

THE CARCASS

The fabric decides a belt's strength

A conveyor belt carries its load on plies of woven fabric, bonded with skim rubber and protected by the top and bottom covers. The fabric takes the tension, the rubber takes the wear. This chart gives each fabric's rated strength per ply, its gauge and weight, and the standard belt ratings it builds.

EP 800/4, IN SECTION



3

Fabric families: EP, EE and NN

100–400

N/mm rated strength per ply

2–5

Plyes in a standard build

200–1250

kN/m belt ratings built

HOW TO READ IT

A fabric code in three parts

E

Warp fibre

Polyester, along the belt

P

Weft fibre

Nylon, across the belt

200

Strength

N per mm of width, per ply

EP 200 · One ply of polyester-nylon fabric, rated 200 N/mm

EP

Fabric

Polyester / nylon

800

Belt rating

kN per metre of width

4

Plyes

Four plyes of EP 200

EP 800/4 · A belt of four EP 200 plyes: $4 \times 200 = 800$ kN/m

THE THREE FABRICS

EP, EE and NN compared

EP

Polyester / Nylon

Warp
Polyester

Weft
Nylon
(polyamide)

The general choice for most conveyors. Low stretch along the belt, flexible across it, so it sits well in troughed idlers.

Stability ●●●●● Troughing ●●●●●
Impact ●●●●● Wet duty ●●●●●

EE

Polyester / Polyester

Warp
Polyester

Weft
Polyester

Stiffer across the width. For long centres, flat conveyors and wet duties where the carcass must stay stable.

Stability ●●●●● Troughing ●●●●●
Impact ●●●●● Wet duty ●●●●●

NN

Nylon / Nylon

Warp
Nylon
(polyamide)

Weft
Nylon
(polyamide)

Stretches more and takes impact well. Suits short conveyors with heavy loading and frequent starts.

Stability ●●●●● Troughing ●●●●●
Impact ●●●●● Wet duty ●●●●●

Dots compare the three fabrics with each other, five being the strongest of the three in that respect. Stability means low stretch along the belt. A guide for selection, not test values.

Choosing the rating

Work out the belt's running tension per mm of width and multiply by a safety factor, usually 8 to 10, for splices, starting and ageing. Round up to the next standard rating. Our engineers will check it free.

Choosing the ply count

The same rating can be built in different ply counts. More plyes give a stiffer belt that holds fasteners and takes impact better. Fewer plyes bend round smaller pulleys.



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— THE CHART

Fabric strength, gauge and weight

Fabric	Rated strength N/mm per ply	Strength to scale	Gauge mm per ply	Weight kg/m ² per ply	Builds rating / plies
EP/EE 100	100		0.95	1.05	200/2 · 300/3 · 400/4 · 500/5
EP/EE 125	125		1.05	1.20	250/2 · 500/4 · 630/5
EP/EE 160	160		1.15	1.35	315/2 · 500/3 · 630/4 · 800/5
EP/EE 200	200		1.30	1.50	400/2 · 630/3 · 800/4 · 1000/5
EP/EE 250	250		1.50	1.70	500/2 · 800/3 · 1000/4 · 1250/5
EP/EE 315	315		1.70	1.95	630/2 · 1000/3 · 1250/4
EP/EE 400	400		1.95	2.25	800/2 · 1250/3
NN 100	100		0.90	1.00	200/2 · 300/3 · 400/4
NN 160	160		1.10	1.30	315/2 · 500/3 · 630/4
NN 200	200		1.25	1.45	400/2 · 630/3 · 800/4

EP and EE NN Gauge and weight are for one frictioned ply, nominal.

— RATINGS BY PLY

What each fabric builds

Belt rating is plies × fabric strength, rounded to the standard rating series of IS 1891 and DIN 22102. Shaded cells are the standard builds. The plain figures between them are the bare products, for reference.

Fabric, N/mm	2 plies	3 plies	4 plies	5 plies
EP/EE 100	200/2	300/3	400/4	500/5
EP/EE 125	250/2	375	500/4	630/5
EP/EE 160	315/2	500/3	630/4	800/5
EP/EE 200	400/2	630/3	800/4	1000/5
EP/EE 250	500/2	800/3	1000/4	1250/5
EP/EE 315	630/2	1000/3	1250/4	1575
EP/EE 400	800/2	1250/3	1600	2000

Carcass thickness

Plies × gauge, plus about 0.4 mm of skim between each pair of plies. A belt's full thickness adds the top and bottom covers.

Belt weight

Plies × fabric weight, plus about 1.12 kg/m² for every millimetre of cover rubber. Each belt datasheet gives the figure.

Standards

Ratings, fabric types and tolerances follow IS 1891, DIN 22102 and ISO 14890. The test certificate with each supply reports against them.

Not sure which build your conveyor needs?

Send the length, lift, width, speed, capacity and material. We check the rating and reply with a datasheet.

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