



Innovative Solutions for Road Sweeping Technology

Sweeping Sections



Roller Brushes



Side and Front Brushes



Mission statement



Our mission is to be the world's most dynamic brush company, creating solutions to improve our customers' products, increase our customers' productivity and provide safer and greener environments worldwide.

Particularly, in the road sweeping field our ultimate goal is to offer the most complete and technology leading range of cost effective solutions in close cooperation with our customers whether they are OEM's, service companies or communities.

Thus, we create sustainable value to our customers, employees and shareholders.

We work relentlessly to be highly responsive and deliver best in class service within a framework of integrity, commitment, respect and partnership with our customers. At OSBORN Unipol we deliver these values by being a true global brush company whilst keeping closeness with our business partners.

1 OSBORN Unipol

1.1	Your competent partner in surface finishing solutions	Page	3
1.2	Know-how	Page	5
1.3	Quality	Page	6
1.4	Service and logistics	Page	7
1.5	Environment and safety	Page	8

2 Products

2.1	Sweeping sections	Page	9
2.2	Roller brushes	Page	13
2.3	Strip brushes	Page	15
2.4	Side and front brushes	Page	17
2.5	Weed brushes	Page	21

3 Solutions for every need

3.1	Sweeping sections	Page	23
3.2	Roller brushes	Page	25
3.3	Side and front brushes	Page	26

4 Technical information

4.1	Fill materials	Page	27
4.2	Tips for use	Page	29

5 Our further product range

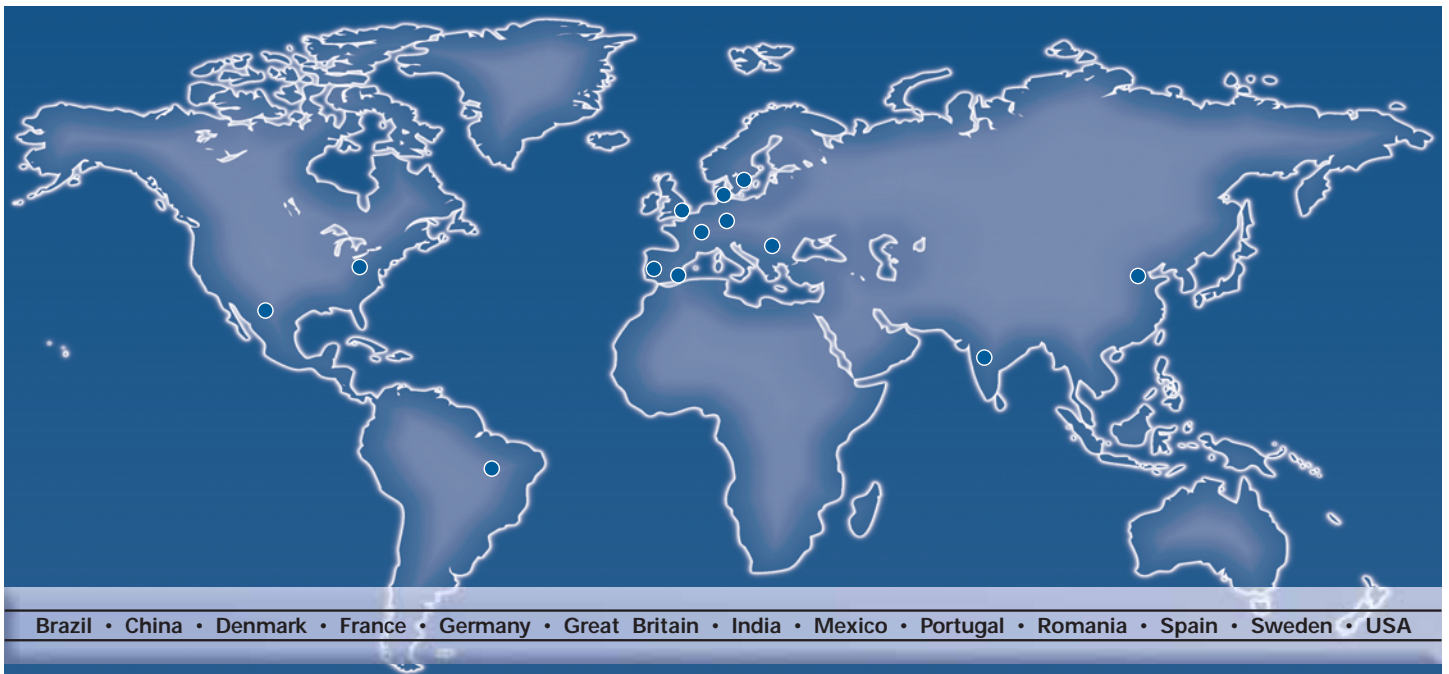
Page	33
------	----

Organizations throughout the world trust and depend on the quality and efficiency of OSBORN Unipol solutions. In 11 locations worldwide we are manufacturing brushes, abrasives, polishing tools and compounds of the highest quality for professional use in the industrial, trade and private sectors.

OSBORN Unipol products are sold in more than 90 countries, to industry, engineers, wholesalers, retailers and end users in highly diverse markets. The breadth of applications for our products is extensive, in fields such as aerospace, automotive, food processing, primary metals, oil and gas,

textile, wood processing and transportation industries etc. to name but a few.

Our group manufactures over 10,000 standard products in addition to the widest variety of engineered custom solutions for customers around the world. Whether in Western or Eastern Europe, North America, South America, Middle East or Asia, every company within our group, together with our network of field sales representatives, technicians, agencies and distributors throughout the world, offer high-quality technical products to the market as well as up-to-date solutions to industry problems.



* **OSBORN Unipol Ltd.**
Lower Church Street
Chepstow, Monmouthshire NP16 5XT - UK
Phone: ++44 (12 91) 63 40 00
Fax: ++44 (12 91) 63 40 98
eMail: sales@osborn-unipol.co.uk



OSBORN Unipol S.A.
Parc d'Activités de la Fringale
27100 Val de Reuil - France
Phone: ++33 (2) 32 09 50 50
Fax: ++33 (2) 32 25 06 92
eMail: contact@lippert-unipol.fr



* **OSBORN International S.R.L.**
Bd. Bucovina F.N.
725300 Gura Humorului - Romania
Phone: ++40 (230) 234 212
Fax: ++40 (230) 531 785
eMail: rosales@osborn.com



* **OSBORN International GmbH**
Ringstraße 10
35099 Burgwald - Germany
Phone: ++49 (64 51) 5 88-0
Fax: ++49 (64 51) 5 88-206
eMail: info@osborn.de



* **OSBORN International AB**
Huskarnavägen 105
S-56123 Huskvarna - Sweden
Phone: ++46 (36) 38 92 00
Fax: ++46 (36) 14 43 49
eMail: info@osborn.se



* **OSBORN International Ltda.**
Rua Lemos Torres, 150, Jardim Galiardi
09890-070 Sao Bernado do Campo - Brazil
Phone: ++55 (11) 43 91 65 59
Fax: ++55 (11) 43 91 65 50
eMail: osborn@osborn.com.br



Lippert Unipol GmbH
Eschelbronner Straße 35
74925 Epenbach - Germany
Phone: ++49 (72 36) 91 24-0
Fax: ++49 (72 36) 91 24-91
eMail: sales.lippert@lippert-unipol.de



* **OSBORN International A/S**
Nr. Bjertvej 103-107
6000 Kolding - Denmark
Phone: ++45 (76) 32 76 32
Fax: ++45 (76) 32 76 00
eMail: info@osborn.dk



OSBORN Lippert India Pvt.Ltd.
Plot No. E-66, MIDC Waluj
Aurangabad - 431 136 - India
Phone: ++91 (2 40) 25 56 53 8
Fax: ++91 (2 40) 25 52 53 0
eMail: sales@osborn-lippert.co.in



Lippert Unipol GmbH
Rudolf-Harbig-Weg 10
42781 Haan - Germany
Phone: ++49 (21 29) 93 07-0
Fax: ++49 (21 29) 93 07-23
eMail: sales.lippert@lippert-unipol.de



* **OSBORN Unipol S.L.**
Ronda Norte, 320
Poligono Industrial
46470 Catarroja (Valencia) - Spain
Tel.: ++34 (961) 325 876
Fax: ++34 (961) 324 602
eMail: ventas@osborn-unipol.es



OSBORN International China
Rm. 505, Tower H, Huiyuan Int. Apartment
No. 8 Beichen East Road, Chaoyang District
Beijing 100101 - PR China
Phone: ++86 (10) 84 98 81 91
Fax: ++86 (10) 64 99 18 63
eMail: cnsales@osborn.com



* **OSBORN Unipol S.A.**
Parc d'Activités Les Doucettes
23, Avenue des Morillons
95140 Garges Les Gonesse - France
Phone: ++33 (01) 34 45 06 00
Fax: ++33 (01) 39 93 67 11
eMail: info@osborn.fr



* **OSBORN Unipol Lda.**
Lugar da Cruz-Brito
4800 Guimaraes - Portugal
Tel.: ++351 (253) 47 95 50
Fax: ++351 (253) 57 66 29
eMail: sales@osborn-unipol.pt

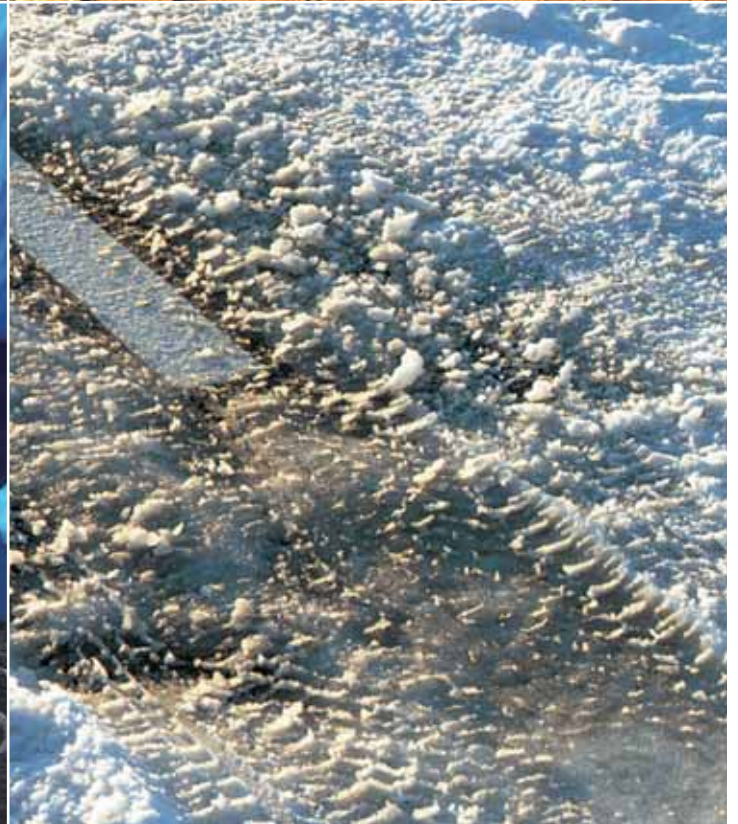
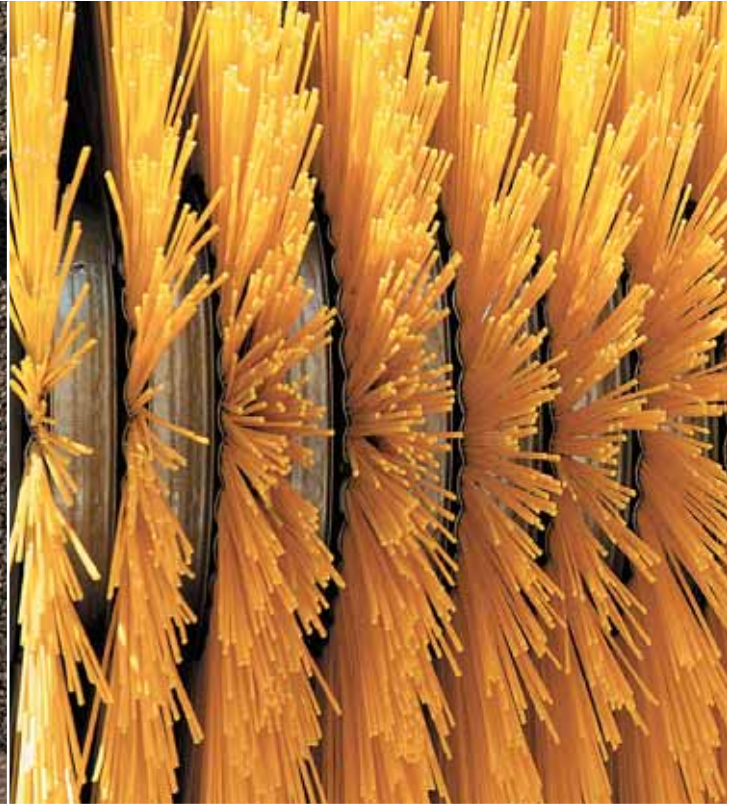


OSBORN International
5401 Hamilton Avenue
Cleveland, OH 44114-3997 - USA
Phone: ++1 (800) 720 33 58
Fax: ++1 (216) 361 19 13
eMail: brushes@osborn.com

Further contact details worldwide in: www.roadbrush.com

Our philosophy is to leverage the technical competence and advantages of our specialized production sites, while at the same time being close and easy to access to serve all local customers with the appropriate solutions, delivered on time, and with the necessary local support. We offer all the advantages and strengths found in both large multi-national

enterprise and smaller businesses. This enables us to be close to our customers, to react quickly and to be highly responsive. We are determined to provide ongoing satisfaction and we work towards this goal with commitment and enthusiasm. Building upon past success we look forward to fresh challenges ahead.



Know-how - Expertise Behind every industry leading solution provider is a wealth of knowledge and experience that is gained from decades of technical and application expertise. OSBORN Unipol precisely fit that mould, and as a business we have always prided ourselves on the calibre and longstanding experience of our people.

Further to the more than 10,000 standard products stocked for rapid deliveries, our experience since 1886 makes us aware of the need for bespoke products to meet your individual requirements. Our experienced associates will provide

solutions and will work closely with you and your business in all aspects of development and design, covering process, machinery, tooling and production criteria.

We have designed, tested and supplied brushes to the world's leading manufacturers of sweeping machines.

OSBORN Unipol supply brushes for a wide range of machines from hand operated to truck mounted machines, from roller brushes to side brooms, from street sweeping to new roads construction... OSBORN Unipol is able to offer a solution for all your needs.



Applied	Egholm	Multicar
Ausa	Elgin	NC
Beam	Euro Implementos	Piquersa
Bema	Euromec	Pulcar
Bemab	Faun	Ravo
Bobcat	Geesink	Scarab
Brodd-Son	Grandage	Schwarze
Bucher Schörling	Hako	Shelvoke
Bunce	ICM	Sturdiluxe
Caterpillar	JCB	Tennant
Conquip	Johnston	Terraco
Craig	Lacre PDE	...and others
Datum	Lebrero	
Dulevo	Markham	
Eastern	MRE	



Widest range of solutions developed with OEM's

Quality – Benchmarking – Product Development

The extensive benchmarking of our products provides absolute certainty that your business will be getting exceptional quality products every single time. Our R&D facilities and quality assurance laboratory tests mean that we have qualified data to determine that our products are the very best for your application. This means that you and your customers directly benefit from the substantial experience of our sales teams and our technicians who develop solutions throughout the world.

Every new product launch has been tested in the field to ensure optimum functionality. All products are manufactured under strict quality control. All operational procedures and product quality DIN EN ISO 9001:2000 are certified in OSBORN Unipol. Additionally, our products correspond to the

standards of the European Community (EN 1083-1 and EN 1083-2) and are in accordance with current Health & Safety regulations.

Furthermore, we realise that the industries we serve are continuously evolving and as a consequence we work extremely closely with our customers whether they are OEM's or end users to be at the cutting edge of brush technology – their feedback and views are critical for OSBORN Unipol to continue to deliver the most cost effective solutions to you.

The exceptional quality of our products coupled with our commitment to excellent customer service and support is your guarantee that OSBORN Unipol road sweeper brushes will do the job precisely and efficiently when and where it is needed.



Service – Logistics Extensive analysis and discussions with our customers has allowed us to understand with greater accuracy the needs of your business in today's market. As a consequence, we are hoping you will clearly see how our products, our support, our service and our expertise will benefit your company.

Every OSBORN Unipol facility work to lean manufacturing philosophies and principles. A substantial investment has been made over many years to ensure your orders are processed in absolutely the most efficient and effective way. Resulting in considerably reduced lead times, greater flexibility and thus better responsiveness to you, the customer.

With OSBORN Unipol's group centre of excellence for road sweeping solutions based in the UK and our dedicated regional warehouse facilities in the UK, Germany, Iberia and Sweden, you are sure to get access to the right products when you need them. Whether your business is driven primarily by service, value for money or technical support ... there is expertise and stock to serve your business. With an

extremely flexible lean approach to manufacturing, we are swift to react for special made-to-order solutions. Moreover, with our stock of standard items we are confident that we are able to meet your requirements and expectations of a world class supplier'.

This total commitment to excellent service, relevant stock and cutting edge manufacturing principles allow OSBORN Unipol to produce short batch runs and specials with ease.

If it's a road sweeper brush with your brand coloured filaments, or your company's name stamped on it for example, OSBORN Unipol can take care of all your private label needs too. Just think – when your customer looks to replace a brush or a broom and they need to call for a replacement – all they need to do is read your details on your brush, manufactured by us.

Our Customer Service Departments are the cornerstone in our relationship with our customers. They are here to listen, ascertain your requirements and establish the next stage either in catalogue product selection or referral to the Technical Services Department in case of special designs



Environment and Safety OSBORN Unipol is part of a major international corporation that specialises in the manufacture of industrial brushes, polishing tools and compounds, and these products are sold throughout the world. As a responsible manufacturer we are fully aware of the potential impact to the environment of the materials we use or the processes we manufacture under.

We are totally committed to the continuous improvement of environmental systems and will always comply with current and future environmental legislation.

OSBORN Unipol are proud to make our customers aware that we conduct regular audits with regards to the containment and storage of oils and chemicals, the reduction of process wastes, the reduction of all pollution risks and the reduction of CO₂ emissions.

We work relentlessly to achieve high levels of understanding through training, by working with suppliers and customers alike along with members of local communities to ensure we continue to be a responsible, environmentally aware manufacturer.

Our organization takes pride in sharing your sense of responsibility to the customers, communities and municipalities you serve. We help keeping roads and streets clean, safe and open. Besides that –as you are– we're also looking to the future by employing environmentally friendly solutions, products and processes to make this world a greener place to live.



Safer greener environments with OSBORN Unipol solutions



OSBORN Unipol extensive range of sweeping sections –or rings, as typically called– offers a wide variety of dimensions, fill materials, material dimensions and colors, densities and configurations which provide you an endless array of possible solutions to fit your needs and requirements optimally.

Our sweeping sections manufacturing range can offer:

Sweeping sections	Min.	Max.
Ext. Ø	300 mm*	915 mm
Int. Ø	2"	18"

* Items can be trimmed below 300 mm

Whilst the most frequent dimensions for internal diameter are:

Millimeters	Inches	Millimeters	Inches
50	2	178	7
76	3	210	8 1/4
100	4	220	8 5/8
110	4 1/3	235	9 1/4
112	4 1/2	254	10
127	5	300	11 3/4
152	6	380	15
162	6 3/8	457	18

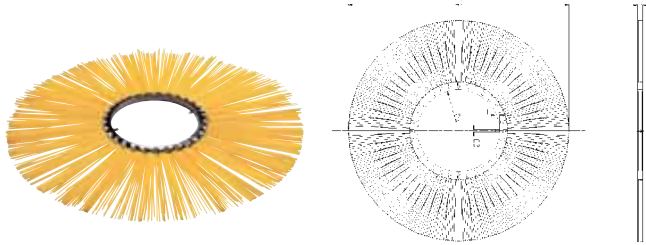
The high variety of fill materials includes Polypropylene (PP), Nylon, Polyester (PE) and steel wire in different diameter/sizes. The plastic filaments can also be supplied in different colors: yellow, blue, green, red, natural, black, orange and white. For additional, more detailed information about fill materials, please refer to section 4.1 Fill materials (page 29).

OSBORN Unipol sweeping sections can be assembled in machines from the following OEM's:

OEM's		
Ausa	Geesink	Tennant
Beam	Grandage	Terraco
Bema	Hako	...and others
Bemab	ICM	
Bobcat	JCB	
Brodd-Son	Johnston	
Bucher Schörling	Lacre PDE	
Bunce	Lebrero	
Caterpillar	Markham	
Conquip	MRE	
Craig	Multicar	
Datum	NC	
Dulevo	Piquersa	
Eastern	Pulcar	
Egholm	Ravo	
Elgin	Scarab	
Euro Implementos	Schwarze	
Euromec	Shelvoke	
Faun	Sturdiluxe	

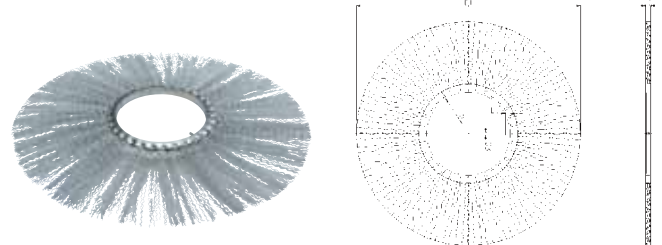
The following tables show a structured summary –by configuration and fill material– of the most commonly used sections. However, if you do not find the exact description of the product you are looking for, please contact our Customer Support Dept., they will, in any case, help you in finding or configuring the right solution.

Standard range - Straight, polypropylene PP

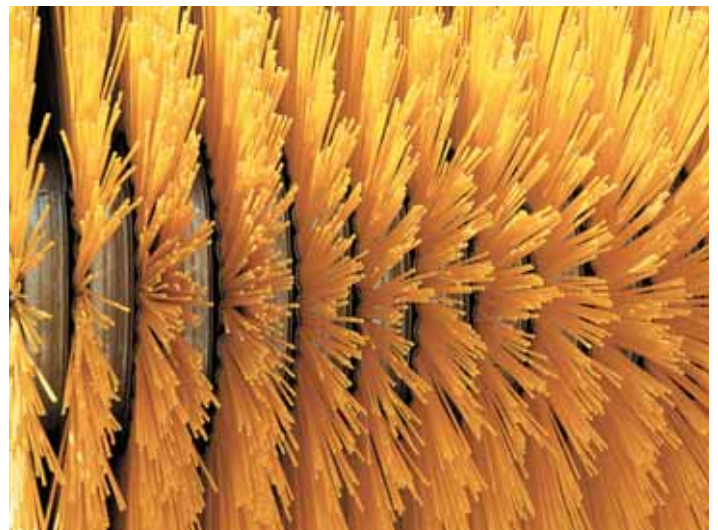


Item No.	Ext. Ø mm	Int. Ø mm / inch	Material	Material size mm	Pack. Qty.
0004-301 809	300	3"	PP, yellow	1,2	50
0014-301 809	320	3"	PP, yellow	1,2	50
0024-301 809	350	3"	PP, yellow	1,2	50
0034-301 809	400	3"	PP, yellow	1,5 x 2,5	30
0044-301 809	450	3"	PP, yellow	1,5 x 2,5	30
0054-301 809	300	110 mm	PP, yellow	1,2	50
8284-301 809	320	110 mm	PP, blue	1,2	44
0074-301 809	350	110 mm	PP, yellow	1,5 x 2,5	50
0084-301 809	400	110 mm	PP, yellow	1,5 x 2,5	30
1244-301 809	430	110 mm	PP, yellow	1,5 x 2,5	30
0094-301 809	450	110 mm	PP, yellow	1,5 x 2,5	30
1504-301 809	500	110 mm	PP, yellow	1,5 x 2,5	30
8324-301 809	320	5"	PP, yellow	1,2	40
0104-301 809	350	5"	PP, yellow	1,5 x 2,5	50
0114-301 809	380	5"	PP, yellow	1,5 x 2,5	30
8554-301 809	380	5"	PP, blue	1,3	30
0124-301 809	400	5"	PP, yellow	1,5 x 2,5	30
	406	5"	PP, green	1,3	30
0134-301 809	450	5"	PP, yellow	1,5 x 2,5	30
9174-301 809	500	5"	PP, yellow	1,5 x 2,5	25
0154-301 809	550	5"	PP, yellow	1,5 x 2,5	25
0164-301 809	500	7"	PP, yellow	1,5 x 2,5	25
9554-301 809	550	7"	PP, yellow	1,5 x 2,5	25
0174-301 809	600	7"	PP, yellow	1,5 x 2,5	25
0184-301 809	700	7"	PP, yellow	1,5 x 2,5	25
1964-301 809	560	210 mm	PP, yellow	1,5 x 2,5	25
0254-301 809	750	220 mm	PP, yellow	1,5 x 2,5	25
0194-301 809	600	10"	PP, yellow	1,5 x 2,5	25
0204-301 809	700	10"	PP, yellow	1,5 x 2,5	25
1514-301 809	750	10"	PP, yellow	1,5 x 2,5	25
0214-301 809	800	10"	PP, yellow	1,5 x 2,5	25
1134-301 809	815	10"	PP, yellow	1,5 x 2,5	25
0224-301 809	900	10"	PP, yellow	1,5 x 2,5	25
0234-301 809	915	10"	PP, yellow	1,5 x 2,5	25
0264-301 809	600	300 mm	PP, blue	1,5 x 2,5	25
0274-301 809	700	300 mm	PP, yellow	1,5 x 2,5	25

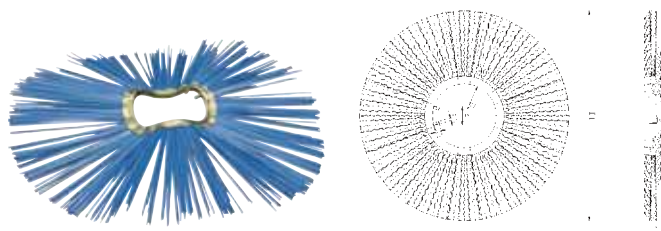
Standard range - Straight, steel wire



Item No.	Ext. Ø mm	Int. Ø mm / inch	Material	Material size mm	Pack. Qty.
0004-301 109	300	3"	Steel	0,70 mm	50
0014-301 109	320	3"	Steel	0,70 mm	50
0024-301 109	350	3"	Steel	0,70 mm	50
1114-301 109	400	3"	Steel	0,70 mm	30
0044-301 109	450	3"	Steel	0,70 mm	30
0054-301 109	300	110 mm	Steel	0,70 mm	50
0064-301 109	320	110 mm	Steel	0,70 mm	44
0074-301 109	350	110 mm	Steel	0,70 mm	50
8014-301 109	400	110 mm	Steel	0,70 mm	30
0094-301 109	450	110 mm	Steel	0,70 mm	30
0104-301 109	350	5"	Steel	0,70 mm	50
0114-301 109	380	5"	Steel	0,70 mm	22
0124-301 109	400	5"	Steel	0,70 mm	30
	406	5"	Steel	0,70 mm	22
0134-301 109	450	5"	Steel	0,70 mm	30
0144-301 109	500	5"	Steel	0,70 mm	25
0154-301 109	550	5"	Steel	0,70 mm	25
8074-301 109	585	6"	Steel	0,70 mm	25
0164-301 109	500	7"	Steel	0,70 mm	30
0174-301 109	600	7"	Steel	0,70 mm	25
0184-301 109	700	7"	Steel	0,70 mm	25
1734-301 109	560	210 mm	Steel	0,70 mm	25
0254-301 109	750	220 mm	Steel	0,70 mm	25
0194-301 109	600	10"	Steel	0,70 mm	25
0204-301 109	700	10"	Steel	0,70 mm	25
0214-301 109	800	10"	Steel	0,70 mm	25
1104-301 109	815	10"	Steel	0,70 mm	25
0224-301 109	900	10"	Steel	0,70 mm	25
0234-301 109	915	10"	Steel	0,70 mm	25
0264-301 109	600	300 mm	Steel	0,70 mm	25
0274-301 109	700	300 mm	Steel	0,70 mm	25



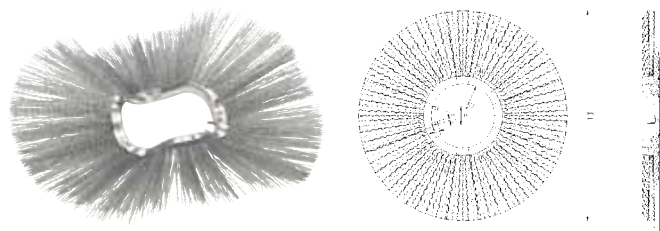
Zig Zag range, polypropylene PP



Item No.	Ext. Ø mm	Int. Ø mm / inch	Material	Material size mm
8694-301 809	400	110	PP, blue	2,2
8504-301 809	380	5"	PP, blue	2,2
6644-604 809	400	5"	PP, blue	2,2
9254-301 809	500	5"	PP, blue	2,2
9324-301 809	520	5"	PP, blue	2,2
9544-301 809	550	5"	PP, blue	2,2
9014-301 809	480	162 mm	PP, blue	2,2
9274-301 809	500	162 mm	PP, blue	2,2
9364-301 809	530	162 mm	PP, blue	2,2
1324-301 809	540	162 mm	PP, blue	2,2
9654-301 809	590	162 mm	PP, blue	2,2
9894-301 809	600	162 mm	PP, blue	2,2
9954-301 809	620	162 mm	PP, blue	2,2
9284-301 809	500	7"	PP, blue	2,2
9924-301 809	600	7"	PP, blue	2,2
7603-301 809	670	205 mm	PP, blue	2,2
7024-301 809	650	205 mm	PP, blue	2,2
3603-301 809	600	10"	PP, blue	2,2
6684-604 809	700	10"	PP, blue	2,2
7264-301 809	750	10"	PP, blue	2,2
7424-301 809	800	10"	PP, blue	2,2
7464-301 809	815	10"	PP, blue	2,2
1754-301 809	700	300 mm	PP, blue	2,2



Zig Zag range, crimped steel wire



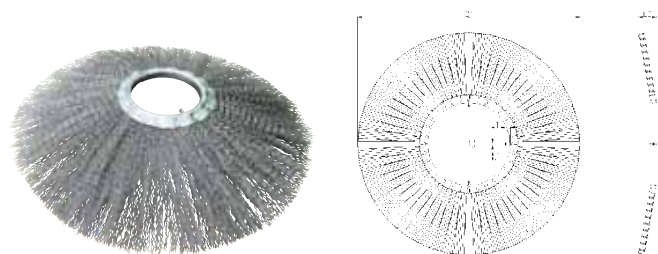
Item No.	Ext. Ø mm	Int. Ø mm / inch	Material	Material size mm
8024-301 109	500	5"	Steel	0,70
1154-301 109	540	162 mm	Steel	0,70
8474-604 109	550	162 mm	Steel	0,70
8084-301 109	560	162 mm	Steel	0,70
1784-301 108	590	162 mm	Steel	0,70
8704-301 109	600	7"	Steel	0,70
8484-301 109	670	205 mm	Steel	0,70
8484-604 109	600	10"	Steel	0,70
8494-604 109	700	10"	Steel	0,70
8494-301 109	815	10"	Steel	0,70

Spacers



Item No.	Int. Ø mm	Int. Ø inch	Width mm	Material
0094-301 000	54		12	Plastic HDPE
0224-301 000	76	3	10	Plastic HDPE
0124-301 000	76	3	16	Plastic HDPE
0054-301 000	76	3	25	Plastic HDPE
0164-301 000	110	4 1/3	10	Plastic HDPE
0014-301 000	110	4 1/3	30	Plastic HDPE
0114-301 000	127	5	10	Plastic HDPE
0104-301 000	127	5	15	Plastic HDPE
0024-301 000	127	5	30	Plastic HDPE
0074-301 000	128		30	Plastic HDPE
0034-301 000	178	7	30	Plastic HDPE
0154-301 000	110	4 1/3	22	Galvanized steel
8321-301 000	127	5	15	Galvanized steel
0214-301 000	127	5	20	Galvanized steel
8301-301 000	153		30	Galvanized steel
3304-301 000	162	6 3/8	30	Galvanized steel
0004-301 000	176		30	Galvanized steel
0094-301 000	178	7	30	Galvanized steel
0144-301 000	210	8 1/4	30	Galvanized steel
8404-301 000	220	8 5/8	30	Galvanized steel
0134-301 000	235	9 1/4	22	Galvanized steel
0174-301 000	254	10	22	Galvanized steel
1504-301 000	254	10	30	Galvanized steel
0054-301 000	254	10	30	Galvanized steel
0194-301 000		10 3/4	16	Galvanized steel
0184-301 000		10 3/4	30	Galvanized steel
3903-301 000	300	11 3/4	30	Galvanized steel
0114-301 000	495		30	Galvanized steel

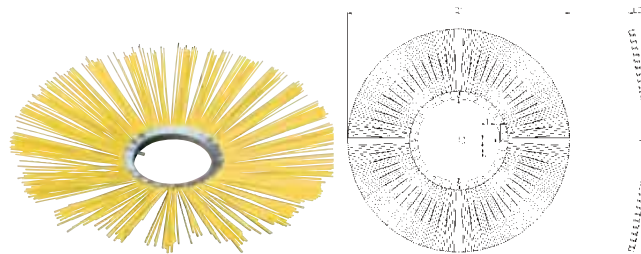
Conical range, crimped steel wire



Item No.	Ext. Ø mm	Int. Ø mm/ inch	Material	Material size mm	Construction
8404-301 309	300	3"	Steel	0,50	Cupped
8474-301 109	350	3"	Steel	0,50	Cupped
8414-604 109	450	110 mm	Steel	0,70	Cupped
8804-301 109	480	5"	Steel	0,70	Cupped
8444-604 109	500	178 mm	Steel	0,70	Heavy cupped

Please call for further assistance or
if your product is not listed in above tables!

Conical range, polypropylene PP



Item No.	Ext. Ø mm	Int. Ø mm/ inch	Material	Material size mm	Construction
6344-604 809	250	3"	PP, yellow	0,90	Cupped
6264-604 809	320	3"	PP, yellow	1,20	Cupped
8404-301 809	350	3"	PP, yellow	1,5 x 2,5	Cupped
6474-604 809	400	3"	PP, yellow	1,5 x 2,5	Cupped
8834-301 809	450	3"	PP, yellow	1,5 x 2,5	Cupped
8844-301 809	450	3"	PP, yellow	1,5 x 2,5	Heavy cupped
9154-301 809	500	3"	PP, yellow	1,5 x 2,5	Cupped
6774-604 809	550	3"	PP, yellow	0,90	Cupped
6464-604 809	400	110 mm	PP, yellow	1,5 x 2,5	Cupped
8784-301 809	450	110 mm	PP, yellow	1,5 x 2,5	Cupped
9064-301 809	500	110 mm	PP, yellow	1,5 x 2,5	Lightly cupped
9074-301 809	500	110 mm	PP, yellow	1,5 x 2,5	Cupped
9084-301 809	500	110 mm	PP, yellow	1,5 x 2,5	Heavy cupped
8804-301 809	450	112 mm	PP, yellow	1,5 x 2,5	Cupped
8684-301 809	400	5"	PP, yellow	1,5 x 2,5	Cupped
6484-604 809	450	5"	PP, yellow	1,5 x 2,5	Lightly cupped
6494-604 809	450	5"	PP, yellow	1,5 x 2,5	Heavy cupped
8884-301 809	450	5"	PP, yellow	1,5 x 2,5	Cupped
9234-301 809	500	5"	PP, yellow	1,5 x 2,5	Cupped
9534-301 809	550	5"	PP, yellow	1,5 x 2,5	Cupped
9814-301 809	600	5"	PP, yellow	1,5 x 2,5	Cupped
8974-301 809	480	162 mm	PP, yellow	1,7 x 2,8	Cupped
9474-301 809	550	162 mm	PP, yellow	1,5 x 2,5	Cupped
6564-604 809	500	7"	PP, yellow	1,5 x 2,5	Heavy cupped
9854-301 809	600	7"	PP, yellow	1,5 x 2,5	Cupped
9864-301 809	600	7"	PP, yellow	1,5 x 2,5	Heavy cupped
6204-301 809	750	10"	PP, yellow	1,7 x 2,8	Cupped



Best performing sections in the marketplace



When you are looking for a solution with a punched roller brush, OSBORN Unipol can again provide a long list of alternatives. Our punched roller brushes are produced on a plastic core of HDPE with different drive shapes (square, round, etc.)

We offer certain dimensions as standard references for commonly used sweeping machines, but however we mostly produce them in accordance to the requirements of our customers, whether they are OEM's or end users. The manufacturing possibilities are countless if you also take into consideration density, fill pattern, dimensions,...

Our roller brushes manufacturing range can offer:

Roller brushes	Min.	Max.
Ext. Ø	200 mm	900 mm
Length	100 mm	2.000 mm
PP filament (crimped/straight)	Ø 1,0 mm	Ø 2,5 mm
Wire filament (crimped)	Ø 0,45 mm	Ø 0,45 mm

The fill materials most commonly used are polypropylene (PP) and crimped steel wire in different diameters/sizes. The mix of these two filaments (PP and steel wire) is provided to ensure an intermediate level of aggressiveness of the roller.

The plastic filaments can be supplied in different colors: yellow, blue, green, red, natural, black, orange and white.

For additional, more detailed information about fill materials, please refer to section 4.1 Fill materials (page 29).

Generally, and in the majority of practical cases, the two brush systems: rollers vs sections are viable options.

Worn out brushes are quickly replaced on site in just a few minutes in the case of roller brushes. They have quick change over time and hence this is frequently the preferred option for site managers for whom target is to minimize unproductive time. Nevertheless, the roller brush construction tends to have higher costs of purchasing and stocking (space, number of references, etc.) being a less flexible-interchangeable solution. On the other hand, brush sections do have advantages in terms of cost per brush including the logistics and stock keeping costs, whereas the change over time is substantially longer and consequently the cost of sweeper idle time must be considered. OSBORN Unipol is able to provide both sets of solutions for your sweeping requirements.

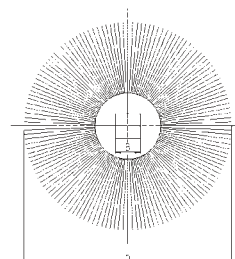
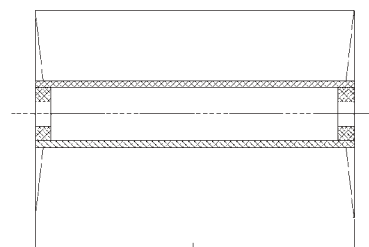
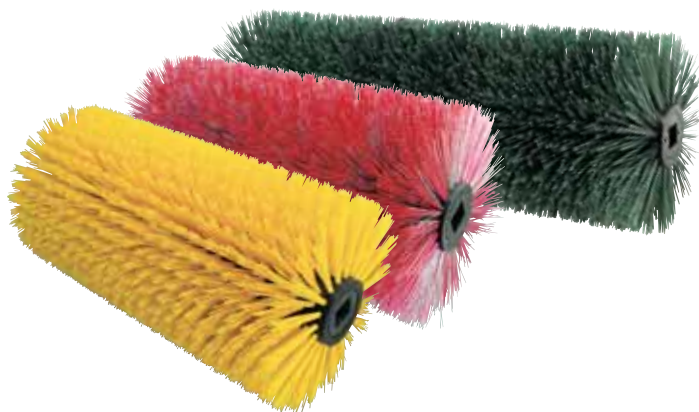
OSBORN Unipol roller brushes can be assembled in machines from the following OEM's:

OEM's		
Agria	Dulevo	Multicar
Ausa	Egholm	Scarab
Beam	Elgin	Schmidt
Bema	Faun	Schwarze
Brodd-Son	Horal	Tennant
Bucher Schörling	Johnston	Tuchel
Caterpillar	Limpar	...and others

The following table is just a short abstract with a few most commonly used rollers. We advise you to get in contact with our

Customer Support Dept., they will in any case, help you in finding or configuring the right solution.

Punched roller brushes



Description mm	Length mm	Ext. Ø mm	Drive	Material	Material size mm	Machine
Roller brush 1.113 x 406, PP green	1.113	406	Square	PP, green	2,5 Ø	Schmidt AS900
Roller brush 750 x 400, PP yellow	750	400	Square	PP, yellow	1,5 Ø	Faun
Roller brush 750 x 400, PP yellow	750	400	Square	PP, yellow	1,5 Ø	Schörling
Roller brush 750 x 406, PP green	750	406	Star	PP, green	1,5 Ø	Johnston 650
Roller brush 750 x 400, PP yellow	750	400	Square	PP, yellow	1,5 Ø	Schmidt 700
Roller brush 400 x 300, PP yellow	400	300	Square	PP, yellow	1,5 Ø	Schmidt 700
Roller brush 750 x 520, PP yellow	750	520	Square	PP, yellow	2,5 Ø	Bema 20
Roller brush 750 x 580, PP white	750	580	Square	PP, white	2,5 Ø	Bema 25

Please call for further assistance or
if your product is not listed in above table!



Optimal results in diverse sweeping conditions



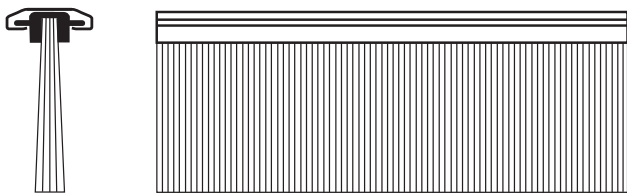
OSBORN Unipol metal backed or full plastic Poly-Pro® strips are easy to install and to replace. You can easily and quickly slide them in and out of the core - whether it is cylindrical or flat - and thus reduce the downtime of your sweeping equipment.

If you are looking for the flexibility and a full recyclable strip brush construction, we have developed our **Poly-Pro® range**. Every Poly-Pro® product is made of 100% polypropylene.

Strip brush range - Poly-Pro®



Poly-Pro® profile



The **polypropylene (PP) filaments** can be supplied in different colors: yellow, blue, green, red, natural, black, orange and white.

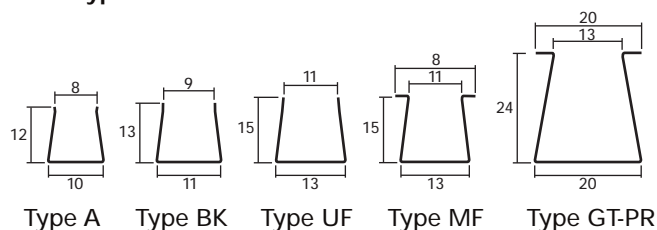
For additional, more detailed information about fill materials, please refer to section 4.1 Fill materials (page 29).

The following table shows a structured summary by configuration of the most commonly used Poly-Pro® sections. If you do not find the exact description of the product you are looking for, please contact our Customer Support Dept., they are certainly going to help you in finding or configuring the right solution.

Item No.	Length mm	Height mm	Material	Material size mm	Pack. Qty.
8903-907 809	300	200	PP, natural	1,0 Ø	
8314-907 809	600	340	PP, yellow	2,2 Ø	
8324-907 809	625	215	PP, yellow	2,2 Ø	24
8344-907 809	1.000	340	PP, yellow	1,7 x 2,8	
8354-907 809	1.050	189	PP, blue	2,2 Ø	
8374-907 809	1.300	340	PP, yellow	2,2 Ø	
8384-907 809	1.400	188	PP, yellow	1,5 x 2,5	
8394-907 809	1.467	215	PP, yellow	1,5 x 2,5	9
8404-907 809	1.467	215	PP, yellow	2,2 Ø	9
8414-907 809	1.475	189	PP, yellow	2,2 Ø	15
8424-907 809	1.475	205	PP, yellow	2,2 Ø	16
8444-907 809	1.500	163	PP, blue	2,2 Ø	
8464-907 809	1.770	170	PP, yellow	2,2 Ø	15
8474-907 809	1.800	189	PP, blue	2,2 Ø	
8484-907 809	1.950	215	PP, yellow	2,2 Ø	14
8494-907 809	2.000	340	PP, yellow	2,2 Ø	
8304-907 809	2.170	215	PP, yellow	2,2 Ø	12
8803-907 809	2.200	215	PP, yellow	2,2 Ø	
8504-907 809	2.269	215	PP, yellow	2,2 Ø	14
8813-907 809	2.300	215	PP, yellow	2,2 Ø	
8514-907 809	2.400	178	PP, blue	2,2 Ø	
8524-907 809	2.400	295	PP, yellow	2,2 Ø	
8544-907 809	2.500	250	PP, yellow	1,5 x 2,5	
8554-907 809	3.000	288	PP, yellow	2,2 Ø	18

However, if you are looking for the robust design of a **metal-backed strip brush**, we can offer a wide assortment of profile shapes and dimensions:

Profile types

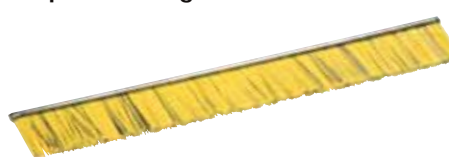


Additionally, this range is manufactured with **diverse fill materials** going from PP to flat steel wire for heavy duty applications and a mixed version for those conditions where you want to have intermediate aggressiveness of the sweeping brush.

More detailed information about fill materials can be found in section 4.1 Fill materials (page 29).

For more in-depth information about OSBORN Unipol general strip range, please ask for OSBORN MultiStrip® catalogue (see page 35 of this catalogue) or visit our webpage www.strip-brush.com.

Strip brush range - Metal backed



Item No.	Length mm	Height mm	Material mm	Profile
8423-907 809	835	80	PP 1,5 x 2,5 / Steel 1,5 x 0,25	M
8493-907 809	835	85	Nylon 2 x 3 / Steel 1,1	GT-PR
8404-907 909	835	105	PP 1,5 x 2,5 / Steel 1,5 x 0,25	M
8404-907 894	950	45	PP crimped 0,90	U
8513-907 809	985	105	PP 1,5 x 2,5 / Steel 1,5 x 0,25	M
8593-907 809	1.130	115	Nylon 2 x 3 / Steel 1,1	GT-PR
9303-907 809	1.135	105	PP 1,5 x 2,5 / Steel 1,5 x 0,25	M
8363-907 809	1.135	105	PP 1,5 x 2,5	M
8533-907 809	1.135	140	PP 1,5 x 2,5 / Steel 1,5 x 0,25	M
8333-907 809	1.335	105	PP 1,5 x 2,5 / Steel 1,5 x 0,25	M
8343-907 809	1.335	200	PP 1,5 x 2,5 / Steel 1,5 x 0,25	M
8413-907 809	1.380	80	PP 1,5 x 2,5 / Steel 1,5 x 0,25	M
8473-907 809	1.380	100	PP 1,5 x 2,5	U
8353-907 809	1.380	105	PP 1,5 x 2,5 / Steel 1,5 x 0,25	M
8503-907 809	1.400	85	Nylon 2 x 3 / Steel 1,1	GT-PR
8483-907 809	1.400	115	Nylon 2 x 3 / Steel 1,1	GT-PR

Please call for further assistance or if your product is not listed in above tables!

OSBORN Unipol sweeping strip brushes can be assembled in machines from the following OEM's:

OEM's

Bema	Caterpillar	Sweepex
Bemab	Elgin	...and others
Bucher Schörling	Ravo	
Bunce	Schwarze	



Best ratio of cost efficiency and sweeping performance



OSBORN Unipol offers the widest assortment of front and side brushes –also called gutter brooms– in a huge variety of top plate construction, dimensions, fill materials, material dimensions and colors, densities and row configurations.

Our portfolio helps you find almost any possible solution to fit your needs and requirements optimally regardless of the sweeping machine you are using: we have a solution for every need.

Our front and side brush manufacturing range can offer wood top plates, metal top rings and plastic top plate either in moulded or injected version:

Side and front brushes	Ext. Ø Min.	Ext. Ø Max.	Top plate Ø Min.	Top plate Ø Max.
Wood top	300 mm	1.050 mm	200 mm	760 mm
Metal top ring	800 mm	1.100 mm	490 mm	750 mm
Plastic top moulded	550 mm	1.100 mm	315 mm	750 mm
Plastic top injected	675 mm	850 mm	400 mm	500 mm

Above are to be considered nominal dimensions

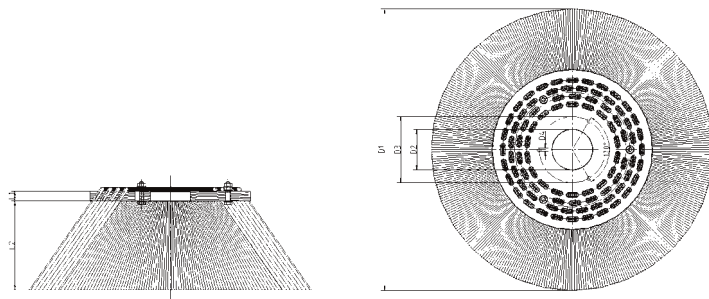


Once again, you can find **diversity of fill materials** for these side brushes including Polypropylene (PP), Nylon, Polyamid (PA) and flat steel wire in different diameter/sizes. Also mixed filaments are available for optimal brush aggressiveness.

The plastic filaments can also be supplied in different colors: yellow, blue, green, red, natural, black, orange and white. For additional, more detailed information about fill materials, please refer to section 4.1 Fill materials (page 29).

The following tables show a structured summary –by top plate configuration and dimensions– of the most commonly used products. However, if you do not find the exact description of the product you are looking for, please contact our Customer Support Dept., they are going to help you in finding or configuring the right solution.

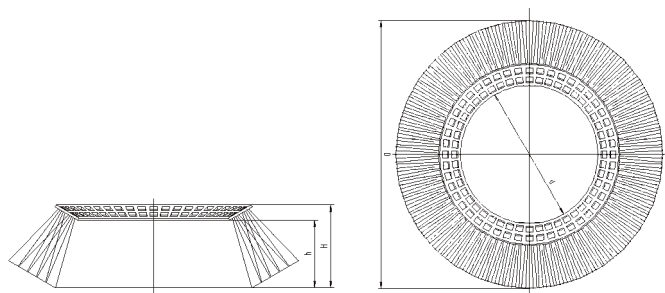
Side and front brooms - Wood top



Item No.	Construction	Ext. Ø mm	Top plate Ø mm	Material	Material size mm	Rows
8703-604 040	Wood plate	300	200	Steel	2,8 x 0,45	3
2901-604 800	Wood plate	320	220	PP, yellow	1,2	3
3602-604 800	Wood plate	400	300	Nylon / PP	1,2	3
8903-604 900	Wood plate	500	315	Steel / PP	2,8 x 0,45 / 2,2	3
8804-604 050	Wood plate	600	315	Steel	3,3 x 0,60	4
8594-604 100	Wood plate	650	340	Steel	3,3 x 0,60	4
8504-604 100	Wood plate	620	350	Steel	3,3 x 0,60	4
8314-604 100	Wood plate	670	400	Steel	3,3 x 0,60	4
8424-604 100	Wood plate	670	400	Steel	3,3 x 0,60	4
8414-604 100	Wood plate	670	400	Steel	3,3 x 0,60	3
8514-604 100	Wood plate	750	450	Steel	3,3 x 0,60	4
8584-604 100	Wood plate	700	480	Steel	3,3 x 0,60	3
8624-604 100	Wood plate	750	480	Steel	3,3 x 0,60	3
8903-604 800	Wood plate	780	480	PP, yellow	1,7 x 2,8	3
8604-604 100	Wood plate	800	485	Steel / PP	2,8 x 0,45 / 1,7 x 3,0	3
8344-604 100	Wood plate	750	490	Steel	3,3 x 0,60	4
8544-604 100	Wood plate	775	490	Steel	2,8 x 0,45	2
8564-604 100	Wood plate	800	490	Steel	2,8 x 0,45	3
8554-604 100	Wood plate	800	490	Steel / PP	3,3 x 0,60 / 1,7 x 2,8	3
8524-604 100	Wood plate	800	530	Steel / PP	3,3 x 0,60 / 1,7 x 2,8	3
8534-604 100	Wood plate	800	530	Steel	3,3 x 0,60	3
8614-604 100	Wood plate	750	570	Steel	2,8 x 0,45	2
8414-604 100	Wood plate	850	600	PP, yellow	1,4 x 2,4	4
8484-604 100	Wood plate	950	690	Steel	3,3 x 0,60	4
8494-604 100	Wood plate	1.000	750	Steel	2,8 x 0,45	4
8634-604 100	Wood plate	1.100	750	Steel	3,3 x 0,60	3
8904-604 100	Wood plate	1.200	750	Steel	3,3 x 0,60	3
8914-604 100	Wood plate	1.050	760	Steel	3,3 x 0,60	3



Side and front brooms - Metal top



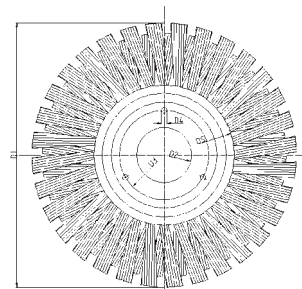
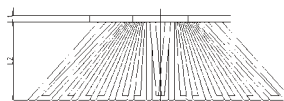
Item No.	Construction	Ext. Ø mm	Top plate Ø mm	Material	Material size mm	Rows
1074-604 100	Steel ring	800	490	Steel	2,0 x 0,50	2
1104-604 100	Steel ring	800	490	Steel	3,3 x 0,60	2
	Steel ring	800	490	Steel	2,2 x 0,60	2
1044-604 100	Steel ring	800	490	Steel	3,3 x 0,60	2
7934-604 100	Steel ring	800	490	Steel	2,2 x 0,60	2
1024-604 100	Steel ring	830	590	Steel	2,0 x 0,50	2
7944-604 100	Steel ring	815	590	Steel	2,0 x 0,50	2
7914-604 100	Steel ring		650	Steel	2,2 x 0,60	2
7954-604 100	Steel ring		650	Steel	3,3 x 0,60	2
2104-604 100	Steel ring	1.100	750	Steel	2,2 x 0,60	2
7904-604 100	Steel ring	1.100	750	Steel	3,3 x 0,60	2
7924-604 100	Steel ring	1.100	750	Steel	2,0 x 0,60	2
1014-604 930	Steel ring	800	490	Steel / PP	2,0 x 0,60 / 1,5 x 2,5	2
7904-604 930	Steel ring	800	490	Steel / PP	2,0 x 0,50 / 1,5 x 2,5	2
1104-604 900	Steel ring	800	490	Steel / PP	3,3 x 0,60 / 1,5 x 2,5	2
7924-604 930	Steel ring	800	490	Steel / PP	2,0 x 0,50 / 1,5 x 2,5	2
7914-604 930	Steel ring	1.100	750	Steel / PP	2,2 x 0,60 / 1,5 x 2,5	2
7904-604 250	Spare tuft			Steel	2,0 x 0,50	
	Spare tuft			Steel	2,2 x 0,60	
7904-604 265	Spare tuft			Steel	2,0 x 0,50	
	Spare tuft			Steel	2,2 x 0,60	
	Mounting bolt			Steel	Ø 10 - length 45	
1014-604 000	Mounting bolt			Steel	Ø 10 - length 65	



OSBORN Unipol side and front brushes can be assembled in machines from the following OEM's:

OEM's		
Applied	Dulevo	Ravo
Ausa	Eastern	Scarab
Beam	Egholm	Schmidt
Bema	Elgin	Schwarze
Bemab	Faun	Shelvoke
Bobcat	Hako	Tennant
Brodd-Son	ICM	Trilety
Bucher Schörling	JCB	...and others
Bunce	Johnston	
Caterpillar	Karcher	
Conquip	MRE	
Craig	NC	
Datum	Piquersa	

Side and front brooms - Plastic top



Item No.	Construction	Ext. Ø mm	Top plate Ø mm	Material	Material size mm	Rows
8044-604 800	Moulded	550	315	PP, yellow	1,7 x 2,8	2
8204-604 800	Moulded	600	315	PP, blue	1,7 x 2,8	2
8054-604 800	Moulded	600	315	PP, yellow	1,7 x 2,8	2
8304-604 800	Moulded	590	350	PP, blue	2,2	2
8174-604 800	Moulded	650	350	PP, yellow	2,2	2
8314-604 800	Moulded	750	350	PP, yellow	2,2	2
8144-604 800	Moulded	700	410	PP, yellow	1,7 x 2,8	2
8184-604 800	Moulded	725	410	PP, yellow	1,7 x 2,8	2
1104-604 800	Moulded	800	490	PP, yellow	1,7 x 2,8	2
8224-604 800	Moulded	820	490	PP, yellow	1,7 x 2,8	2
8234-604 800	Moulded	850	490	PP, yellow	1,7 x 2,8	2
1154-604 800	Moulded	750	520	PP, blue	1,7 x 2,8	2
8084-604 800	Moulded	1.100	750	PP, blue + yellow	2,2	2
8504-604 800	Moulded	1.100	750	PP, yellow	1,7 x 2,8	2
8404-604 100	Plastic body	675	400	Flat steel wire	3,3 x 0,6	2
8803-604 050	Plastic body	700	400	Flat steel wire	3,3 x 0,6	2
8334-604 100	Plastic body	800	500	Flat steel wire	2,8 x 0,5	2
8454-604 100	Plastic body	850	500	Flat steel wire	3,3 x 0,6	4

Please call for further assistance or
if your product is not listed in above tables!



Designed for enhanced durability



In addition to our extensive range of sections, punched rollers, strips and side brushes, OSBORN Unipol also provides a considerable range of weed brushes, which are supplied in steel rope, steel wire and PP as standard.

Weed brushes are available in tube or thread design. These brushes are delivered in steel rope, steel wire or PP tufts which include one, two or three fixation/clamping rings. While these clamping rings provide rigidity to the design, the less flexible section around the clamping ring may cause more aggression to the subsoil. The fact that the clamping rings can come loose and deposit on the road side might be also an unwanted side effect.

The thread designed weed brushes offer tufts with a M12 thread to be assembled in the assembling plate on which they are fixed with a M12 bolt, allowing for easy and quick change over process.

Besides the mentioned cable tufts, OSBORN Unipol offers a lighter generation of weed brushes. This type of weed brush performs excellent with much lower vibrations and shaking effect, compared to the much heavier tufts. This range has the following advantages:

- Less brush weight
- Longer lifetime span
- Less damage to the subsoil.
- Higher sweeping speed (meters per minute) hence increased productivity.
- Lower vibration level.



Weed brushes - Tube design



Item No.	Length mm	Ø mm	Construction	Remark
7904-604 016	160	16	Steel rope	1 fixation ring
3903-016 250	250	16	Steel rope	1 fixation ring
7914-604 016	250	16	Steel rope	2 fixation rings
8404-604 235			Steel wire	
8504-604 022	280	22		
8504-604 822	280	22	PP	2 fixation rings
8514-604 822	280	22	Steel wire	2 fixation rings

Weed brushes - Thread design



Item No.	Length mm	Ø mm	Construction	Remark	Thread
7934-604 020	215	20	Steel rope	2 fixation rings	M12
7964-604 020	275	20	Steel rope	2 fixation rings	M12
7914-604 020	285	20	Steel rope	3 fixation rings	M12
7954-604 020	300	20	Steel rope	3 fixation rings	M12
7904-604 020	320	20	Steel rope	2 fixation rings	M12
7924-604 020	320	20	Steel rope	3 fixation rings	M12
7944-604 020	340	20	Steel rope	3 fixation rings	M12

The latest innovation on this field however, is a brush developed by a technology partner in The Netherlands known as **Biobrush®**. Biobrush® weed brushes are completely biological degradable as they use bioplastics made from potato starch. This bioplastic sheathes the brush core and it is 100% degradable.



If you are interested in this innovation to fulfill the upcoming ecological regulations and you want to have additional in-depth information, do not hesitate to contact our Customer Service.

OSBORN Unipol weed brushes can be assembled in machines from the following OEM's:

OEM's		
Applied	Datum	NC
Ausa	Dulevo	Piquersa
Beam	Eastern	Ravo
Bema	Egholm	Scarab
Bemab	Elgin	Schmidt
Bobcat	Faun	Schwarze
Brodd-Son	Hako	Shelvoke
Bucher Schörling	ICM	Tennant
Bunce	JCB	Trilety
Caterpillar	Johnston	...and others
Conquip	Karcher	
Craig	MRE	

Please call for further assistance or if your product is not listed in above tables!



Eco friendly and longer life span weed brushes

Machine / model	Description	Construction	Item No.
Beam S-8000	Road Sweeper 350 mm x 3", PP 1,2	Straight	0024-301 809
Beam S-8000	Road Sweeper 350 mm x 3", Nylon 2,0	Straight	0354-301 809
Beam S-8000	Road Sweeper 400 mm x 5", PP 2,0	Straight	1174-301 809
Beam S-8000	Road Sweeper 400 mm x 5", Nylon 2,0	Straight	1154-301 809
Bobcat	Road Sweeper 540 x 162 mm, PP 2,2 (890g)	Zig Zag	1324-301 809
Bobcat	Road Sweeper 540 x 162 mm, steel wire 0,70 crimped (1200g)	Zig Zag	1154-301 109
Bobcat	Road Sweeper 540 x 162 mm, PP 2,2 (735g)	Straight	9384-301 809
Bunce Maxi & Towed	Road Sweeper 500 mm x 5", PP 2,2 blue	Straight	1704-301 809
Bunce Maxi & Towed	Road Sweeper 500 mm x 5", steel wire 0,70 crimped	Straight	1444-301 109
Bunce M81	Road Sweeper 600 mm x 7", PP 2,2 blue crimped	Straight	9834-301 809
Bunce M81	Road Sweeper 600 mm x 7", steel wire 0,70 crimped	Straight	0174-301 109
Bunce Maxi & Towed	Spacer 5" x 30 mm, galvanized steel	Spacer	0094-301 600
Bunce M81	Spacer 178 x 30 mm, galvanized steel	Spacer	0004-301 000
Conquip	Road Sweeper 550 mm x 5", PP 2,2 blue	Straight	1924-301 809
Conquip	Road Sweeper 550 mm x 5", steel wire 0,70 crimped	Straight	0154-301 109
Conquip	Spacer 5" x 30 mm, galvanized steel	Spacer	0094-301 600
Craig	Road Sweeper 550 mm x 5", PP 2,2 blue	Straight	1924-301 809
Craig	Road Sweeper 550 mm x 5", steel wire 0,70 crimped	Straight	0154-301 109
Craig	Spacer 5" x 30 mm, galvanized steel	Spacer	0094-301 600
Datum	Road Sweeper 550 mm x 5" PP 2,2 blue	Straight	1924-301 809
Datum	Road Sweeper 550 mm x 5" steel wire 0,70 crimped	Straight	0154-301 109
Datum	Spacer 5" x 30 mm, galvanized steel	Spacer	0094-301 600
Eastern	Road Sweeper 550 mm x 5", PP 2,2 blue	Straight	1924-301 809
Eastern	Road Sweeper 550 mm x 5", steel wire 0,70 crimped	Straight	0154-301 109
Eastern	Spacer 5" x 30 mm, galvanized steel	Spacer	0094-301 600
Eastern	Spacer 5" x 30 mm, plastic HDPE	Spacer	0024-301 000
Geesink	Road Ring 380 mm x 5", PP 1,3	Straight	8454-301 809
Geesink	Road Ring 380 mm x 5", Wire 0,70 crimped	Straight	0114-301 109
Geesink	Spacer 5" x 22 mm, galvanized steel	Spacer	0044-301 000
Hako	Road Ring 320 mm x 3", PP 1,3	Straight	0014-301 809
Hako	Road Ring 320 mm x 3", Wire 0,70 crimped	Straight	0014-301 109
JCB	Road Sweeper 590 x 162mm, PP 2,2 blue straight	Zig Zag	9654-301 809
JCB	Road Sweeper 590 x 162mm, steel wire 0,70 crimped	Zig Zag	8084-301 109
Johnston 500	Road Sweeper 320 x 110 mm, PP 1,3	Straight	8284-301 809
Johnston 500	Road Sweeper 320 x 110 mm, steel wire 0,70 crimped	Straight	0064-301 109
Johnston 500	Spacer 110 x 22 mm, galvanized steel	Spacer	0154-301 000
Johnston 600	Road Sweeper 380 mm x 5", PP 1,27 crimped (430g)	Straight	8454-301 809
Johnston 600	Road Sweeper 380 mm x 5", steel wire 0,70 crimped	Straight	0114-301 109
Johnston 600 & 650	Spacer 5" x 22 mm, galvanized steel	Spacer	0044-301 000
Johnston 650	Road Sweeper 406 mm x 5", PP 1,3 crimped	Straight	0124-301 809
Johnston 650	Road Sweeper 406 mm x 5", steel wire 0,70 crimped	Straight	0124-301 109
Markham	Road Sweeper 550 mm x 5", PP 2,2 blue	Straight	1924-301 809
Markham	Road Sweeper 550 mm x 5", steel wire 0,70 crimped	Straight	0154-301 109
Markham	Spacer 5" x 30 mm, galvanized steel	Spacer	0094-301 600
MRE	Road Sweeper 550 mm x 5", PP 2,2 blue	Straight	1924-301 809
MRE	Road Sweeper 550 mm x 5", steel wire 0,70 crimped	Straight	0154-301 109
MRE	Spacer 5" x 30 mm, galvanized steel	Spacer	0094-301 600
NC	Road Sweeper 550 mm x 5" PP, 2,2 blue	Straight	1924-301 809
NC	Road Sweeper 550 mm x 5", steel wire 0,70 crimped	Straight	0154-301 109
NC	Spacer 5" x 30 mm, galvanized steel	Spacer	0094-301 600
NC	Road Sweeper 700 mm x 7", PP 2,2	Straight	0184-301 809
NC	Road Sweeper 700 mm x 7", steel wire 0,70 crimped	Straight	0184-301 109
NC	Spacer 7" x 30 mm, galvanized steel	Spacer	0945-301 000

Machine / model	Description	Construction	Item No.
Scarab Minor	Road Sweeper 320 x 110 mm, PP 1,3	Straight	8284-301 809
Scarab Minor	Road Sweeper 320 x 110 mm, steel wire 0,70 crimped	Straight	0064-301 109
Scarab Minor	Spacer 110 x 22 mm, galvanized steel	Spacer	0154-301 000
Scarab Merlin	Road Sweeper 320 x 110 mm, PP 1,3	Straight	8284-301 809
Scarab Merlin	Road Sweeper 320 x 110 mm, steel wire 0,70 crimped	Straight	0064-301 109
Scarab Merlin	Spacer 110 x 22 mm, galvanized steel	Spacer	0154-301 000
Scarab Mistral	Road Sweeper 320 x 110 mm, PP 1,3	Straight	8284-301 809
Scarab Mistral	Road Sweeper 320 x 110 mm, steel wire 0,70 crimped	Straight	0154-301 000
Scarab Mistral	Road Sweeper 400 x 110 mm, PP 1,3	Straight	0084-301 809
Scarab Mistral	Road Sweeper 400 x 110 mm, steel wire 0,70 crimped	Straight	8014-301 000
Scarab Mistral	Spacer 110 x 22 mm, galvanized steel	Spacer	0154-301 809
Scarab Magnum	Road Sweeper 400 x 110 mm, PP 1,3	Straight	0084-301 809
Scarab Magnum	Road Sweeper 400 x 110 mm, steel wire 0,70 crimped	Straight	8014-301 109
Scarab Magnum	Spacer 110 x 22 mm, galvanized steel	Spacer	0154-301 000
Schörling	Road Sweeper 400 mm x 5", steel wire 0,70 crimped	Straight	0124-301 109
Schörling	Road Sweeper 400 mm x 5", PP 1,3	Straight	0124-301 809
Shelvoke	Road Sweeper 320 x 110 mm, PP 0,80 straight natural	Straight	
Shelvoke	Road Sweeper 320 x 110 mm, steel wire 0,70 crimped	Straight	0064-301 109
Shelvoke	Spacer 110 x 22 mm, galvanized steel	Spacer	0154-301 000
Sturdiluxe	Road Sweeper 550 mm x 5", PP 2,2 blue	Straight	1924-301 809
Sturdiluxe	Road Sweeper 550 mm x 5", steel wire 0,70 crimped	Straight	0154-301 109
Sturdiluxe	Spacer 5" x 30 mm, galvanized steel	Spacer	0094-301 600
Sturdiluxe	Road Sweeper 700 mm x 7", PP 1,7 x 2,8 yellow	Straight	2034-301 809
Sturdiluxe	Road Sweeper 700 mm x 7", steel wire 0,70 crimped	Straight	0184-301 109
Sturdiluxe	Spacer 178 mm x 30 mm, galvanized steel	Spacer	0004-301 000



Machine / model	Description	Construction	Drive
Schmidt AS900	Roller brush 1.113 x 406 mm, PP 2,5 green	HDPE core	Square
Faun	Roller brush 750 x 400 mm, PP 1,5 yellow	HDPE core	Square
Schörling	Roller brush 750 x 400 mm, PP 1,5 yellow	HDPE core	Square
Johnston 650	Roller brush 750 x 406 mm, PP 1,5 green	HDPE core	Star
Schmidt 700	Roller brush 750 x 400 mm, PP 1,5 yellow	HDPE core	Square
Schmidt 700	Roller brush 400 x 300 mm, PP 1,5 yellow	HDPE core	Square
Bema 20	Roller brush 750 x 520 mm, PP 2,5 yellow	HDPE core	Square
Bema 25	Roller brush 750 x 580 mm, PP 2,5 white	HDPE core	Square
Egholm / Euromec	Roller brush	HDPE core	Pindrive












Machine / model	Description	Construction
Beam	Side Broom 400/700, flat wire 3,3 x 0,6	Moulded
Beam A-8000	Side Broom 750, 4 rows, PP 1,7 x 2,8 mm	Wood plate
Beam A-8000	Side Broom 750/1100, 3 rows, flat wire 3,3 x 0,6	Moulded
Beam A-8000	Side Broom 750/1200, 3 rows, flat wire 3,3 x 0,6	Moulded
Beam S-8000	Side Broom 750/700, 3 rows, flat wire 3,3 x 0,6	Moulded
Conquip	Side Broom 317/500, 2 rows, PP	Moulded
Faun	Side Broom 400/700, flat wire 3,3 x 0,6	Wood plate
Hako 300	Front Broom 420/700, 3 rows, flat wire 3,3 x 0,6 & PP	Wood plate
Hako 1200 & 2000	Front Broom 520/850, 3 rows, flat wire 3,3 x 0,6 & PP	Wood plate
Hako 1750 & 1800	Front Broom 520/850, 3 rows, flat wire 3,3 x 0,6 & PP	Wood plate
Johnston C200	Front Broom 490/850, 2 rows, PP 2.4	Moulded
Johnston C200	Front Broom 495/850, flat wire 2,8 x 0,45 & PP 1,7 x 2,8 yellow	Wood plate
Johnston C200	Front Broom 495/850, flat wire 3,3 x 0,6	Wood plate
Johnston C 400	Front Broom 700/1000, 4 rows, flat wire 3,3 x 0,6 & PP 3,0	Wood plate
Johnston C 400	Front Broom 700/1000, 4 rows, PP 3,0	Wood plate
Johnston 650	Side Broom 400/670, 4 rows, flat wire 3,3 x 0,6	Wood plate
Johnston 600 & 650	Side Broom 317/500, 3 rows, flat wire 3,3 x 0,6	Wood plate
Johnston 600 & 650	Side Broom 317/500, 4 rows, flat wire 3,3 x 0,6	Wood plate
Scarab Minor / Merlin	Side Broom 317/500, 3 rows, flat steel wire 3,3 x 0,6	Wood plate
Scarab Minor / Merlin	Side Broom 317/500, 4 rows, flat steel wire 3,3 x 0,6	Wood plate
Scarab Magnum	Side Broom 400/650, 4 rows, flat steel wire 3,3 x 0,6	Wood plate
Scarab Mistral	Side Broom 317/500, 3 rows, flat steel wire 3,3 x 0,6	Wood plate
Scarab Mistral	Side Broom 317/500, 4 rows, flat steel wire 3,3 x 0,6	Wood plate
Scarab Mistral	Side Broom 400/650, 4 rows, flat steel wire 3,3 x 0,6	Wood plate
Schmidt Classic	Front Broom 485/800, flat wire 2,8 x 0,45 & PP 1,7 x 2,8 blue	Wood plate
Schmidt Classic	Front Broom 495/850, 2 rows, PP 1,7 x 2,8 yellow	Moulded
Schmidt Classic	Front Broom 495/850, flat wire 2,8 x 0,45 & PP 1,7 x 2,8 yellow	Wood plate
Schmidt Classic	Front Broom 495/850, flat wire 3,3 x 0,45 & PP 1,7 x 2,8 yellow	Wood plate
Schmidt Classic	Front Broom 495/850, flat wire 3,3 x 0,6	Wood plate
Schmidt Swingo	Side Broom 490/775, flat wire 2,8 x 0,45	Wood plate
Schmidt Swingo	Side Broom 490/800, 3 rows, flat wire 2,8 x 0,45	Wood plate
Schmidt Swingo	Side Broom 520/800, PP blue 1,7 x 2,8	Wood plate
Schörling	Side Broom 400/670, flat wire 3,3 x 0,6	Wood plate
Schörling	Side Broom 400/700, flat wire 3,3 x 0,6	Wood plate



Polypropylene - PP



Colours	Yellow  Blue  Green  Red  Natural  Black  White 
Shape	Crimped  Straight 
Dimensions	
Sweeping sections	Ø mm: 0,8 1,0 1,3 2,0 2,2 2,4 2,8
Roller brushes	Ø mm: 1,0 1,3 2,0 2,2 2,4
Strip brushes	Ø mm: 1,0 1,3 2,0 2,2
Side and front brushes	Ø mm: 2,0 2,2 2,4 2,8

Density (g/cm³)	0,90	Mechanical properties	
Temperature resistance		Tensile Strength	250 N/mm ²
Meltig point (°C)	165	Elongation at break	20-25%
Max. service temperature (°C)	70	Bend recovery	55%
Chemical resistance		Relative dry stiffness	380
Against alkalines	0	Resistance to abrasion	-
Against acids	+	Water absorption	
		(at 50% relative humidity)	<1%

Our Polypropylene fibres are made using prime virgin material sourced all over the globe to provide the perfect balance between stiffness and brush life. We use a blend of homopolymers and heteroplastic block copolymers to provide a good homogeneous melt flow from the extruder. These block copolymers are made by covalently bonding ethylene monomer to the propane monomer. This is done in the first stage of cracking the polypropylene. The result is a strong chain of ethylene and propane monomers that form a long block chain and is much stronger than the random copolymers used by some competitors. Once the extruder has melted the material, it is forced through a die plate and then gently cooled in a combination of both water and air. Accurate control of this process gives a hard skin to the strand to provide good stiff sweeping action while at the same time maintains a flexible fibrillation resistant centre to ensure good brush life. Once cooled the material has a tensile strength of 29 MPa. The filament is then reheated and drawn to over 8-times its original length to increase this strength to over 250 MPa. Finally, the material is then efficiently collected and chopped to provide a excellent fibre.




Nylon



Colours	Natural  Black 
Dimensions	
Sweeping sections	Ø mm: 1,5 2,0
Roller brushes	No
Strip brushes	Ø mm: 1,5 2,0
Side and front brushes	No

Material	Nylon 6	Nylon 6.6	Nylon 6.12
Density (g/cm³)	1,14	1,10	1,07
Temperature resistance			
Melting point (°C)	225	225	215
Max. service temperature (°C)	80	100	85
Water absorption			
(at 50% relative humidity)	3,20	2,50	1,20
Mechanical properties			
Tensile Strength	43 N/mm ²	57 N/mm ²	69 N/mm ²
Elongation at break	20-25%	20-25%	20-25%
Bend recovery	90%	90%	95%
Relative dry stiffness	410	420	410
Resistance to abrasion	+	+	+
Chemical resistance			
Against alkalines	+	+	+
Against acids	-	-	-

Polyester

	Colours	Natural  Black 	
	Dimensions		
	Sweeping sections	Ø mm: 1,5 2,0	
	Roller brushes	No	
	Strip brushes	Ø mm: 1,5 2,0	
	Side and front brushes	No	
Density (g/cm³)	1,37	Mechanical properties	
Temperature resistance		Elongation at break	20-25%
Meltig point (°C)	250	Bend recovery	60%
Max. service temperature (°C)	115	Relative dry stiffness	750
Water absorption		Resistance to abrasion	+
(at 50% relative humidity)	0,20	Chemical resistance	
		Against alkalines	0
		Against acids	+

Steel wire



Material	Crimped steel wire	Galvanized CSW	Stainless steel wire	Flat steel wire
Dimensions Ø mm				
Sweeping sections	0,3 0,45	0,7	0,3 0,45 0,5	No
Roller brushes	No	0,45	No	No
Strip brushes	1,1	No	No	1,1 1,5x0,25
Side and front brushes	No	No	No	2,8x0,45 3,3x0,6 2,0x0,6 2,2x0,6
Density (g/cm³)	7,85	7,85	7,90	7,85
Temperature resistance				
Permanent (°C)	300	300	620	300
Mechanical properties				
Elasticity module (kN/mm²)	210 kN/mm²	210 kN/mm²	195 kN/mm²	210 kN/mm²
Tensile Strength (N/mm²)	1.900 N/mm²	1.900 N/mm²	1.800 N/mm²	1.900 N/mm²
Hardness (Knopp)	480	480	370	480
Erosion performance	+	+	0	+
Chemical resistance				
Against alkalines	-	0	+	-
Against acids	-	0	0	-

Speed of sweeper

Keep to the manufacturers recommended travelling speed. Travelling too fast will cause premature brush wear. In this case brushes will be forced to scrape the road instead of brushing over it. The side brooms would not only wear rapidly but may even shear off as the brush hits the kerb at speed causing danger to pedestrians or damage to cars and other

objects. Front brooms would be rendered ineffective and the brushing material might even be forced to fold under its head against the direction of travel. Excessive speed may also damage the side arms and support mechanisms of the brushes.



Proper distance from road surface

Rollers and sections

Rollers and sections need to sweep and not scrape the road surface. This means that the brushing material needs to be able to flick the dirt in the direction of rotation and into the suction nozzle or directly into the hopper or bucket.

Measure the sweeping pattern to establish the correct down pressure. To do this operate the broom at its normal rotational speed whilst standing still. Lift the broom and check the marks on the road surface.

A width of around 35mm is about right for a roller or segment of around 380mm to 400mm diameter. A broom diameter of 500 to 600mm should produce a mark of around 75mm and anything over 600mm a mark of around 100mm.

Large deposits may need several passes - resist the temptation to sweep in one go as this will mean turning the brush into a bulldozer and this will invariably reduce the life of the brushes and even damage them and the brushing mechanisms necessitating immediate replacements.

Side Brooms

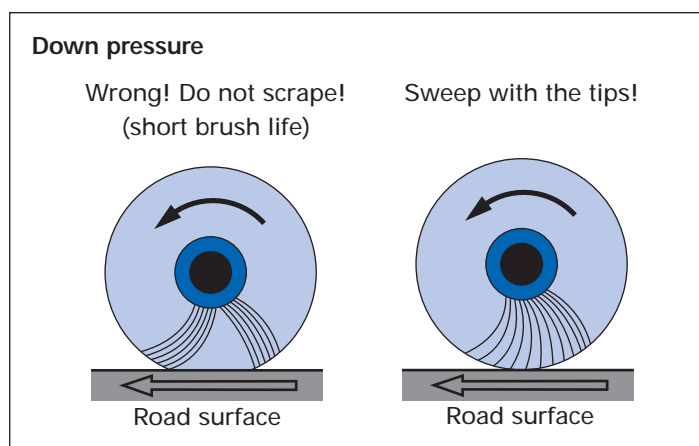
Care should be taken to set the angle to the horizontal in keeping with the OEM's instructions. Generally speaking about 1/3 of the wire strands should be in contact with the road surface, however this will depend on the size of the brush.

If a different style of brush is used the operator should check how much of the brushing material is in contact with the road rather than the angle of the head to the horizontal. The reason for this is that the angle is set to the manufacturers supplied brushes and these may be dimensionally and proportionately different. If there is an option to increase downward pressure this should be used sparingly, if at all!

It is more cost effective to sweep regularly and often than to force a brush to prematurely wear out.

Front Brooms

Again care should be taken to set the angle to the horizontal in keeping with the OEM's recommendation, but the same point about surface contact applies should a different suppliers brush be used. It is usually set so that the brush sweeps between 1/3 and 1/2 of its diameter, depending on the width of the suction box and other distances.



Matching the surface conditions

Roller & Segment Brushes

There are three basic fill configurations:

- a. Complete brush in Polypropylene
- b. Half Polypropylene and half Wire
- c. All Wire.

a. Polypropylene is perhaps the most popular filling. It is good for general sweeping and sweeping loose dirt in dry conditions also dry snow.

We use copolymer material which does not freeze in freezing conditions and therefore individual strands will not freeze and snap off in use. Copolymer has the added bonus of being more durable than homopolymer. It is arguably the most cost effective material available today.

b. Polypropylene/Wire mixture gives a 'best in any situation' performance. Whether wet or dry the polypropylene will sweep loose debris whilst the wire will scrape or scarify impregnated dirt enabling the polypropylene to pick it up and flick into the side of the road or the hopper.

It is a general all rounder and operators usually default to this assembly to save time and effort in not having to change configurations to suit changing surface conditions. This type of configuration is also used in areas where dirt and debris is continually being trodden down as in, say, a recycling plant or in road building or an entrance to and from a building site in wet conditions.

c. All Wire is the most aggressive combination. Used in extreme conditions it can cut away compacted and heavy grime and dirt unlike any other combination. It can be used in wet snow and ice and is especially effective in quarries and scrap yards where protruding surface material, heavy debris or sharp metal objects can easily render an all Polypropylene broom ineffective.

Front Brooms

The most popular material is Polypropylene. Front Brooms are used mainly on Precinct Sweepers. Since these are used in pedestrianised areas Polypropylene will not damage expensive surfaces, and unlike wire it will not remove filling from in between cobbled or tiled surfaces.

Sometimes Wire & Polypropylene is used in areas where wet conditions have caused discarded paper and other material to stick to the floor. All wire front brooms are usually used only on tarmac surfaces such as side roads.



Side Brooms

Built to withstand wear rather than match surface conditions, these will usually be in flat wire and either in 3 or 4 rows, or more.

Polypropylene, Polyester or Nylon are usually only used in areas where wire can cause damage or danger. For example they are almost exclusively used in petrol and oil refineries where wire can cause fire.

Some airports insist on all polypropylene brooms because wire can break off and damage aircraft tyres or be sucked up into aircraft engines.

ZigZag Segments

For some industries these are the preferred option.

Where it is not possible to mount the sweeper at an offset angle to the direction of travel, then the zigzag is the best option. This is the case with bucket sweepers such as the Bobcat. Our ZigZags sweep a continuous surface width three times every one revolution. This would result in a clean surface in places where flat sections with spacers would leave streaks.

For this reason zigzags are good for clearing coal deposits, sand, mud and discarded building materials on construction sites.

Poly-Pro®

This is an all polypropylene strip which, like the ZigZag, covers the complete width it sweeps. It can be used in similar places where the ZigZag is used. Where initial cost is an issue several Poly-Pro® strips can be banked together and used as a static push broom which attaches to a tractor or truck. In this way it is one of the best value-per-cost available mechanical brooms. Very good performance on uneven surfaces.

Optimum performance

Brushes should be replaced before ever they wear out completely. Once the length of strand has shortened to below its half original length the sweep becomes inefficient, ineffective and therefore costly. From then on dirt and debris will be spread over the road surface rather than swept and deposited properly to the suction nozzle or into the hopper.

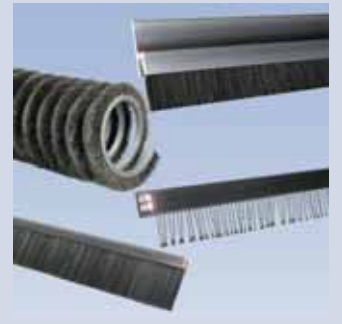


OSBORN MultiStrip®



Saving thermal energy, reducing the passage of sound, protecting against insect and vermin infestation, sealing against dust, dirt, water and smoke, cleaning of industrial and commercial conveying systems.

www.multistrip.de



Multizack system and punched roller brushes



Products for a wide range of applications: Brushes for cleaning, deburring, transporting, sorting, washing, guiding and structuring.



OSBORN TOP



High performance power brushes - Superior range for demanding applications and intense production conditions in industry.

www.top-brush.com



OSBORN Novofil®



Abrasive nylon brushes in Hi Tec filaments, rectangular and round in Diamond, Zirconium, Aluminium Oxide and Silicon Carbide. Available in a wide range of grit values.



Microabrasive brushes and miniatur brushes



Flexible, highly efficient brushing tools for surface finishing of small bores and cross hole deburring.

www.microabrasive-brush.com



OSBORN Load Runners®



Load handling systems for precise movement of heavy loads in demanding industrial applications.

www.loadrunners.de



Brushes for weld cleaning



Power driven brushes for the pipeline industry, e.g. cleaning the internal diameters of pipe, external cleaning, edge preparation, removal of insulation coatings, remedial work, cleaning weld seams prior to welding and weld bead deslag.

www.pipelinebrush.com



OSBORN ATB®



ATB - Advanced Technology Brush System!

Disc brushes with abrasive high-tech filaments. ATB disc brushes have fill density which is 4 times higher than other disc brushes manufactured according to the conventional method (punched).



OSBORN Novoflex-B®



The flexible honing tool!



Lippert-Unipol, Schleif- und Polierwerkzeuge



Die Lippert-Unipol-Produktpalette umfasst folgende Produkte für alle Arten von Schleif- und Polieranwendungen:

Schleifvlieswerkzeuge, Schleifleinenwerkzeuge, Spiralbürsten, Spiralwalzen, gestanzte und gepresste Bürsten, Sisal-, Sisal/Tuch- und Sisalkordelringe, -bürsten und -walzen, Tuch- und Notiflex-Ringe und -Scheiben und Polierpasten

www.lippert-unipol.de





OSBORN Unipol Ltd. • Lower Church Street • Chepstow, Monmouthshire NP16 5XT • UK
Phone: +44 (0) 12 91 / 63 40 00 • Fax: +44 (0) 12 91 / 63 40 98 • eMail: sales@osborn-unipol.co.uk

OSBORN International GmbH • Ringstraße 10 • 35099 Burgwald • Germany
Phone: +49 (0) 64 51 / 5 88-0 • Fax: +49 (0) 64 51 / 5 88-206 • eMail: info@osborn.de

Manufacturers of Technical Brushes, Surface Finishing Tools and Load Runners

www.osborn-unipol.com • www.roadbrush.com