

RUBBER DESIGN 2016 COMPETITION

INTERNATIONAL COMPETITION

Open to students, professionals and researchers in
architecture, engineering and design
*Registrations from the 22nd of July to the
30th of September 2016 on the website
<http://www.rubberdesigncompetition.com>*

ATTACHMENT C

TECHNICAL DOCUMENTATION

TABELLA LASTRE IN GOMMA
RUBBER SHEET DIRECTORY

Categorie Classes	Denominazione commerciale Commercial Name	Codice Code	Standard On Stock	Colore Colour	Prove secondo norme ASTM Tests according to ASTM norms					Guida generale per la scelta della lastra General guide for sheet selection									
					Durezza Hardness	Peso specifico Specific gravity	Carico di rottura Tensile strength	Allungamento a rottura Elongation	Resistenza a Lacerazione Tear strength	Temperature max di esercizio Max working temperature			Temperatura min. di esercizio Min. Working temperature	Elasticità Elasticity	Compressione Compression	Abrasion Abrasion	Fiamma Fire	Carburanti Fuel	Agenti atmosferici light & ozone
										aria air	olio oil	acqua water							
					Sh.A ±5	g/cm3 ±0,03	Mpa min.*	% min.	N/mm min.*										
SPR Industrial	industriale industrial	1011 50	no no	nero black	50	1,50	3	300	15	+70	X	+70	-20	AB	C	C	C	X	X
	industriale industrial	1011 60	no no	nero black	60	1,55	3	250	15	+70	X	+70	-20	C	C	C	C	X	X
	industriale industrial	1011 70	si yes	nero black	70	1,65	3	200	15	+70	X	+70	-20	C	C	C	C	X	X
	industriale dura industrial hard	1011 80	no no	nero black	80	1,65	3	200	15	+70	X	+70	-20	C	C	C	C	X	X
	industriale industrial	1503R	si yes	rosso red	65	1,46	4	300	15	+70	X	+80	-25	BC	BC	BC	B	X	C
	industriale industrial	1503B	si yes	bianco white	65	1,46	4	300	15	+70	X	+80	-25	BC	BC	BC	B	X	C
	industriale industrial	1040	no no	nero black	42	1,21	5	450	10	+70	X	+80	-30	B	B	B	C	X	X
	elettro isolante electrical insulation	ISOL	no no	grigio gray	65	1,25	9	400	25	+80	X	+80	-30	B	B	B	C	X	C
NBR-RR ANTI-ABRASIVE	antiabrasiva super super antiabrasion	1002	si yes	nero black	65	1,13	20	350	70	+80	X	+80	-35	A	A	A	C	X	C
	antiabrasiva antiabrasion	1010	no no	nero black	65	1,19	13	300	40	+80	X	+80	-30	AB	AB	AB	C	X	C
	antiabrasiva economica economic antiabrasion	1015	si yes	nero black	65	1,40	6	350	25	+75	X	+80	-25	B	B	B	C	X	C
	antiabrasiva antiabrasion	1007 55	no no	nero black	55	1,20	12	450	35	+80	X	+80	-35	B	B	B	C	X	X
NBR NATURAL RUBBER	para natural rubber	1506	si yes	beige honey yellow	40	0,97	20	550	40	+70	X	+70	-35	A	A	B	C	X	C
	para economica economic natural rubber	1507	si yes	beige honey yellow	45	1,10	10	400	40	+70	X	+70	-30	AB	AB	AB	C	X	C
	para economica colorata economic natural rubber colored	1507 R	no no	rossa/nera red/black	45	1,10	10	400	40	+70	X	+70	-30	AB	AB	AB	C	X	C
	para colorata colored natural rubber	1522	no no	grigio/beige gray/beige	40	1,03	16	600	20	+70	X	+80	-35	A	A	B	C	X	C
	lastra para natural rubber sheet type	1509	no no	naturale natural	34	0,93	20	700	30	+60	X	X	-35	A	A	B	C	X	C
	lastra para natural rubber sheet type	1504	no no	rosso red	35	0,94	15	600	25	+70	X	+70	-35	A	A	B	C	X	C
	giunti dinamici dynamic joints	1003	no no	nero black	78	1,17	15	300	60	+80	X	+80	-35	A	A	A	C	X	C
	impiallacciatura veneering	MOBIL	si yes	rosso/bianca red/white	44	1,07	23	700	85	+110	X	+100	-35	A	A	A	C	X	B
NBR OIL-RESISTANT	antibenzina fuel resistant	2026	si yes	nero black	72	1,40	10	320	35	+100	+100	+90	-15	C	B	C	C	A	BC
	antiolio oil resistant	2001	si yes	nero black	72	1,50	8	350	30	+100	+100	+90	-20	BC	B	C	C	BC	C
	antiolio oil resistant	2001 60-65	no no	nero black	65	1,47	6	400	20	+100	+100	+90	-20	BC	B	C	C	BC	C
	antiolio economica economic oil resistant	ANTI EC 70	si yes	nero black	70	1,55	5	250	15	+70	+23	+80	-20	BC	BC	C	C	C	C
	antiolio economica economic oil resistant	ANTI EC 60	no no	nero black	60	1,53	4	250	12	+70	+23	+70	-20	BC	BC	C	C	C	C
	antiolio economica economic oil resistant	ANTI EC 50	no no	nero black	50	1,50	3	350	10	+70	+23	+80	-20	BC	BC	C	C	C	C
	trasformatori transformer	2004	si yes	nero black	68	1,25	13	300	45	+120	+120	+90	-25	B	B	C	C	A	BC
	trasformatori transformer	2005	no no	nero black	72	1,50	8	300	30	+100	+100	+90	-20	C	BC	BC	C	B	C
	antigas anti-gas	GAS	no no	nero black	72	1,24	12	350	60	+100	+100	+90	-20	B	B	C	C	A	BC
	alimentare food contact	1532 N FDA	si yes	bianco white	60	1,30	9	400	22	+100	+100	+90	-20	B	B	C	C	B	C
	lastra anticalore NBR high temperature	2020	no no	nero black	68	1,20	17	300	80	+100	+150	+100	-30	B	B	AB	C	A	BC
	CR	cloroprene super super chloroprene	3015	si yes	nero black	60	1,42	12	400	35	+90	+50	+90	-20	B	B	C	A	BC
cloroprene chloroprene		3012	no no	nero black	65	1,48	9	300	25	+90	+23	+90	-20	B	B	BC	C	C	C
neoprene autoestinguente self-extinguishing neoprene		3300	no no	nero black	60	1,66	7	450	20	+100	+100	+100	-25	BC	BC	C	C	C	C
cloroprene chloroprene		3016	no no	nero black	65	1,46	10	500	15	+90	+50	+90	-20	C	C	B	B	C	B
cloroprene chloroprene		3017	no no	nero black	70	1,60	6	350	15	+90	+50	+90	-20	C	C	B	B	C	B
cloroprene economico economic chloroprene		NEO EC 70	si yes	nero black	70	1,55	5	250	15	+70	+23	+80	-20	BC	BC	C	C	C	C
cloroprene economico economic chloroprene		NEO EC 60	no no	nero black	60	1,55	4	300	15	+70	+23	+80	-20	BC	BC	C	C	C	C
cloroprene economico economic chloroprene		NEO EC 60 B	no no	bianco white	60	1,45	6	500	15	+70	+23	+70	-20	BC	BC	C	C	C	C
cloroprene super super chloroprene		NEO EC 80	no no	nero black	80	1,50	6	200	20	+70	+23	+70	-20	BC	BC	C	C	C	C
appoggi ponte bridge bearing	APCR	no no	nero black	60	1,21	16	450	60	+90	+23	+90	-25	AB	A	AB	C	C	B	



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					Sh.A ±5	g/cm3 ±0,03	Mpa min.*	% min.	N/mm min.*	aria air	olio oil	acqua water							
EPDM	epdm super super epdm	4444 50	no no	nero black	50	1,09	10	480	10	+120	X	+100	-40	B	B	BC	C	X	A
	epdm super super epdm	4444 60	si yes	nero black	60	1,10	12	450	30	+120	X	+100	-40	B	B	BC	C	X	A
	epdm super super epdm	4444 70	no no	nero black	70	1,16	12	250	20	+120	X	+100	-40	B	B	BC	C	X	A
	epdm super super epdm	4444 80	no no	nero black	80	1,20	12	300	20	+120	X	+100	-40	B	B	BC	C	X	A
	epdm epdm	4000 60	si yes	nero black	60	1,26	7	400	20	+100	X	+90	-30	B	BC	BC	C	X	A
	epdm epdm	4000 70	no no	nero black	70	1,32	6	270	10	+100	X	+90	-30	B	BC	BC	C	X	A
	epdm economico economic epdm	EPDM EC 50	no no	nero black	50	1,29	5	300	15	+70	X	+80	-20	BC	BC	C	C	X	B
	epdm economico economic epdm	EPDM EC 70	si yes	nero black	60	1,33	5	250	15	+70	X	+80	-20	BC	BC	C	C	X	B
	epdm economico economic epdm	EPDM EC 80	no no	nero black	80	1,46	5	180	15	+70	X	+80	-20	BC	BC	C	C	X	B
	epdm autoestinguente epdm self-extinguishing	4300 UL 94	no no	nero black	68	1,55	4	400	25	+100	X	+100	-35	BC	BC	C	C	X	B
	epdm alimentare epdm for food contact	4600 FDA	si yes	bianco white	60	1,16	12	550	15	+100	X	+100	-25	A	B	BC	C	X	A
	epdm perossido alimentare epdm perox for food contact	4270	no no	nero black	73	1,08	14	150	20	+140	X	+100	-30	B	B	C	C	X	A
	epdm perossidico epdm perox	4180 PEROX	no no	nero black	80	1,18	12	120	25	+120	X	+100	-30	BC	B	B	C	X	A
FKM	Gomma Florurata Fluorine Rubber	6000	si yes	nero black	75	1,90	7	270	20	+200	+150	+100	-10	X	A	C	A	A	A
	Gomma Florurata Fluorine Rubber	6000	no no	verde green	75	1,90	7	200	20	+200	+150	+100	-10	X	A	C	A	A	A
	Gomma Florurata Fluorine Rubber	6000 FDA	no no	nero black	75	1,90	9	200	20	+200	+150	+100	-10	X	A	C	A	A	A
VMQ	silicone silicone	7001 R	si yes	rosso red	60	1,28	5	300	10	+180	X	+100	-50	B	A	C	B	X	A
	silicone silicone	7001 T FDA	si yes	trasparente transparent	60	1,16	6	300	15	+200	X	+70	-50	B	A	C	B	X	A
	silicone silicone	7001 40	no no	trasparente transparent	50	1,18	9	600	30	+200	X	+70	-50	B	A	C	B	X	A
	silicone silicone	7003 60 THT	no no	rosso red	60	1,18	7	350	10	+200	X	+70	-50	B	A	C	B	X	A
IR	butile butyl	8060	no no	nero black	60	1,32	7	400	15	+110	X	+100	-30	X	BC	C	C	C	C
HNBR	NBR IDROGENATA NBR Hydrogenated	2800 65	si yes	nero black	65	1,18	16	300	40	+150	+140	+100	-20	BC	A	A	C	B	B
	NBR IDROGENATA NBR Hydrogenated	2800 85	no no	nero black	85	1,25	18	150	45	+150	+140	+100	-20	BC	A	A	C	B	B
CSM	Gomma Clorosolfonata Chlorosulfonated Rubber	5000	no no	nero black	70	1,47	8	170	25	+120	+80	+100	-20	B	BC	AB	B	C	B
	Gomma Clorosolfonata Chlorosulfonated Rubber	5502	no no	grigio grey	65	1,50	8	300	20	+120	+80	+100	-20	B	BC	AB	B	C	B
	Gomma Clorosolfonata Chlorosulfonated Rubber	HYP 55	no no	nero black	60	1,43	15	300	30	+120	+80	+100	-20	B	BC	AB	B	C	B

R.T.= temperatura ambiente / room temperature = 23°C	* 1MPa = 10,2 kg/cm²	* 1N/mm = 1,02 Kg/cm	A = ECCELLENTE / VERY GOOD	B = BUONA / GOOD	C = SCARSA / POOR	X = PESSIMA / BAD
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INSERTO TESSILE: Le lastre vengono prodotte in tutta gomma e con inserti tessili. Il tipo di tessuto è nylon o poliestere.

TEXTILE INSERTS: The sheets are produced either in rubber only or with nylon or polyester inserts.

FINITURA DELLE SUPERFICI: la superficie delle lastre è normalmente liscia ma a richiesta può essere con impronta tela su una e su entrambe le facce.

SURFACE FINISH: the surface is usually smooth but one or both sides can made with cloth impression on request.

ASSISTENZA TECNICA E R&S: Il laboratorio tecnologico opera per la ricerca e lo sviluppo dei prodotti TOVO GOMMA e per la messa a punto di articoli su specifiche dei clienti.

TECHNICAL SERVICE AND R&S: Tovo Gomma laboratory is devoted for R&S to develop own and customer products.

DIMENSIONI		DIMENSIONS	
le lastre sono confezionate in rotoli e in placche aventi le seguenti dimensioni e tolleranze in funzione degli spessori.		the sheet are manufactured in rolls and plates with following dimensions and tolerances.	
per spessori fino a 10 mm	larghezza 1.500 mm ; lunghezza 10.000 mm	for thicknesses up to 10 mm	width 1.500 mm ; length 10.000 mm
per spessori oltre 10 mm	larghezza 1.030 mm ; lunghezza 1.060 mm	for thicknesses over 10 mm	width 1.030 mm ; length 1.060 mm
Tolleranze Dimensionali		Dimensional Tolerances	
larghezza rotoli	± 30 mm	width rolls	± 30 mm
lunghezza rotoli	-0 +500 mm	length rolls	-0 +500 mm
per spessori fino a 1,5 mm	± 0,2 mm	thickness up to 1,5 mm	± 0,2 mm
da 2,0 a 3,0 mm	± 0,3 mm	from 2,0 to 3,0 mm	± 0,3 mm
da 4,0 a 6,0 mm	± 0,5 mm	from 4,0 to 6,0 mm	± 0,5 mm
8,0 mm	± 0,8 mm	8,0 mm	± 0,8 mm
da 10,0 a 15,0 mm	± 1,0 mm	from 10,0 to 15,0 mm	± 1,0 mm
oltre 15,0 mm	± 2,0 mm	over 15,0 mm	± 2,0 mm