2.2. Diagram of one of the possible alternative of the possible alternative of the device is given in the figure.



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Where m_1 - Weight of test specimen in the air, kg.

m_2 - Weight of the load required for equalizing the balances when dipping the test specimen in the water, kg.

m_2 - put it by sign 'plus', if the set of weights is set to the left pan of the balances (apparent solidity of the rubber is less than 1000 kg/m^3) and by mark 'minus' if the set of weigh. is set to the right pan of the balance (apparent solidity of the test specimen is more than 1000 kg/m^3);

PB - Density of the water, kg/m^3 .

Name : - Density of water is taken equal to 1000 kg/m^3 ;

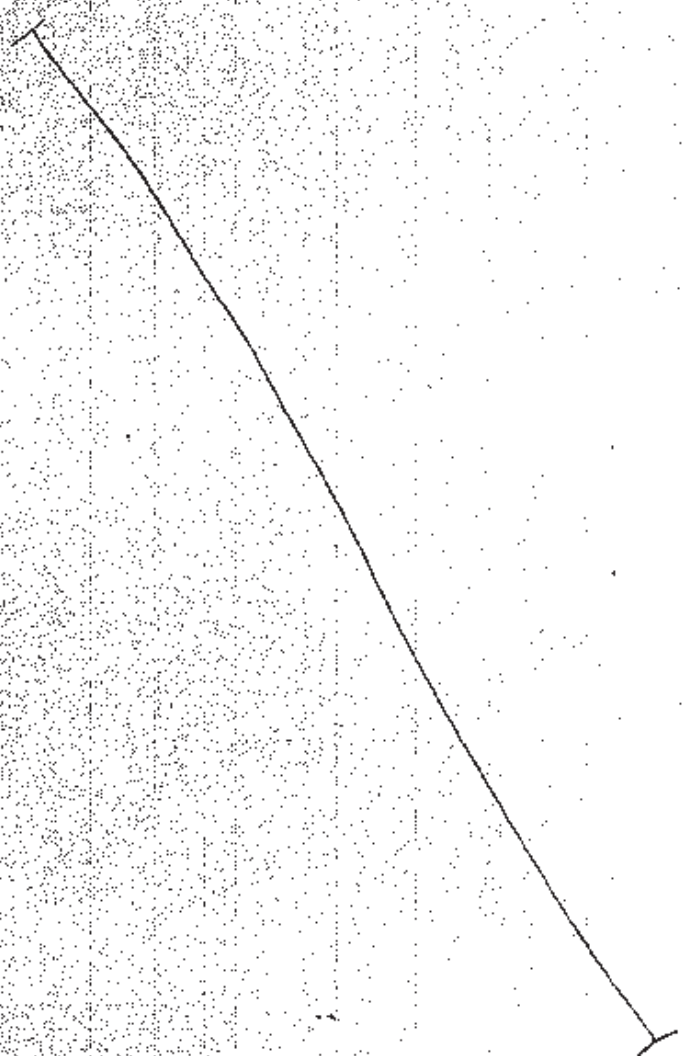
4.2. Arithmetical mean of two indications, differentiating less than by 10% is taken for the test result.

4.3. Entry of the test results should be carried out by the following way :

Date of the test.	Code of the rubber	Number of the test specimen.	m_1 Kg	m_2, Kg	ρ_K kg/m^3	$PB, \text{cp.}$ kg/m^3
				+ -		

4.3. Entry of test results should be carried out in the following way :

Date of test	Code of rubber	Number of the test specimen.	h ₀ mm	h ₁ mm	P ₁ Kg N		T MPa	T _{0.5} MPa
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2.3. Vernier calliper GOST 166-80 or thickness measuring gauge with value of division 0.1 mm. (type TP-25-60 or TP-25-100 GOST 11358-74).

3. TEST

3.1. Measure the height of the test specimens with accuracy upto 0.1 mm.

3.2. Set the stopping devices to the lower plate of the screw clamp.

The stopping devices should ensure the pressing the test specimens by $(50 \pm 5)\%$.

3.3. Place the test specimens on the lower plate in such a way so that the distance between the test specimen is not less than 5 mm and press the screw - clamps until the upper plate is touched with the stopping devices.

3.4. Keep screw - clamps with the test specimens at a temperature $(23 \pm 3)^{\circ}\text{C}$ or $(70 \pm 3)^{\circ}\text{C}$ for (22 ± 0.5) hrs.

3.5. On expiry of the time of test the screw-clamps are taken out from the thermostat, unclamp the screw clamp and remove the test specimens from the lower plate. The test specimens which are set free from the pressing load and left them in free condition at room temperature for the restoring for (30 ± 2) minutes.

3.6. Measure the height of after the restoring.

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2.4.3. Entry of the test results should be carried out in the following way :

Date of test	Code of the stock	Number of the test-specimen.	h ₀ MM	h ₁ MM	h ₂ MM	KB	KB	CP

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Physical mechanical properties of rubber and technological properties of rubber stock.

TABLE-16

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		(10)		(11)				(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
								(9)	(10)	(11)	(11)	(11)	(11)	(11)	(11)								
Trade name of rubber	Type of rubber	Mos of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	MoS of vulcanization and character of the finished product	
1-14-1	CM-13	151,3 142,0	201,0 192,0	11,8 (120)	140	8	70-80	0,15	100	24	45	10	10	10	10	10	10	10	10	10	10	10	To be shaped, to be extruded.
1-14	CM-10	151,3 142,0	201,0 192,0	11,8 (120)	140	4	70-80	0,15	100	24	45	10	10	10	10	10	10	10	10	10	10	10	To be shaped, to be extruded.
51-2028	CM-13	151,3 142,0	201,0 192,0	11,8 (120)	140	3	70-80	0,15	100	24	45	10	10	10	10	10	10	10	10	10	10	10	To be shaped, rolled and extruded for blank.
1-15-2	CM-16	151,3 142,0	201,0 192,0	11,8 (120)	300	8	70-80	0,30	100	24	45	10	10	10	10	10	10	10	10	10	10	10	To be shaped, rolled and extruded.
51-2029	CM-13	151,3 142,0	201,0 192,0	11,8 (120)	140	8	71-82	0,50	100	24	45	10	10	10	10	10	10	10	10	10	10	10	To be shaped, rolled and extruded.
51-2030	CM-13	151,3 142,0	201,0 192,0	11,8 (120)	140	5	80-90	0,30	100	24	45	10	10	10	10	10	10	10	10	10	10	10	To be shaped, rolled and extruded.
101-1078	CM-13 CM-26	151,3 142,0	201,0 192,0	11,8 (120)	150	6	70-85	-	100	24	45	10	10	10	10	10	10	10	10	10	10	10	To be shaped, and extruded for blank.
783-2	CM-10 CM-21	141,3 132,0	191,0 182,0	10,3 (125)	250	10	80-90	-	100	24	45	10	10	10	10	10	10	10	10	10	10	10	To be shaped, and extruded for blank.
51-1124	CM-26	151,3 142,0	201,0 192,0	11,8 (120)	140	10	70-80	0,10	100	24	45	10	10	10	10	10	10	10	10	10	10	10	To be shaped, rolled and extruded.
5851	CM-26	141,3 132,0	191,0 182,0	10,3 (125)	300	20	55-70	-	100	24	45	10	10	10	10	10	10	10	10	10	10	10	To be shaped, and extruded for blank.
1204-1	CM-13	151,3 142,0	201,0 192,0	11,8 (120)	170	12	65-80	-	100	24	45	10	10	10	10	10	10	10	10	10	10	10	To be shaped, and extruded for blank.
1523	CM-26	141,3 132,0	191,0 182,0	10,3 (125)	120	10	60-95	-	100	24	45	10	10	10	10	10	10	10	10	10	10	10	To be shaped.

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Продолжение табл. 16

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		(10)		(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)		
								Композитный материал	Минус	Изменение относительного удлинения после старения в вакууме	Относительная остаточная деформация при снятии нагрузки	Удлинение при разрыве	Удлинение при разрыве									Удлинение при разрыве	Удлинение при разрыве
10-20-1	Силиконовый каучук	151,3	2,1, 0	0,8 (50)	250	12	55-70	Минус 0,10	Минус 30	100	24	200	24	10	10	10	10	10	10	10	10	3	To be shaped, rolled and extruded.
51-304	Силиконовый каучук	151,3	2,1, 5	0,3 (50)	500	25	50-60	Минус 0,30	Минус 50	100	24	200	24	10	10	10	10	10	10	10	10	3	To be shaped, rolled and extruded.
51-209	Силиконовый каучук	151,3	2,1, 0	0,8 (50)	500	15	40-55	Минус 0,20	Минус 45	100	24	200	24	10	10	10	10	10	10	10	10	3	To be shaped, rolled and extruded for blank.
51-309	Силиконовый каучук	151,3	2,1, 0	0,8 (50)	300	20	-	Минус 0,20	Минус 45	100	24	200	24	10	10	10	10	10	10	10	10	3	Lubricating compound for cotton cloth.
538 HA-2	Силиконовый каучук	151,3	2,1, 5	0,8 (50)	500	35	35-50	-	Минус 45	100	24	200	24	10	10	10	10	10	10	10	10	3	To be shaped and rolled.
HP-126	Силиконовый каучук	151,3	2,1, 0	0,8 (50)	100	-	30-50	Минус 0,60	Минус 60	250	72	200	24	20	45	10	10	10	10	10	10	3	To be shaped and extruded for blank.
51-161	Силиконовый каучук	170,3	2,1, 0	0,8 (50)	130	6	70-80	Минус 0,10	Минус 45	150	72	200	24	20	15	10	10	10	10	10	10	3	To be shaped, to be extruded.
51-200	Силиконовый каучук	150,3	2,1, 0	0,8 (50)	350	22	40-50	Минус 0,20	Минус 45	130	24	200	24	10	10	10	10	10	10	10	10	3	To be shaped, to be extruded.
51-304	Силиконовый каучук	150,3	2,1, 0	0,8 (50)	130	12	60-80	Минус 0,15	Минус 45	150	24	200	24	10	10	10	10	10	10	10	10	3	To be shaped, extruded and rolled.
HP-127	Силиконовый каучук	151,3	2,1, 5	0,8 (50)	120	10	70-80	-	Минус 45	250	72	200	24	20	40	10	10	10	10	10	10	3	To be shaped, extruded and blank on superior.
HP-50-14	Силиконовый каучук	151,3	2,1, 5	0,8 (50)	200	12	50-70	Минус 0,20	Минус 45	100	24	200	24	10	10	10	10	10	10	10	10	3	To be shaped, extruded and rolled.

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)			
Марка стали	Тип профиля	Регистр	Температура, °C	Скорость, м/с	Длина, м	Ширина, мм	Толщина, мм	Скорость, м/с	Длина, м	Ширина, мм	Толщина, мм	Скорость, м/с	Длина, м	Ширина, мм	Толщина, мм	Скорость, м/с	Длина, м	Ширина, мм			
91-1435	СМ-25	151,3	30,1,5	12,6	80	10	80-90	-	-	-	250	72	100	24	20	50	-	-	2,27	1	To be shaped, extruded for blank on supering.
МН-1316	СМ-25	151,3	30,1,5	12,6	80	10	70-80	-	-	-	200	72	100	24	20	45	-	-	1,93	3	To be shaped.
МН-1314-1	СМ-32	151,3	30,1,5	10,6	90	10	70-80	-	-	-	200	72	100	24	20	45	-	-	1,60	2	To be shaped extruded for blank on supering.
МН-5032	СМ-32	151,3	40,5,0	9,8	850	20	50-55	0,10	-	-	160	14	150	24	20	60	-	-	0,4	3	To be shaped extruded for blank on supering.
МН-1223М	СМ-32	151,3	30,1,5	11,2	130	15	75-90	-	-	-	200	72	100	24	20	60	-	-	2,13	3	To be shaped.
ИЗ-1220	СМ-10	151,3	15,1,0	7,4	160	10	65-70	0,60	-	-	100	14	100	24	20	60	-	-	1,16	3	To be shaped, rolled and extruded for blank.
МН-1321	СМ-10	151,3	15,1,0	5,9	200	5	55-70	0,45	-	-	100	14	100	24	20	60	-	-	1,47	7	To be shaped, rolled and extruded for blank.
Б1-1710	СМ-35	151,3	30,1,5	11,6	170	15	72-82	-	-	-	-	-	-	-	-	-	-	-	1,89	3	To be shaped, extruded for blank on supering.
И47	НК	151,3	15,1,0	15,0	600	32	35-50	-	-	-	70	24	70	24	20	60	-	-	1,05	4	To be shape and rolled.
3311	НК	143,5	10,1,0	14,0	700	28	30-45	-	-	-	70	24	70	24	20	60	-	-	0,94	4	To be shape and rolled.
44-3	НК	151,3	40,5,0	16,7	600	30	30-45	-	-	-	70	24	70	24	20	60	-	-	1,19	4	To be shape and rolled.
50-1	СМ-13	143,5	30,1,5	4,9	150	8	50-55	-	-	-	100	24	100	24	20	60	-	-	1,16	4	To be shaped.
310	СМ-25	143,5	25,1,0	4,9	500	40	35-50	-	-	-	100	24	100	24	20	60	-	-	1,22	4	To be shaped.
320	СМ-25	143,5	30,1,5	7,5	300	20	40-55	-	-	-	100	24	100	24	20	60	-	-	1,19	4	To be shaped, to be extruded.
1077	СМ-25	151,3	20,1,0	4,9	300	30	30-45	-	-	-	100	24	100	24	20	60	-	-	1,21	4	To be rolled.

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(Contd. Table 16)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)					
Sl. No.	Code	Designation	Material	Quantity	Weight	Length	Width	Thickness	Area	Volume	Weight	Volume	Weight	Volume	Weight	Volume	Weight					
1010-0	CHD-20	I43S	20x1,0	4,4	300	30	45-55	0,25	100	24	From minus 50 to 0	1,5(20)	15	1,11	1,35	6	To be shaped, rolled and extruded for blank.					
1011-1313	CHD-3	I43S	20x1,0	23,3	500	40	60-70	0,30	100	24	From minus 50 to 0	3,9(40)	-	-	1,21	3	To be shaped, rolled and extruded.					
51-3000	CHD-3	I43S	20x1,0	20,6	450	35	60-70	0,30	100	24	From minus 50 to 0	4,9(50)	-	-	1,21	2	To be shaped, rolled and extruded.					
1011-1277	CHD-3	I43S	20x1,0	9,8	300	20	57-70	0,50	100	24	From minus 50 to 0	2,9(30)	-	-	1,19	2	To be shaped, rolled and extruded for blank.					
1011-1346-3	CHD-3	I43S	20x1,0	15,7	600	25	40-50	0,10	100	24	From minus 50 to 0	2,9(30)	-	-	1,03	3	To be shaped, rolled and extruded.					
1011-1347-2	CHD-3	I43S	20x1,0	16,7	500	25	47-60	0,10	100	24	From minus 50 to 0	2,4(25)	-	-	1,15	3	To be shaped, rolled and extruded.					
1011-1348-2	CHD-3	I43S	20x1,0	12,3	300	20	60-75	0,20	100	24	From minus 50 to 0	2,9(30)	-	-	1,36	3	To be shaped, rolled and extruded.					
51-2002	CHD-3	I43S	20x1,0	14,7	550	20	40-55	0,20	100	24	From minus 50 to 0	2,9(30)	70	22	30	40	20,0	10	0,0025	1,27	6	To be shape and rolled.
51-1562	CHD-3R	I43S	20x1,0	21,0	650	40	38-45	-	100	24	From minus 50 to 0	-	-	-	1,00	1	To be shaped, rolled and extruded.					
51-3000 (continued)	CHD-20H	I514S	15x1,0	10,3	300	20	50-60	-	100	24	From minus 50 to 0	-	-	-	1,16	3	To be shaped, rolled and extruded.					
51-3000 (continued)	CHD-40	I514S	20x1,0	3,5	150	10	57-62	-	100	24	From minus 50 to 0	-	-	-	1,16	3	To be shaped, rolled and extruded.					

NOTES: 1. The indices, denoted by X1 are not standardized and X16 specified for setting the data for not less than 25 production layings for establishing the forms.
2. The index "Change of relative elongation after springing in air". For number 1364 is specified as per set of data for not less than 25 production layings.

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Norms for checking the quality of PT as per - external indications

- A -

Permissible deviations:	Nomenclature of PT						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Round sealing ring, rectangular shaped section	Sealing rings and rubber-metallic rubber shaft collars.	Rubber fabric sealing	Protective cover	Rubber gaskets, plugs	Diaphragms blank of diaphragm sheet.	
1. Impression of marks, arising of depression imprints of mold.	P, P* - Not allowed exceeding 0.1 mm. HP - Not allowed exceeding 0.2 mm; if thickness is upto 3.0 mm; exceeding 0.3 mm if thickness is above 3.0 mm. HP* - Not allowed with height (depth) exceeding 0.2 mm at thickness upto 5.0 mm and with height (depth) exceeding 0.3 mm if the thickness is above 5.0 mm.	P, P* - Not allowed HP, HP* - not allowed with depth HP, HP* - Not allowed with height exceeding 0.5 mm.	Not allowed with depth and height exceeding 0.3 mm.	With depth and height exceeding 0.2 mm is not allowed. * - with depth and height exceeding 0.3 mm is not allowed.	Exceeding 0.1 mm if the thickness upto 2.5 mm, exceeding 0.2 mm if the thickness is from 2.5 mm upto 8.0 mm, exceeding 0.3 mm if the thickness is above 8.0 mm is not allowed.	With depth exceeding 0.1 mm, with height exceeding 0.2 mm if the thickness is upto 2.0 mm; with depth exceeding 0.1 mm; with height exceeding 0.3 mm if the thickness is above 2.0 mm.	
2. Inclusions and traces of fallen inclusions.	Same	Same	P - Not allowed. HP - with depth exceeding 0.3 mm and diameter exceeding 1.0 mm if the thickness is upto 5.0 mm with depth 0.5 mm and with diameter exceeding 1.0 mm if the thickness is above 5.0 mm.	With dimension exceeding 0.3 mm is not allowed. Same.	P, P* - Exceeding 0.2 mm if the thickness is upto 5.0 mm; exceeding 0.3 if the thickness is above 5.0 mm are not allowed. HP, H* - Exceeding 0.3 mm if the thickness is upto 5.0 mm and exceeding 0.5 mm if the thickness is above 5.0 mm are not allowed.	P - Not allowed. HP - With depth exceeding 0.1 mm and diameter exceeding 1.0 mm are not allowed.	

- Same -

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Table 18

-A-

Articles made of rubber mould Technique

Rubber-metallic and rubber shock-absorber. Rubber inserts for elastic elements, coupling and valves.	Vibroinsulating supports	Rubber-metallic and rubber bushes.	Technical plates without fabric gaskets and fabric gaskets and article of them.	Technical plates without fabric gaskets and articles of them	Porous plates and articles of them.	Porous components
(8)	(9)	(10)	(11)	(12)	(13)	(14)
Exceeding 0.5 mm is not allowed. For the values it is specified in the drawing.	Exceeding 1.0 is not allowed.	Exceeding 0.5 mm is not allowed.	Exceeding 0.3 mm if the thickness is upto 2.5 mm; exceeding 0.5 mm if the thickness is above 2.5 mm of the total area exceeding 5% are not allowed. * - Same	With height and depth exceeding 0.5 mm of the total area exceeding 5% are not allowed.	Exceeding 1.0 mm if the thickness upto 3.0 mm; exceeding 2.0 mm if the thickness is above 3.0 mm are not allowed.	Exceeding 1.0 mm are not allowed.
Exceeding 0.3 mm are not allowed.	With depth exceeding 0.5 mm and diameter exceeding 1.0 mm are not allowed.	With dimensions exceeding 0.3 mm are not allowed.	* - Same	With depth exceeding 0.5 mm and diameter exceeding 1.0 mm are not allowed.	Exceeding 1.0 mm if the thickness is upto 3.0; exceeding 2.0 mm if the thickness is above 3.0 mm are not allowed.	With depth exceeding 1.0 mm if the thickness is 15.0 mm and exceeding 2.0 mm if the thickness is exceeding 15.0 mm are not allowed.

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(1)	(2)	(3)	(4)	(5)	(6)	(7)
3. Moulding flaw, depressions and dents.	P, P* - Not allowed. HP, HP* - With depth, height and radius exceeding 0.3 mm are not allowed.	P, P* - Not allowed. HP, HP* - With height and with depth and radius exceeding 0.3 mm are not allowed.	P - Not allowed. HP, HP* - With area exceeding 0.5 mm with height; depth and radius exceeding 0.5 mm are not allowed.	With dimension exceeding 0.3 mm are not allowed.	Exceeding 0.1 mm if the thickness is upto 2.5 mm; exceeding 0.2 mm if the thickness is from 2.5 upto 8.0 mm; exceeding 0.3 mm if the thickness is above 8.0 mm are not allowed. * - Same	P - Not allowed. HP - Upon agreement between supplier and customer.
4. Difference in the thickness, wall thickness, facet, ovality of holes.	Exceeding half of the field of tolerance are not allowed. * - Within the tolerances.	Exceeding half of the field of tolerance are not allowed. * - Within the tolerances.	Exceeding half of the field of tolerance is not allowed.	Exceeding half of the field of tolerances are not allowed. * - Within the tolerance.	Exceeding half of the tolerance are not allowed.	Exceeding the half of the field of the tolerances are not allowed.
5. Projecting and drawn in burrs, traces due to the cutting of gate.	Exceeding 0.1 mm if the thickness upto 5.0 mm and exceeding 0.3 mm if the thickness is above.	P, P* - not allowed. HP, HP* - Exceeding 0.2 mm if the thickness is upto 5.0 mm and exceeding 0.5 mm if the thickness is above 5.0 mm are not allowed.	With height exceeding 0.7 mm are not allowed.	With height exceeding 0.5 mm, if the thickness with depth exceeding 0.2 mm are not allowed. * - Same	Exceeding 0.2 mm if the thickness is upto 3.0 mm; exceeding 0.5 mm if the thickness is above 3.0 mm are not allowed. Exceeding 0.5 mm not allowed.	For height exceeding 0.5 mm, with depth 0.1 mm are not allowed.
6. Traces due to cutting with cutting tool and due to grinding.	1. Traces due to cutting with cutting tool exceeding 0.2mm for ring with height upto 3 mm and exceeding 0.3 mm for ring with height exceeding 3 mm are not allowed. Grinding as required for the parting line of the mould within the half of the field of tolerance in the section of ring are allowed. * - Same.	Within the half of the field of tolerance are allowed. * - Same	Traces due to trimming of pressing out or their grinding are allowed.	Grinding as required for the parting line of mould are allowed. * - Same	Within the tolerance are allowed. * - Same	Grinding as required for the parting line of mould are allowed.

(8)	(9)	(10)	(11)	(12)	(13)	(14)
<p>P - Not allowed. HP - exceeding 0.5 mm if the diameter is exceeding 50 mm are not allowed.</p>	<p>P - Not allowed. HP - exceeding 0.5 mm are not allowed.</p>	<p>Not allowed.</p>	<p>Articles: Inspect gaskets, rubber sheets and HP articles - exceeding 0.5 mm if the thickness is upto 2.5 mm; exceeding 1.0 mm if the thickness is above 2.5 mm.</p>	<p>Along the perimeter of the plate at a distance exceeding 20 mm from the edge are not allowed.</p>	<p>With depth exceeding 2.0 mm and with length exceeding 100 mm, not exceeding 5 damages in number at 1 mm of the plate surface are not allowed.</p>	<p>With Depth exceeding 2.0 mm and radius exceeding 1.0 mm are not allowed.</p>
<p>Within the tolerances.</p>	<p>Within the tolerances.</p>	<p>Within the tolerances.</p>	<p>* - Same. Within the tolerances.</p>	<p>Within the tolerances.</p>	<p>Within the tolerances.</p>	<p>Within the tolerances.</p>
<p>For shock absorbers, with height exceeding 0.5 mm, with depth exceeding 0.3 mm are not allowed. For inserts exceeding 0.5 mm are not allowed.</p>	<p>Burrs are not allowed; With height exceeding 1.0 mm, with depth exceeding 2.0 mm are not allowed. Gate marks with height exceeding 1.0 mm, with depth exceeding 2.0 mm are not allowed.</p>	<p>Along the external diameter with thickness and with height exceeding 0.5 mm are not allowed.</p>				<p>Exceeding 1.0 mm are not allowed.</p>
<p>Within the tolerance are allowed.</p>	<p>Within the tolerance are allowed.</p>	<p>Within the tolerances are allowed.</p>	<p>Within tolerances are allowed. * - Same.</p>	<p>Within the tolerances are allowed.</p>	<p>They are allowed.</p>	<p>They are allowed.</p>

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(1)	(2)	(3)	(4)	(5)	(6)	(7)
7. Blunting of acute edges.	With radius exceeding 0.3 mm are allowed. * - Same	P, P* - Not allowed. HP, HP* - with radius exceeding 0.5 mm are not allowed.	It is allowed	With radius exceeding 0.3 mm is not allowed.	With radius exceeding 0.3 mm is not allowed.	With radius exceeding 0.3 mm is not allowed.
8. Cuts, tears and notches.	They are not allowed. * - Exceeding 0.2 mm if the thickness is upto 5.0 mm and upto 0.5 mm if the thickness is exceeding 5.0 mm.	P, P* - Not allowed. HP - Exceeding 0.3 mm are not allowed. HP - Exceeding 0.5 mm are not allowed.	P - It is not allowed. HP - With depth exceeding 0.3 mm with length above 10% along the perimeter are not allowed.	Exceeding 0.3 mm if the thickness is upto 3.0 mm exceeding 0.5 mm if the thickness is above 3.0 mm are not allowed.	P - They are not allowed. HP - Exceeding 0.1 mm if the thickness is upto 5.0 mm; exceeding 0.3 mm above 5.0 mm are not allowed. * - Exceeding 0.3 mm if the thickness is upto 5.0 mm and exceeding 0.5 mm if the thickness is above 5.0 mm are allowed.	Exceeding 0.1 mm along the perimeter are not allowed.
9. Air cavities (bare places)	P, P* - Not allowed. HP, HP* - With area exceeding 0.1 mm ² are not allowed. With depth exceeding 0.2 mm are not allowed.	P, P* - They are not allowed. HP, HP* - With area exceeding 0.2 cm ² , with depth exceeding 0.2 mm are not allowed.	-	P, P* - They are not allowed. HP, HP* - They are allowed.	P, P* - They are not allowed. HP, HP* - They are allowed.	They are not allowed.
10. Thickness difference, moiré sketches, absence of glass, presence of fading constituents and products due to their interactions, localized embedment, dotted burns.	They are allowed. P - Absence of glossy and dotted burns are not allowed.	They are allowed. P - Dotted burns are not allowed.	They are allowed.	They are allowed.	They are allowed.	They are allowed.
11. Uncovering of fittings.	-	Uncovering of fittings at the places of fixing it in the mould.	-	-	-	-

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(8)	(9)	(10)	(11)	(12)	(13)	(14)
They are allowed.	They They are allowed.	They They are allowed.	On the plates it is allowed. <i>Same</i>	It is allowed on the plates.		With radius exceeding 1.0 mm is not allowed.
Exceeding 0.3 mm are not allowed.	Exceeding 1.0 mm are not allowed.	Exceeding 0.3 mm are not allowed.	Articles : P-Inspect the gaskets of rubber sheets; exceeding 0.3 mm if the thickness is upto 2.5 mm and exceeding 0.5 mm if the thickness is above 2.5 mm are not allowed. <i>Same</i>	Exceeding 1.0 mm are not allowed.	Exceeding 1.0 mm are not allowed.	With depth exceeding 1.0 mm are not allowed.
They are not allowed.	They are not allowed.	They are not allowed.	With total area exceeding 5% are not allowed.	With total area exceeding 5% are not allowed.	They ^{be} are allowed.	They ^{be} are allowed.
Deposit of sufficient is not allowed.	Upon agreement between supplier and customer they are allowed.	Deposit of sufficient is not allowed.	They are allowed.	They are allowed.	They are allowed.	They are allowed.
Upon agreement between supplier and customer they are allowed.	Upon agreement between supplier and customer they are allowed.	They are not allowed.				

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(1)	(2)	(3)	(4)	(5)	(6)	(7)
12. Run-over of rubber on the surface of fittings.	-	They are allowed.	-	-	-	-
13. Corrugation, buckling.	-	-	P - Not allowed. HP - They are allowed without separation.	-	-	-
14. surface finish and porosity.	They are not allowed.	They are not allowed.	* - Within the tolerance is allowed. <i>Upon agreement between customer and supplier surface finish is allowed</i>	They are not allowed.	They are not allowed.	They are not allowed.
15. Imprint of twill.	-	-	They are allowed.	-	-	They are allowed.
16. Traces due to carbon deposit of rubber in the mould.	P, P* - Not allowed. HP, HP* - They are not allowed.	P, P* - Not allowed. HP, HP* - They are not allowed.	P - Not allowed. HP - Allowed.	They are not allowed.	RP - Not allowed. HP - Allowed.	They are not allowed.
17. Traces due to glue.	-	At the places of fixing of fixtures in the mould. In the separate valid cases upon agreement between the supplier and customer in other places specified in the drawing also they are allowed.	-	-	-	-
18. shift of parting line of mould as required.	Within the tolerance on the section. but * - Same. <i>max. 0,2 mm</i> - Same -	Within the half of the tolerance * - Same.	Within the tolerance.	Within the tolerance. * - Same.	Within the tolerance. * - Same.	Within the tolerance.

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(8)	(9)	(10)	(11)	(12)	(13)	(14)
Upon agreement between the customer and supplier they are allowed.	Thickness exceeding 6.0 mm on the vertical planes of short sides.	Thickness exceeding 1.0 mm on the external surface of the fitting is allowed. On the internal side it is not allowed.	-	-	-	-
-	-	-	-	-	With depth exceeding 2.0 mm and length exceeding 100 mm exceeding 5 pcs in im surface of the sheet.	With depth exceeding 1.0 mm are not allowed
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
They are not allowed.	They are allowed.	They are not allowed.	They are allowed.	Negligible traces are allowed.	With exceeding 0.6 mm are not allowed.	They are allowed.
For the valves of	They are allowed.	They are allowed.	-	-	They are allowed	They are allowed.
-	-	-	-	-	-	-
Upon agreement between the customer and supplier, it is allowed for the shock absorbers, for rubber inserts exceeding 0.5 mm is not allowed.	Exceeding 1.0 mm is not allowed.	Exceeding 0.5 mm is not allowed.	-	-	-	Within the tolerance in the dimension is allowed.

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(1)	(2)	(3)	(4)	(5)	(6)	(7)
19. Misalignment of profile of the butt-joint to suit the place. (When placing the blanks in the press-mould.	-	-	-	-	-	-
20. Bubble.	-	-	They are not allowed.	-	-	They are not allowed.
21. Traces of butt-joint.	Without separation they are allowed. * - Same	Without separation they are allowed. * - Same	-	Traces of butt-joint. * - Same	Traces of butt-joint. * - Same	-

NOTE:

1. P - Surface of PTAU for the quality of which raised requirements. For the rubber and rubber metallic sealing rings, operating surface - surface at a distance not less than 3 mm from the operating edges, beyond the limits 3mm feeler pot of the sealing ring, cavitations, specified for non-operating surface (HP), not exceeding along the height and depth 0.1 mm are allowed.
2. HP - Other surfaces of PTAU
3. * - Relative to PTAU of rubber on the base of fluorine-containing elastomer.
4. On the sheets, if they are intended for cutting of gaskets, sections with defects, slightly above the requirements for the rubber gasket should be out lined with colour paint. The out lined sections should be subjected to cut.

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Continuation of Table 18.

- E -

(8)	(9)	(10)	(11)	(12)	(13)	(14)
-	-	-	-	-	-	Step with depth exceeding 1.0 is not allowed.
-	-	-	With area exceeding 5% are not allowed.	With area exceeding 5% are not allowed.	With area exceeding 10 mm of 15 pcs in the 1.0 m ² of the surface of the sheet are not allowed.	With area exceeding 30 mm, in this case linear dimension of the deviation not exceeding 1/4 of the dimension of the section having discrepancy.
-	-	-	-	-	They are allowed.	They are allowed.

5. Variation from the shape without changing the section of PTA, which are subjected to thermostatic control.
6. Number of permissible variations for one component should not exceed four.
7. Requirements for the external appearance of sealing ring surfaces of round section, except the places of moulding parting line should be in compliance with the requirements for the surface "p".

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