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Technical Data Sheet

Tufflex

Tufflex screening is a flexible industrial screening media made from polyurethane-coated wire rope designed for vibrating screens in mining, quarrying, and recycling applications.

- Material Composition: Combines high-tensile steel wire ropes encased in durable polyurethane, offering the flexibility of synthetic/wire ropes with superior wear resistance.
- High Open Area: Matches the open area percentage of traditional woven wire mesh, ensuring high screening efficiency and throughput.
- Anti-Blinding / Anti-Clogging: The flexible nature of the rope and polyurethane combination creates a secondary vibration that reduces pegging and blinding (clogging of apertures by damp or fine material).
- Noise Reduction: Operates much more quietly than traditional all-steel woven wire or punch plate screens.

Screening Principle

Tufflex's welded strands form an engineered matrix that supports accurate screening. Because the system is lightweight and flexible, it remains highly active and vibrates independently of the screen unit during operation. This secondary vibration improves screening efficiency and helps particles that might otherwise become pegged in woven-wire apertures pass through. It also prevents fine particles from blinding the wires. For specialised screening requirements, Tufflex can be configured in a semi-welded construction to create exceptionally flexible media suited to a broader range of environmental and geological conditions.

Application response by geology

Deposit / duty	Typical challenge from supplied source	Tufflex response
Sticky / conglomerate	Wet material handling, pegging and blinding	Flexible polyurethane matrix flexing helps prevent material adhesion and blockages.
Hard non-abrasive / high-throughput basalt	High throughput can accelerate wire fatigue and aperture spreading	Anti-binding performance and fixed square aperture support throughput and sizing consistency.
Abrasive / high silica	Severe abrasive wear of standard wire and conventional poly ripple	Engineered high-durability polyurethane compound is described as providing improved abrasion resistance.

Selection variables

FEED CHARACTER Rock type, clay content, moisture, particle shape and top size.	**PROCESS DUTY** Throughput, impact loading, material velocity, screen inclination and deck position.
PRODUCT REQUIREMENT Target cut size, oversize control and acceptable screening efficiency.	**WEAR ENVIRONMENT** Abrasiveness, silica content, impact zone and historical wear pattern.

Specifications

Square Aperture

Opening (mm)	Rope Diameter (mm)										
	1.5	2	2.5	3	4	5	6	7	8	10	12
1.5	F 25%										
2.5	FP 39%										
3	FP 44%	F 36%		P 25%							
3.5	FP 49%	FP 40%									
4	FP 53%	FP 44%		FP 33%							
4.5		FP 48%	FP 41%	F 36%							
5		F 51%	FP 44%	FP 39%							
5.5			FP 47%	FP 42%							
6			FP 50%	FP 44%	FP 36%						
6.5				FP 47%							
7			F 54%	FP 49%	F 40%						
8				F 53%	FP 44%						
9					F 48%						
10				F 59%	F 51%	F 44%					
11						F 47%					
12						F 50%					
12.7					F 58%						
13						F 52%	F 47%				
14						F 54%		F 44%	F 40%		
15						F 56%	F 51%	F 46%			
16						F 58%	F 53%		F 44%		
17							F 55%	F 50%			
18							F 56%				
20							F 59%	F 55%	F 51%	F 44%	
21							F 60%	F 56%	F 52%	F 46%	
22							F 62%	F 58%	F 54%	F 47%	
23							F 63%		F 55%	F 49%	F 43%
24							F 64%			F 50%	
25									F 57%	F 51%	
26										F 52%	F 47%
27										F 53%	F 48%
28									F 60%	F 54%	
30											F 51%
32											F 53%
35											F 55%
38											F 58%
40											F 59%
43											F 61%
44											F 62%
45											F 62%

Rectangular Aperture

Aperture (mm)		Rope Dia (mm)		Open Area %
Synthetic (S)	S/S Wire (W)	Synthetic	S/S Wire	
0.7	15	3	6	14
1	15	3	6	18
1.5	15	3	6	24
2	18	1.5	3	49
2	18	2	4	41
2.5	10	1.5	3	48
2.5	10	2	6	35
2.5	18	2	4	45
2.7	16	2	6	43
3	18	3	4	41
3.5	13	2	3	52
4	16	3	5	44
4.5	18	2.5	4	53
5	20	4	6	43
6	13	2.5	3	57
7	21	3	3	61

Installation principles

- Verify the exact screen deck and screen-media configuration before manufacture or installation.
- Check actual screen section length, overall width, aperture, deck position and tensioning arrangement.
- Confirm the screen support structure is clean and serviceable before fitting new media.
- Follow the screen-machine manufacturer's installation and tensioning requirements.
- After installation, inspect seating, tension and product flow during commissioning.

Proactive wear management

At the feed impact zone experiences the highest wear, while downstream positions experience lower wear. Because Tufflex is easier to handle than rigid steel media, screen sections can be rotated during planned maintenance to distribute wear more evenly.

Field strategy: rotate screen positions approximately every 1.5 to 2 months where duty and wear pattern justify it. Can provide up to 40% extension of full-deck operational life from even wear distribution.

Routine inspection checklist

Inspection item	What to check
Apertures	Check for damage, deformation or embedded oversize.
Wear pattern	Compare impact-zone wear with downstream sections.
Edges / fitment	Check seating and engagement with the machine's tensioning system.
Support structure	Inspect bars and contact surfaces for wear or damage.
Material flow	Check for developing blinding, buildup or uneven loading.
Rotation status	Record section positions so wear rotation remains controlled and traceable.

Safety & Maintainability

Where the operation has screening equipment with middle deck and bottom decks as a maintenance bottleneck. Restricted clearance, elevated catwalks and rigid HT wire screen can increase manual-handling, laceration, crush and rigging exposure. Tufflex addresses these issues through lower mass, flexibility and a smooth polyurethane matrix.

Key maintainability differences

Maintenance factor	HT wire	Tufflex design response
Screen mass	Rigid steel media	Up to 55% lighter than HT wire.
Edges	Sharp wire edges and hooks can create laceration exposure	Smooth polyurethane matrix removes exposed woven-wire edges.
Rigging	Heavy or obstructed screens may require chains, hoists or mobile plant	Lower mass and flexibility can reduce reliance on heavy extraction methods.
Restricted access	Rigid media is difficult to manoeuvre through cramped decks	Flexible media is easier to manoeuvre through constrained access.

Important safety note

Tufflex can reduce specific physical hazards associated with handling conventional HT wire, but it does not replace site isolation, guarding, access controls, lifting assessment, PPE, maintenance procedures or the plant manufacturer's instructions.

Changeout planning

- Confirm the machine is isolated and made safe under site procedures before screen work begins.
- Confirm screen configuration, dimensions and fitment before removal of existing media.
- Inspect support bars, tensioning components and deck structure during each changeout.
- Do not assume nominal machine size alone defines an interchangeable screen.