



NEXGEN SYSTEMS



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Using This Brochure

David Moss Group (David Moss) supply this brochure in the interest of better understanding the product ranges David Moss offer. Please contact our sales team if any items you require are not shown in the brochure.

MEASUREMENTS

All measurements in this brochure are in millimeters (mm) unless otherwise specified. All dimensions and measurements are intended as a guide only and may change without notice. Please contact our sales team if you need more information.

David Moss manufacture and supply a wide range or products in house, however can also source and supply associated products via our local and international supply chain partners.



Quality
ISO 9001
SAI GLOBAL



About David Moss

David Moss Group manufactures and supplies HDPE and PVC pipe and fittings. David Moss supplies into a variety of industry sectors, including but not limited to Mining, Industrial, Civil, Irrigation, Utilities, Government, Agricultural and Rural. Incorporated in 1960 in Perth, Western Australia, David Moss Group employs over 140 staff, across 2 manufacturing and fabrication facilities and 3 branch locations; operating via our Perth, Kalgoorlie, Brisbane and Sydney business units, the organisation offers an Australia wide footprint. The Perth, Kalgoorlie and Brisbane locations are pivotal in supporting the ever increasing demand for our products nationally and globally.

Incorporated in 1960 in Perth, Western Australia, David Moss Group employ over 140 staff.

OUR MISSION

Our mission is to deliver sustainable solutions that create and connect communities.

OUR VISION

At David Moss Group, we aspire to be industry leaders by innovating sustainable solutions that enrich the lives of our employees, their families, and our communities. We are dedicated to setting new standards in resource efficiency, waste minimisation, and recycling.

Our collaborative and efficient team exceeds expectations, helping our customers achieve their goals and drive success.

We envision a workplace where every employee thrives, grows, and finds fulfillment in contributing to our collective success.

OUR VALUES

SAFETY

We prioritise the health and well-being of our employees, customers and communities by maintaining a safe work environment and practices.

COLLABORATION

We value teamwork and open communication, working together to achieve common goals and leverage diverse perspectives to drive success.

INTEGRITY

We operate with honesty, transparency and ethical principles, ensuring that our actions reflect our commitment to doing what is right.

INNOVATION

We embrace creativity and forward thinking, continuously seeking and implementing innovative solutions to stay at the forefront of our industry.

SUSTAINABILITY

By integrating sustainable practices into our business model, we aim to minimise our ecological footprint, support the well-being of our planet and ensure that our actions contribute positively to the future of our communities and generations to come.

GROWTH

We are committed to ongoing personal and professional development, embracing challenges and opportunities that enable both individual and organisational advancement.

Dimensions

PIPE CAPACITY OF TRUCKS

COILS		STRAIGHT LENGTHS SDR17 - 20M			
SIZE	COILS PER TRUCK	SIZE	LENGTHS	SIZE	LENGTHS
50mm x 150m	56	110	483	400	38
63mm x 100m	42	125	380	450	30
75mm x 100m	36	140	304	500	24
90mm x 100m	30	160	230	560	19
110mm x 100m	20	180	175	630	15
125mm x 100m	12	225	114	710	11
140mm x 100m	12	250	94	800	9
160mm x 80m	12	280	76	900	6
		315	61	1000	5

Please Note: These are average quantities only. Some trucks may be able to carry more lengths, while some will carry less depending on bolster/gate height. Please also note: extendible trucks maybe subject to weight (21,500 kgs) rather the number of pipes.

PIPE COIL DIMENSIONS

PIPE DIAMETER	COIL			
	OUTSIDE DIAMETER	INSIDE DIAMETER	WIDTH	LENGTH (M)
20	1200	800	220	200
25	1400	800	220	200
32	1440	800	220	200 (up to 2000)
40	1520	800	220	150 (up to 1500)
50	1800	1000	250	150 (up to 1000)
63	1930	1300	300	100 (up to 750)
75	2100	1500	375	100 (up to 500)
90	2620	1900	360	100 (up to 300)
110	3000	2200	440	100 (up to 250)
125	3250	2570	500	60 (up to 100)
140	3400	2570	600	60 (up to 100)
160	3402	2570	640	100

Please Note: The following dimensions are based on volume and not weight. To be used as a guide only.

HDPE - POLYETHYLENE PIPE DIMENSIONS AS PER AS/NZS 4130

OD	SDR 41 / PN 4			SDR 33			SDR 26 / PN 6.3			SDR 21 / PN 8			SDR 17 / PN 10			SDR 13.6 / PN12.5			SDR 11 / PN 16			SDR 9 / PN 20			SDR 7.4 / PN 25			OD
	MEAN ID	MIN WALL	MEAN KG/M	MEAN ID	MIN WALL	MEAN KG/M	MEAN ID	MIN WALL	MEAN KG/M	MEAN ID	MIN WALL	MEAN KG/M	MEAN ID	MIN WALL	MEAN KG/M	MEAN ID	MIN WALL	MEAN KG/M	MEAN ID	MIN WALL	MEAN KG/M	MEAN ID	MIN WALL	MEAN KG/M	MEAN ID	MIN WALL	MEAN KG/M	
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.7	1.6	0.08	12.3	1.8	0.08	11.4	2.2	0.10	16
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.7	1.6	0.10	16.1	1.9	0.11	15.2	2.3	0.13	14.2	2.8	0.16	20
25	-	-	-	-	-	-	-	-	-	-	-	-	1.6	0.12	0.19	21.1	1.9	0.14	20.2	2.3	0.17	19.2	2.8	0.20	17.7	3.5	0.24	25
32	-	-	-	-	-	-	-	-	-	28.7	1.6	0.16	28.1	1.9	0.19	27.0	2.4	0.23	26.0	2.9	0.27	24.5	3.6	0.33	22.8	4.4	0.39	32
40	-	-	-	-	-	-	-	-	-	36.1	1.9	0.24	35.0	2.4	0.29	33.8	3.0	0.36	32.3	3.7	0.43	30.6	4.5	0.51	28.6	5.5	0.60	40
50	-	-	-	-	-	-	-	-	-	45.1	2.4	0.37	43.9	3.0	0.45	42.4	3.7	0.55	40.4	4.6	0.68	38.4	5.6	0.80	35.7	6.9	0.95	50
63	-	-	-	-	-	-	-	-	-	56.9	3.0	0.58	55.2	3.8	0.72	53.3	4.7	0.88	51.0	5.8	1.06	48.2	7.1	1.27	45.1	8.6	1.49	63
75	-	-	-	-	-	-	-	-	-	67.7	3.6	0.83	65.8	4.5	1.02	63.7	5.5	1.23	61.0	6.8	1.48	57.6	8.4	1.78	53.6	10.3	2.12	75
90	-	-	-	-	-	-	-	-	-	81.3	4.3	1.19	79.0	5.4	1.47	76.5	6.6	1.76	73.1	8.2	2.15	69.1	10.1	2.58	64.5	12.3	3.04	90
110	104.7	2.7	0.94	103.2	3.4	1.176	101.3	4.3	1.47	99.2	5.3	1.79	96.5	6.6	2.19	93.4	8.1	2.63	89.4	10.0	3.18	84.5	12.3	3.82	78.6	15.1	4.55	110
125	118.9	3.1	1.24	117.3	3.9	1.520	115.4	4.8	1.85	112.9	6.0	2.28	109.9	7.4	2.79	106.1	9.2	3.41	101.5	11.4	4.13	96.1	14.0	4.93	89.5	17.1	5.85	125
140	133.2	3.5	1.55	131.5	4.3	1.888	129.2	5.4	2.34	126.5	6.7	2.86	123.1	8.3	3.50	118.9	10.3	4.27	113.9	12.7	5.14	107.6	15.7	6.20	100.2	19.2	7.36	140
160	152.3	4.0	2.01	150.4	4.9	2.440	147.6	6.2	3.07	144.5	7.7	3.75	140.7	9.5	4.57	135.9	11.8	5.57	130.0	14.6	6.75	123.1	17.9	8.07	114.7	21.9	9.58	160
180	171.5	4.4	2.50	169.2	5.5	3.088	166.3	6.9	3.82	163.1	8.6	4.62	158.3	10.7	5.78	152.8	13.3	7.07	146.3	16.4	8.54	138.5	20.1	10.21	129.1	24.6	12.11	180
200	190.5	4.9	3.07	187.7	6.2	3.868	184.6	7.7	4.74	180.6	9.6	5.84	175.8	11.9	7.13	170.1	14.7	8.62	162.5	18.2	10.52	153.7	22.4	12.62	143.4	27.3	14.93	200
225	214.4	5.5	3.89	211.5	6.9	4.817	207.9	8.6	5.96	203.3	10.8	7.38	197.8	13.4	9.04	191.1	16.6	11.01	182.9	20.5	13.32	173.2	25.1	15.93	161.3	30.8	18.93	225
250	238.0	6.2	4.87	234.9	7.7	5.974	230.9	9.6	7.38	226.1	11.9	9.03	220.0	14.8	11.08	212.4	18.4	13.56	203.4	22.7	16.38	192.5	27.9	19.64	179.2	34.2	23.36	250
280	266.7	6.9	6.03	263.1	8.6	7.470	258.7	10.7	9.20	253.0	13.4	11.40	246.3	16.6	13.92	237.9	20.6	16.99	227.8	25.4	20.54	215.4	31.3	24.68	200.7	38.3	29.29	280
315	300.2	7.7	7.58	296.0	9.7	9.467	290.9	12.1	11.72	284.9	15.0	14.33	276.6	18.7	17.84	267.6	23.2	21.54	256.3	28.6	26.00	242.4	35.2	31.22	226.1	43.0	36.98	315
355	338.2	8.7	9.64	333.6	10.9	11.969	327.9	13.6	14.81	321.0	16.9	18.19	312.1	21.1	22.44	301.6	26.1	27.29	288.8	32.2	32.99	273.3	39.6	39.56	254.6	48.5	47.00	355
400	380.0	9.8	12.85	375.8	12.3	15.243	369.5	15.3	18.78	361.5	19.1	23.19	351.9	23.7	28.36	339.9	29.4	34.62	325.4	36.3	41.89	307.8	44.7	50.29	287.0	54.6	59.62	400
450	428.9	11.0	15.41	423.0	13.8	19.200	415.8	17.2	23.75	406.8	21.5	29.34	395.9	26.7	35.93	382.4	33.1	43.85	366.1	40.9	53.05	346.5	50.2	63.58	322.8	61.5	75.54	450
500	476.3	12.3	19.18	470.0	15.3	23.678	462.0	19.1	29.30	452.0	23.9	36.19	440.0	29.6	44.26	424.9	36.8	54.11	406.8	45.4	65.46	385.0	55.8	78.47	360.3	67.6	92.35	500
560	533.7	13.7	23.80	526.3	17.2	29.717	517.5	21.4	36.64	506.4	26.7	45.21	492.7	33.2	55.53	475.9	41.2	67.80	455.8	50.8	81.92	430.3	62.5	98.96	403.5	75.7	115.80	560
630	600.4	15.4	30.22	592.2	19.3	37.594	582.1	24.1	46.54	569.8	30.0	57.22	554.4	37.3	70.27	535.0	46.3	86.21	512.6	57.2	103.90	484.1	70.3	125.32	454.0	85.1	146.60	630
710	676.5	17.4	38.45	667.3	21.8	47.775	655.9	27.2	59.15	641.9	33.9	72.85	624.6	42.1	89.37	603.4	52.2	108.99	577.6	64.5	131.97	546.5	79.3	158.33	511.6	95.9	186.17	710
800	762.3	19.6	48.76	752.0	24.5	60.520	739.2	30.6	74.91	723.4	38.1	92.33	703.9	47.4	113.32	680.0	58.8	138.26	651.0	72.5	167.36	615.9	89.3	200.89	576.5	108.1	236.31	800
900	857.8	22.0	61.51	846.0	27.6	76.663	831.7	34.4	94.75	813.9	42.9	116.84	791.7	53.5	143.71	764.9	66.2	175.16	732.4	81.7	211.85	694.0	100.0	253.15	648.5	121.6	299.20	900
1000	952.9	24.5	76.15	940.1	30.6	94.420	924.1	38.2	116.91	904.2	47.7	144.34	879.8	59.3	177.16	852.1	72.5	213.33	814.9	91.0	260.08	771.1	111.1	312.46	720.6	135.1	369.26	1000
1200	1143.1	29.4	109.59	1127.5	36.7	136.292	1108.5	45.9	168.32	1084.7	57.2	207.68	1062.7	70.6	243.30	1020.0	88.2	310.35	975.8	109.1	376.86	924.9	133.3	449.80	864.4	162.2	531.42	1200

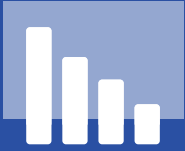
SDR – SIZE DIMENSIONAL RATIO, PN – PRESSURE RATING AT 20 DEGREES C AS/NZS 4130:2018

ALL PIPE SIZES AND SDR'S HIGHLIGHTED IN ORANGE UTILISE PREMIUM RESINS DESIGNED SPECIFICALLY FOR THE MANUFACTURE OF LARGE OD OR THICK WALL PIPE.

NexGen Systems

Conventional polyethylene pipe cannot perform as well in extreme conditions, or when faced with highly abrasive material transfer; nor will it fulfill the clients ultimate design and performance requirements. This has challenged polyethylene producers, to develop advanced solutions, in order to provide systems for these ultra abrasive and harsh applications. Drawing from over 60 years of manufacturing experience, Damos NexGen Wear-Tuff is a performance innovation with much greater pressure and abrasion resistance, leading to a maximum pipe performance beyond PE100 for a sustainable future.

Damos NexGen Wear-Tuff is a performance innovation with much greater pressure and abrasion resistance.



**10%
Thickness
Reduction**



**Faster
Welding
Installation**



**Greater
Flow
Volume**



**Improved
Project
Efficiency**

Damos Wear- Tuff

THE INNOVATION

Damos NexGen Wear-Tuff is a performance innovation with the ability to run at greater pressures, whilst featuring better abrasion resistance; leading to a maximum pipe performance beyond the capabilities of HDPE100.

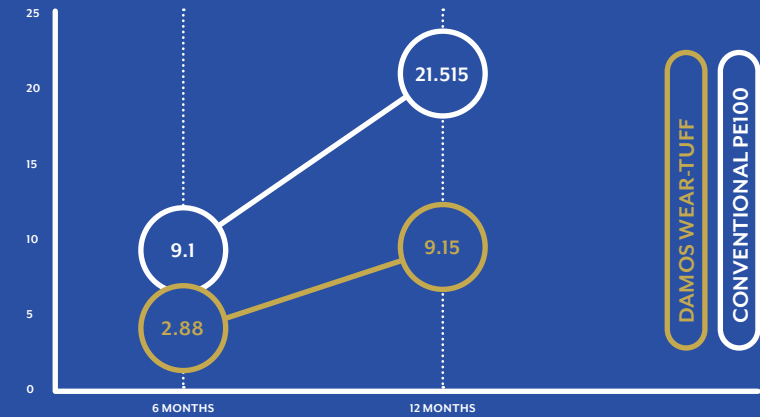
CUSTOMER VALUES

Damos NexGen Wear-Tuff is not only a material innovation, it also creates a number of benefits to customers, asset owners and operators, due to its ease of installation, cost efficiency and design life.

SUSTAINABLE DEVELOPMENT

Damos NexGen Wear-Tuff has been created through intense research and development phases, in order to provide a material with higher performance than traditional PE100. The results of this higher performance means that the NexGen Wear-Tuff will provide longer service life, and higher durability, resulting in less material consumption and more sustainable manufacturing processes.

THICKNESS LOSS AFTER 6 & 12 MONTHS OF PIPE USAGE(MM)

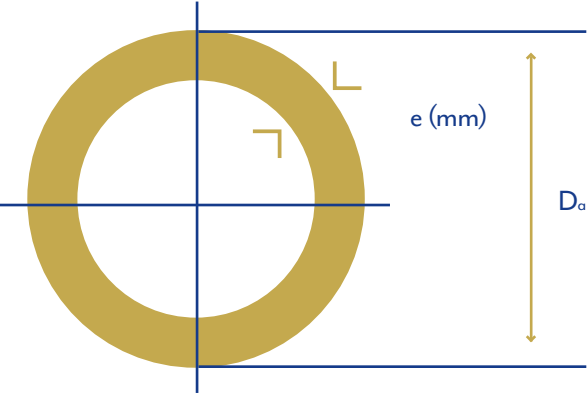


Damos NexGen Wear-Tuff pipe range is available from DN40 to DN1200, and is complemented with a full range of butt weldable fittings.

10% HIGHER PRESSURE WITHSTANDING

Operating pressure has a direct relationship with inherent thickness and strength of the material (highlighted in the equation opposite). With a MRS of 11.2MPa, Damos NexGen Wear-Tuff, is able to achieve an operating pressure 10% greater than conventional PE100; whilst utilising a wall thickness which is 10% less than conventional PE100.

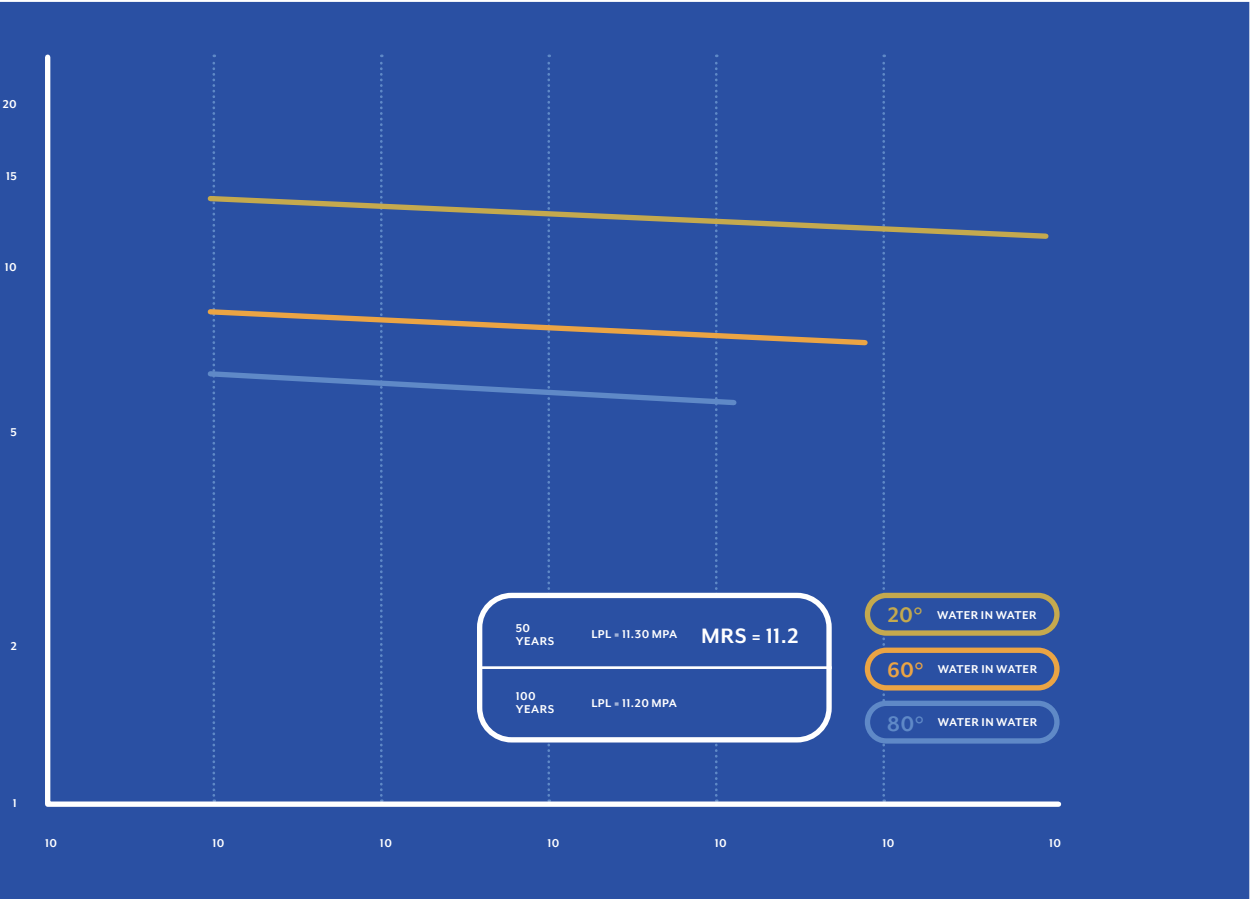
$$MOP = \frac{20 (MRS)}{C \times (SDR - 1)}$$
$$SDR = \frac{D_o}{E_n}$$



- MOP Maximum Operating Pressure (bar)
- MRS Minimum Required Strength
- D_o Diameter (mm)
- SDR Standard Dimension Ration
- C Safety Factor
- e_n Nominal Wall Thickness (mm)

Utilising advanced resin grades, users can achieve a larger bore and greater hydraulic capacity by specifying Damos NexGen Wear-Tuff.

(MPa) HOOP STRESS



50% HIGHER ABRASION RESISTANCE

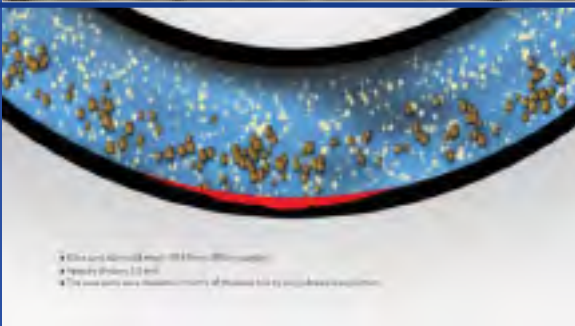
HDPE is used in a range of pipeline applications within the mining industry, most commonly for tailings and water management pipelines in not open pit and underground mining. Tailings pipelines are used to transfer highly abrasive sedimentary slurry, hence a great deal of focus is placed on a high level of abrasion resistance in these applications.

From technical studies and mining simulation software analysis, Damos NexGen Wear-Tuff shows a 50% greater abrasion resistance than traditional PE 100.

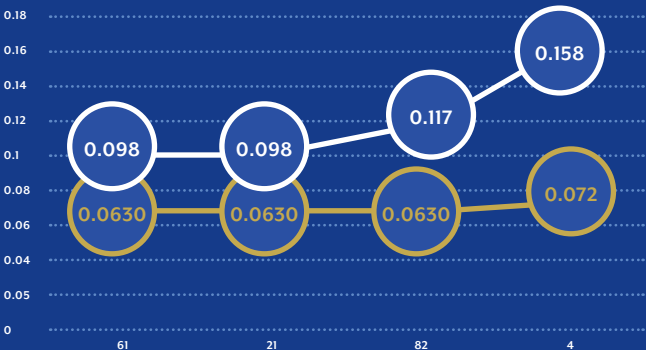


SAND SLURRY TEST

Method modified from the Saskatchewan Erosion Studies
Silica sand slurry (48 mesh, 0.5-1.0mm, 25% by weight) Velocity of slurry 4.0 m/s The wear rates were measured in terms of thickness loss by using ultrasonic equipment



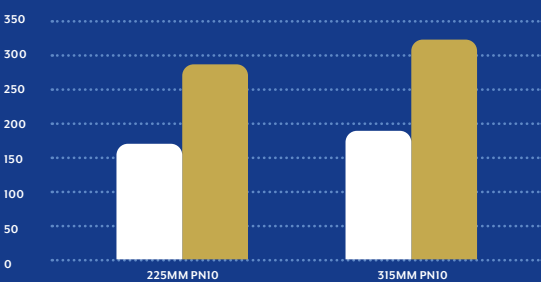
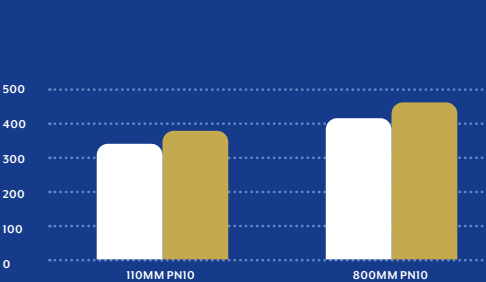
AVERAGE THICKNESS LOSS WITH TIME



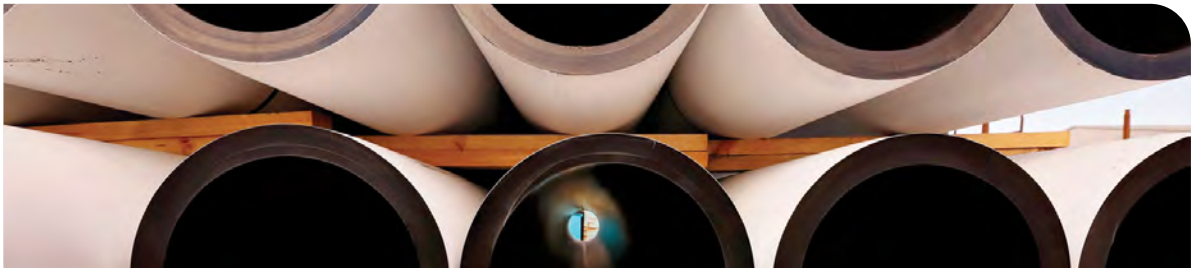
DAMOS WEAR-TUFF
CONVENTIONAL PE100

Damos NexGen Wear-Tuff is able to achieve higher production efficiencies, through being able to produce a 10% greater output of material, thus leading to shorter project times and higher capital savings.

COMPARISON OF OUTPUT



DAMOS WEAR-TUFF
CONVENTIONAL PE100



TECHNICAL INFORMATION

GRADE	DAVID MOSS WEAR-TUFF	METHOD
Colour	6	
Classification	MRS 11.2MPa	ISO 9080:2012
Melt flow rate (190°c, 5kg)	0.17 g/10min	ISO 9080:2012
Density compound	0.960 g/cm	ISO 1133:2011
Tensile strength at yield	24MPa	ISO 1183-1:204(A)
Resistance to slow crack growth	>1,000 HOURS	ISO 527-2:2012
Resistance to rapid crack propagation (RCP)	>10 BAR	ISO 13477:2009
Standard Compliance	ISO 4427-1 / EN 12201-1 ISO4437-1 / EN 1555-1 AS/NZ 4131 / ASTM D3350	ISO 13477:2008

WALL THICKNESS TABLE

NOM O.D	SDR 19 / PN 10			SDR 15 / PN 12.5			SDR 12.2 / PN 16			SDR 10 / PN 20			SDR 8 / PN 25		
	MEAN ID	MIN WALL	MEAN KG/M	MEAN ID	MIN WALL	MEAN KG/M	MEAN ID	MIN WALL	MEAN KG/M	MEAN ID	MIN WALL	MEAN KG/M	MEAN ID	MIN WALL	MEAN KG/M
225	201.0	11.9	8.08	195.1	14.7	9.84	187.2	18.4	12.12	178.5	22.6	14.52	168.1	27.5	17.24
250	223.3	13.2	9.98	216.8	16.3	12.14	208.0	20.5	14.96	198.3	25.1	17.93	186.8	30.6	21.27
280	250.1	14.8	12.50	242.9	18.3	15.18	233.0	23.0	18.73	222.2	28.1	22.44	209.2	34.3	26.66
315	281.4	16.6	15.82	273.2	20.5	19.25	262.1	25.8	23.73	249.9	31.6	28.44	235.4	38.6	33.75
355	317.1	18.8	20.06	307.9	23.1	24.40	295.4	29.1	30.08	281.7	35.6	36.05	265.2	43.5	42.85
400	357.3	21.1	25.47	346.9	26.1	30.99	332.8	32.8	38.22	317.4	40.2	45.77	298.9	49.0	54.36
450	402.0	23.8	32.26	390.3	29.3	39.25	374.5	36.9	48.36	357.1	45.2	57.96	336.3	55.1	68.83
500	446.7	26.4	39.78	433.7	32.6	48.41	416.1	41.0	59.69	396.7	50.2	71.58	373.6	61.2	84.99
560	500.2	29.6	49.92	485.7	36.5	60.70	466.0	45.9	74.83	444.3	56.2	89.72	418.4	68.6	106.57
630	562.8	33.3	63.20	546.5	41.1	76.83	524.3	51.6	94.75	499.9	63.3	113.59	470.8	77.1	134.89
710	634.3	37.5	80.16	615.9	46.3	97.50	590.9	58.2	120.25	563.4	71.3	144.18	530.6	86.9	171.24
800	714.7	42.3	101.77	694.0	52.2	123.75	665.8	65.6	152.66	634.8	80.3	183.06	597.8	97.9	217.45
900	804.1	47.6	128.79	780.7	58.7	156.75	749.0	73.8	193.31	714.2	90.4	231.70	672.6	110.2	275.20
1000	893.4	52.9	158.98	867.5	65.2	193.36	832.3	82.0	238.48	793.6	100.4	285.92	747.3	122.4	339.71
1200	1071.7	63.4	228.81	1040.6	78.2	278.34	998.3	98.4	343.37	951.9	120.5	411.60	896.4	146.9	488.94

Damos NexGen
Wearthuff is available
from DN225 to DN1200,
from PN10 to PN35.

Damos RC

PE100 WITH EXCEPTIONAL STRESS CRACK RESISTANCE

Damos RC is a PE100 resin with high stress crack resistance and is a superior class of PE100 material. Damos RC has many times greater stress crack resistance than standard PE100 resin. Damos RC enables you to work with your designer to achieve more efficient pipelines, longer lasting pipe networks or reduced installation costs.

REDUCED WALL THICKNESS

Slow crack growth initiation can lead to brittle failure. Damos RC has increased resistance to slow crack growth initiation.

The potential to downgauge pipe (reduce wall thickness) can be made possible with the appropriate use of design factors and “fit-for-purpose” design methodology.

Downgauging decreases costs while increasing efficiency. Reduced material usage lowers pipe costs, while improved flow decreases pumping costs.

LOWER INSTALL COST

Damos RC has increased resistance to slow crack growth initiation which can be caused by scratches and notches during installation.

Damos RC can withstand deeper notches reducing the risk of impacting upon pipe service life when compared to standard PE100 grades.

Damos RC can enable installation using lower cost backfill. The high stress crack resistance of Damos RC reduces the risk of crack initiation due to point loads associated with these installation methods.

INCREASED SERVICE LIFE

The exceptional resistance to slow crack growth of Damos RC can lead to increased pipe service life, lower maintenance costs and reduced replacement rates.

There is the potential for stress concentration to initiate slow crack growth wherever “squeeze-off” is used to manage pipeline flows for planned or emergency maintenance.

Damos RC increases resistance to the initiation of slow crack growth wherever these stress concentrators are present.

STRESS CRACK RESISTANCE PERFORMANCE - HESSEL ACCELERATED CREEP TEST



DAMOS RC

DAMOS HDPE 100

Damos RC, is a specialty grade PE100 resin featuring superior slow crack growth properties.

David Moss offer a full range of Damos RC grade butt welded fittings and EF fittings to complement our pipe range.

Damos RC is designed to meet or exceed the key performance requirements for hydrostatic strength (MRS10), slow crack growth resistance (SCGR) and resistance to rapid crack propagation (RCP). Over many years, the mining, water and gas industries have taken advantage of the proven world class performance of Damos RC, using it in pressure pipe in large volumes.

BEYOND MINIMUM REQUIRED STRENGTH (MRS)

For Damos pipe grades, we maintain Pipe Pressure data beyond the minimum requirements of the PE100 standard. Working with Damos Technical Service, your pipe design can be optimised to achieve;

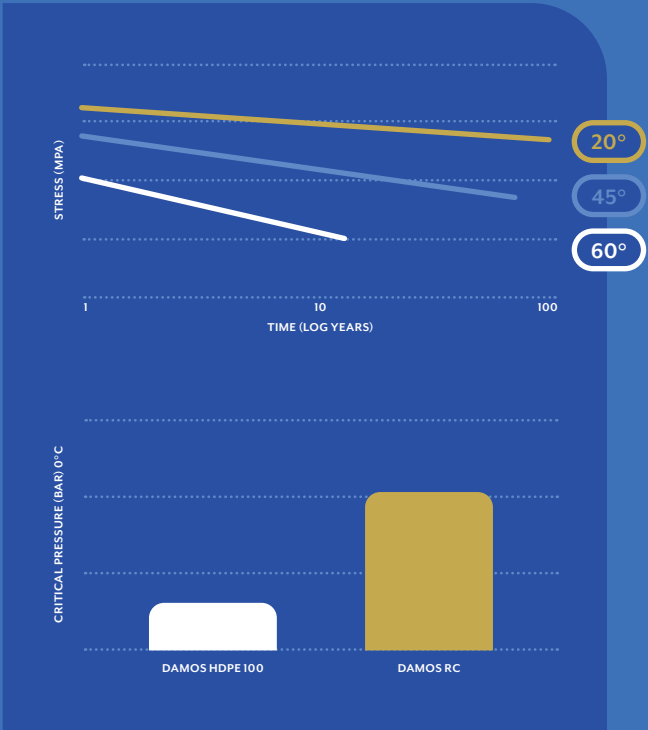
- Maximum lifetime design
- Elevated usage temperature

HIGH RESISTANCE TO RAPID CRACK PROPAGATION (RCP)

Damos RC has passed Rapid Crack Propagation (RCP) tests at critical pressures well above the requirements of the standard. RCP performance data for sub-zero application temperature is also available.

RCP performance enables pipe designers to specify:

- Lower in-use temperatures
- Higher safety margins for fluid containment



Damos low slump/ Anti sag resins

David Moss has a proud and long standing reputation for the production of large diameter thick walled pipe (≥ 60mm). Using advanced manufacturing processes and modern extrusion technology, Damos NexGen Low slump resins allow us to expand our range of applications for HDPE pipes into new markets and industry segments, whilst utilising our 50 years of experience and track record of manufacturing large bore, heavy wall pipe for major projects.

ULTRA LOW SAG PERFORMANCE

The exceptional melt strength performance means Damos Low Slump/ Anti Sag Resins is capable of producing pipe with wall thickness greater than 80mm. This opens up new applications to PE100 pipe and allows manufacturers to access new markets. Designers are able to consider using PE100 in applications usually reserved for steel and concrete.

EXCELLENT PIPE DIMENSIONAL STABILITY

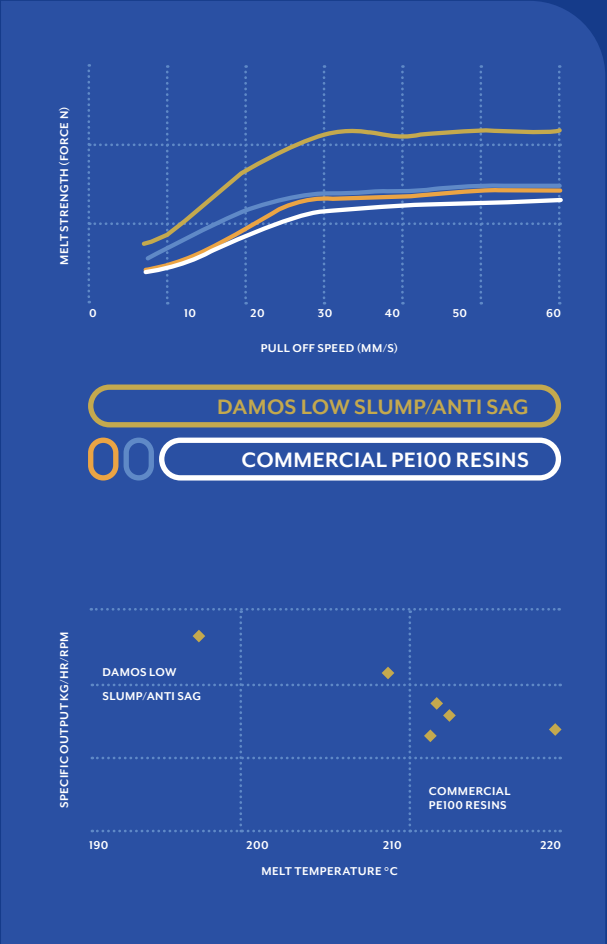
High melt strength results in excellent pipe dimensional stability. Damos Low Slump/ Anti Sag Resins minimises wall thickness variation and reduces rework resulting in:

- Raw material saving
- Optimal pipe installation efficiency

HIGHER SPECIFIC OUTPUT AND COOLER MELT TEMPERATURES

The market leading extrusion performance of DAMOS Low slump/Anti sag resins allows DAMOS to increase both outputs and efficiency. DAMOS's production facilities all feature advanced cooling systems, thus allowing DAMOS to achieve even higher outputs and a tighter wall thickness tolerance.

David Moss utilise premium HDPE resins to achieve wall thicknesses greater than 71mm.



Damos HDR

Damos HDR (Damos RC + Disinfectant Resistant) is a high density polyethylene (HDPE) PE100 compound for pipes and fittings. Developed to tackle the ever changing challenges faced by water distribution network asset owners, Damos HDR is designed to cope with elevated temperatures and more aggressive chemical disinfection systems.

Working in conjunction with the major water utilities across ANZ, Damos HDR aids the water utilities to preserve the quality of drinking water, whilst also improving the performance and lifespan of the pipes and fittings delivering the end product to the rate payer.

In addition, Damos HDR offers excellent resistance to slow crack growth, meaning it is also an ideal choice for HDD, and trenchless installations. Damos HDR is fully compliant with existing standards for drinking water pipelines (ISO 4427).

Manufactured using modern extrusion technology, David Moss currently manufacture Damos HDR pipe from DN25 to DN1200, from SD41 to SDR 7.4. To complement the David Moss manufactured HDR pipe, we also manufacture HDR fittings, including Stub flanges, Long spigot Stub flanges, Wye Junctions, Sweep bends, Pull Tees, Fabricated equal tees, and Inverted (Scour) Tees. All Damos HDR products are manufactured to AS/NZS 4130 and AS/NZS 4131.

PHYSICAL PROPERTIES	TEST METHOD	HOSTALEN CRP100 RCD BLACK
Melt Flow Rate (190°C/5kg)	ISO 1133-1	0.23 g/10min
Density	ISO 1183-1	0.958 g/cm ³
Tensile Modulus (23°C)	ISO 527-1,2	1100 MPa
MRS Classification	ISO 9080	10 MPa
FNCT (80°C/4MPa/2%NI00)	ISO 16770	> 8760 h
NPT (80°C/9.2 bar)	ISO 13479	> 5000 h
S4-Test @ 0°C, Ø250x22.8mm	ISO 13477	> 10 bar

ADVANTAGES

✓

Heightened resistance to chlorinated disinfectants, when compared to standard HDPE100

✓

High resistance to slow crack growth

✓

Enhanced Durability

✓

Improved Service life

✓

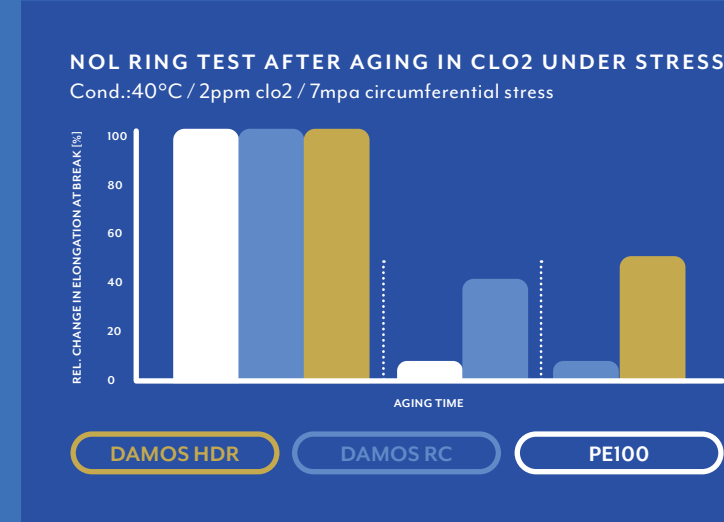
Copes well with external point loads

✓

Reduced installation costs by embracing HDD and Trenchless installation

✓

Excellent Weld ability



PRODUCT APPLICATION GUIDE

INSTALLATION	APPLICATION	DAMOS WEAR-TUFF	DAMOS RC	DAMOS HDR	DAMOS FRAS	DAMOS VHAR
TRENCH	Water Distribution	✓	✓✓	✓✓✓	✓	✓
	Gas Distribution	✓	✓✓	✓	✓✓	✓
	Mining Slurry	✓✓	✓	✓	N/A	✓✓✓
	Large bore, thick wall	✓✓	✓	✓	N/A	✓✓
TRENCHLESS	Slip lining	✓	✓✓✓	✓	✓	✓✓
	Plough In	✓	✓✓	✓	N/A	✓
	HDD	✓	✓✓✓	✓	✓	✓✓
	HDD Large Bore	✓✓✓	✓✓	✓	N/A	✓✓✓

- ✓ Well Suited
- ✓✓ Very Well Suited
- ✓✓✓ Exceptional Performance

Categories are based on the typical performance requirements of the application listed and serve as a guide only.



David Moss NexGen range allows the asset owner to utilise the right resin, with specific properties for their application. Its no longer a “one shoe fits all”.

Damos Fras

David Moss range of FRAS (Fire Resistant Anti Static) was developed in conjunction with the off shore oil and gas industry, and is a product specifically developed to tackle the key safety elements experienced on off shore oil installations. Damos Fras pipe features industry leading standards in both surface and volumetric resistivity, which both comply and exceed the requirements of ASTM D257; as well as displaying exceptionally high fire resistivity levels, as classified in DIN 4102-1 B1, EN13501-1 B (low contribution to spread fire, medium smoke protection index level, low level burning droplets/particles).

The Damos Fras product is particularly suitable when considering hazardous applications, and has been used extensively in the off shore oil and gas industry, underground mining, water based suppression systems and the transport of non-flammable liquids. Damos offer the Fras range of pipe in a solid black or a coloured/striped jacket; a full range of Damos Fras HDPE fittings manufactured locally in Australia are also available, including stub flanges, reducers, elbows, sweep bends, equal and reducing tees, and barrel union adaptors.

With superior anti-static properties the Damos FRAS pipe is manufactured locally in Australia, for a range of hazardous applications.

	UNIT	TEST METHOD	VALUE
MATERIAL PROPERTIES			
Melt Flow Rate (190°C /21.6 kg)	g/10min	ASTM D 1238	8.00±1
Specific Gravity	-	-	1.30±3
Tensile Strength at Yield	Kgf/cm ³	ASTM D 638	190±60
Izod Impact (N), Notched	Kg.cm/cm	ASTM D 256	21.00±3
Moisture Content	%	ASTM D 6980	0.09
Flexural Strength	Kgf/cm ²	ASTM D 790	188±10
Flexural Modulus	Kgf/cm ²	ASTM D 790	8000min
Flammability	-	UL94	V-0
Moisture Content	ppm	ISO-15512	111
Surface Resistivity	Ohm/Sq.	ASTM D 257	103 - 106
PRODUCT PROPERTIES			
Minimum Required Strength	MPa	ISO/TR 9080	10
Resistance to internal pressure (80°C)	Hour	AS/NZS 1462.6	>165
			>1000
Tensile Yield Stress	MPa	ISO-13953	24
Allowable Compressive Strength	MPa		7.93
Resistance to Slow Crack (80°C @ 920 KPa)	Hour	AS/NZS 1462.24	500
Oxidation Induction Test	Min	ISO-11357-6	>20
			>40
Reversion (110°C)	%	AS/NZS 1462.4	<3

Sourced reference Resin Suppliers database.

DESIGN

Allowable operation Pressure

Hydrostatic Design Basis: Wall thickness and pressure rating determined by Barlow Formula:

T = PD / 2S +P; Where T- minimum Wall thickness (mm)

P – Normal working pressure of pipe (MPa)

D – Minimum mean OD (mm)

S – Hydrostatic design stress at 20DC (MPa); For PE100 10.0 MPa

HYDROSTATIC DESIGN STRESS AND MINIMUM REQUIRED STRENGTH - VALUES		
PE100 (MPa)	Minimum Required Strength 8.0	Hydrostatic Design stress 10.0

OD	SDR17/PN10			SDR13.6/PN12.5			SDR11/PN16			SDR9/PN20			SDR7.4/PN25		
	MEAN BORE	MIN W/T	KG/M	MEAN BORE	MIN W/T	KG/M	MEAN BORE	MIN W/T	KG/M	MEAN BORE	MIN W/T	KG/M	MEAN BORE	MIN W/T	KG/M
25	21.5	1.6	0.12	20.9	1.9	0.14	20.0	2.3	0.17	19.0	2.8	0.20	17.5	3.5	0.24
63	54.9	3.8	0.72	53.0	4.7	0.87	50.7	5.8	1.05	47.9	7.1	1.26	44.8	8.6	1.5
110	96.0	6.6	2.17	92.8	8.1	2.63	88.9	10.0	3.16	84.0	12.3	3.80	78.1	15.1	4.52
125	109.3	7.4	2.77	105.5	9.2	3.39	100.9	11.4	4.10	95.5	14.0	4.90	88.9	17.1	5.82
160	139.9	9.5	4.55	135.1	11.8	5.54	129.2	14.6	6.72	122.3	17.9	8.02	113.9	21.9	9.52
180	157.4	10.7	5.75	151.9	13.3	7.03	145.4	16.4	8.49	137.6	20.1	10.15	128.2	24.6	12.04
225	196.7	13.4	9.00	190.0	16.6	10.95	181.8	20.5	13.25	172.1	25.1	15.84	160.2	30.8	18.82
250	218.8	14.8	11.03	211.2	18.4	13.49	202.2	22.7	16.30	191.3	27.9	19.53	178.0	34.2	23.23

SDR – SIZE DIMENSIONAL RATIO, PN – PRESSURE RATING AT 20 DEGREES C AS/NZS 4130:2018



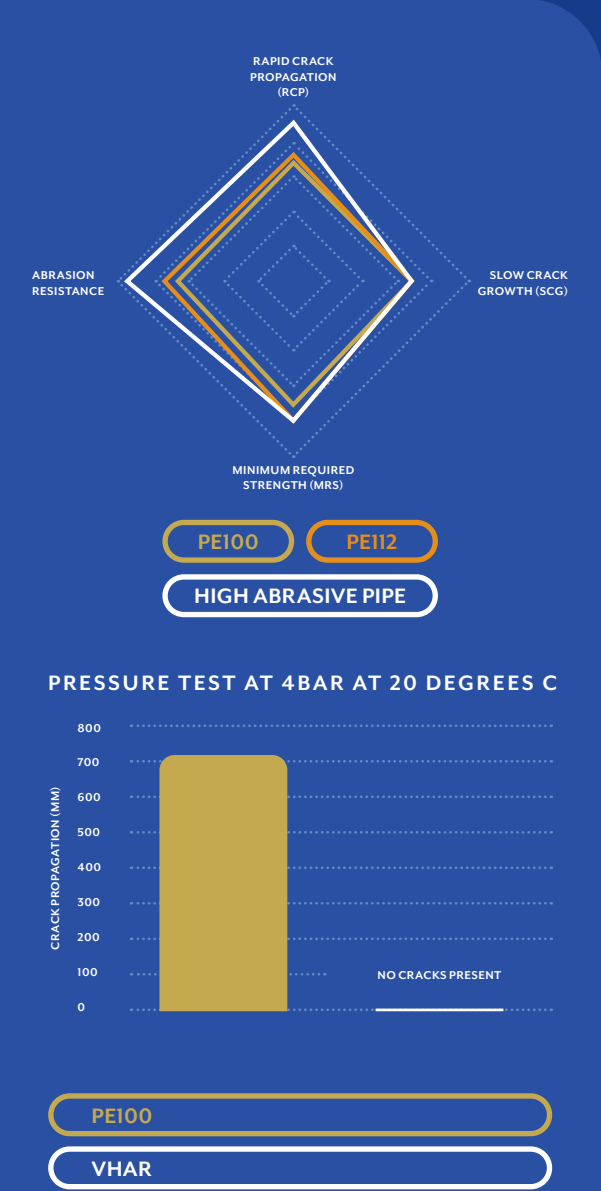
Specifically designed in conjunction with key clients in the off shore gas and Australian underground mining industry, Damos Fras is a quantum leap forward in terms of safety and performance.

Damos Ultra Wear

David Moss range of VHAR Pipes and Fittings, represents a leap forward in abrasion resistivity, the VHAR (Very High Abrasion Resistance) product has been developed in conjunction with key asset owners in the global mining industry in order to tackle the problems associated with service life when considering abrasive and/or course slurry's traveling through HDPE pipe lines. Featuring never before seen abrasion resistance levels of 2.4X those associated with standard PE100 grade materials and 1.6x those associated with Damos Wear-Tuff, the VHAR product is a versatile product that offers unmatched durability, allowing the service life to be doubled or in some cases tripled. Damos VHAR is a fully weldable product, and can be butt fusion welded with any butt fusion welding machine; a full range of VHAR fittings is also available which are produced locally in Australia by Damos and include stub flanges, billet reducing tees, billet eccentric tees and billet equal tees, elbows, sweep bends and concentric and eccentric reducers.

ADVANTAGES & BENEFITS

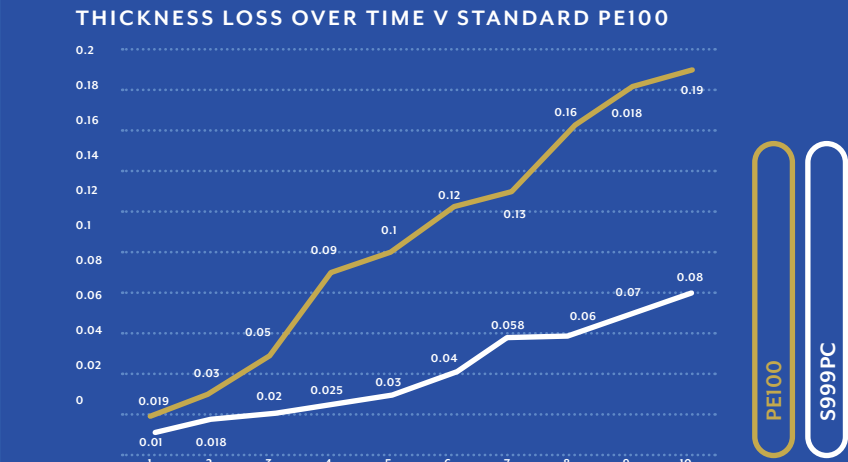
- ✓ **Unmatched Abrasion Resistance**
Mining operations involve the transportation of abrasive materials such as ores, rocks, and slurry. Standard polyethylene pipes often fail to withstand the intense abrasion. This attribute makes VHAR suitable for applications where abrasion resistance is critical.
- ✓ **Cost-efficiency**
VHAR remains a cost-effective solution. Its longevity reduced maintenance requirements, and minimal downtime contributes to long-term cost savings.
- ✓ **Environmental Guardian**
Say good-bye to microplastic worries. S999PC is designed to minimize wear and tear, preventing the release of microplastic into our precious ecosystems.
- ✓ **Extrudable in current extrusion machinery**
Very high molecular weight normally cannot be extruded. However, with our polymer design. VHAR exhibits good processability, opening up a whole new realm of possibilities for harsh applications.
- ✓ **Compatibility with existing PE100 infrastructure**
Minimise the need for extensive system upgrades,making it an attractive option for retrofitting and expanding existing pipelines.



VHAR displays a great ability to withstand crack formation or propagation even at extreme conditions and temperatures.

MATERIAL PROPERTIES	UNIT	PE100	VHAR
PHYSICAL PROPERTIES			
Material form		Black Pellet	Black Pellet
Melt flow index, Load 21kg, 190°C	g/10min	6.5	1.5-1.7
Density	g/cm³	0.960	0.963
Molecular weight (Mv)	g/mol	250,000	600,000
MECHANICAL PROPERTIES			
Charpy impact ISO179	kJ/m2	22	45
Abrasion wear resistance by sand slurry method ISO15527 [1400 rpm, 48 hours] means it has an excellence in wear resistance property. Using PE100 as reference material.	%	100	70
Strain Hardeing Modulus <Gp> ISO18488	MPa	42	50
Tensile strength at yield ISO527	MPa	22	23
Tensile strength at break ISO527	MPa	31	38
PIPE PERFORMANCE			
Pressure test, 12.4 Mpa, 20 °C	Hour	>150	>1238
Slow crack growth	Hour	>500	>500
Rapid crack propagation test crack arrest at 10 Bar, 0°C	mm	>129	0
Rapid crack propagation test crack arrest at 4 Bar, -30°C	mm	>704	0

VHAR displays 2.4 times less thickness loss of wall mass v traditional PE100 grade material.



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