

Danley™ PD3™ with RynoBar™

Technical Data Sheet

8 December 2020

Product Description

The PD3™ Tapered and Sleeveless Plate Dowel Cradles which provides the world's best performance in limiting joint deflection is now available with RynoBar™

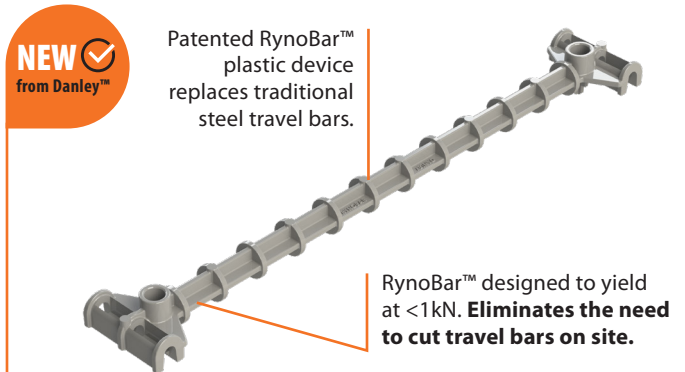
The RynoBar™ is a patented Travel Bar, or sacrificial retention system pre-fitted to all Danley™ PD3™ Plate Dowel Cradles.

- Traditionally, a series of deformed bars are tack-welded to keep cradles intact whilst in transit to site.
- Leading Engineers and Contractors suspect that un-cut steel travel bars are the significant factor in flooring failure resulting from restraint (parallel cracking).
- The Danley™ RynoBar™ is designed to yield in early shrinkage concrete, eliminating the need to cut travel bars before concrete placement.

Advantages

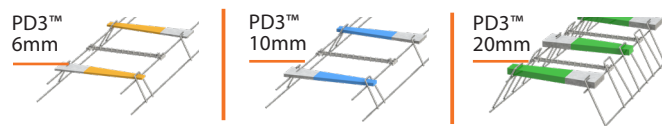
The RynoBar™ is a patented, plastic Travel Bar designed with specific yield points in early concrete shrinkage, which eliminates the need to cut travel bars.

- **Improved Safety:** Eliminates the sharp edges on traditional steel travel bars.
- **Faster Set & Installation:** Saves time, effort and money on site! Say goodbye to cutting traditional steel travel bars.
- **Quality Assurance:** RynoBar™ is engineered to accurately yield at the saw cut joint.
- **Durability:** Designed to be tough when it needs to be! RynoBar™ will get your PD3™ cradles on site in one piece.
- **Quality Design:** The RynoBar™ is proudly designed and manufactured in Australia!



PD3™ Compatibility

The full range of Danley™ PD3™ Plate Dowel Cradles are delivered to site, fitted with RynoBar™ travel bars.



PD3™ System Trade Benefits

Engineering Benefits:

- Provides highest performance in controlling joint deflection.
- Compliance with ACI 360R-10, design recommendations, limits differential deflection to <0.25mm.
- The RynoBar™ is designed to yield at <1kN eliminating the risk of restraint.
- Galvanised finish to AS/NZS 4680.
- Accuracy of dowel placement ensures the most effective load transfer performance.

Asset Protection Benefits:

- Reduces the risk of spalling damage to the concrete at the joints.
- Reduces maintenance & downtime costs.
- Provides a smoother surface at the joints.

Concreter Benefits:

- Speed and accuracy of dowel placement.
- Lowest placement cost. RynoBar™ eliminates the need to cut travel bars.
- Pour through capability.
- Greater stakeholder satisfaction.
- Wider sweet spot for saw cut placement provides greater tolerance for accuracy.

AUS: 1300 326 539 | NZ: 0800 88 22 55 | E: sales@danley.com.au | W: www.danley.com.au

Product Specifications

Product Performance Data:

Concrete strength: 30MPa. **Joint opening:** 5mm.
Design capacities should be compared with factored loads.
Limiting capacity is concrete shear cone capacity.

| Slab thickness (mm) | PD3™ with RynoBar™ Item Code | Dowel Thickness (mm) | Dowel Spacing (mm) | Single Dowel Design Capacity (kN) | Single Wheel Design Load (kN) (mid panel joint) | Single Wheel Design Load (kN) (edge loading) |
|---------------------|------------------------------|----------------------|--------------------|-----------------------------------|---|--|
| 125 | PD306450125* | 6 | 450 | 9.7 | 52 | 28 |
| 150 | PD306450150* | 6 | 450 | 13.5 | 77 | 42 |
| 175 | PD306450175* | 6 | 450 | 17.9 | 107 | 58 |
| 150 | PD310450150* | 10 | 450 | 14.3 | 82 | 45 |
| 175 | PD310450175* | 10 | 450 | 18.8 | 112 | 62 |
| 200 | PD310450200* | 10 | 450 | 23.9 | 154 | 84 |
| 225 | PD310450225* | 10 | 450 | 29.6 | 206 | 112 |
| 250 | PD320300250* | 20 | 300 | 40.2 | 392 | 215 |
| 300 | PD320300300* | 20 | 300 | 55.6 | 605 | 333 |
| 360 | PD320400360* | 20 | 400 | 77.3 | 747 | 410 |
| 425 | PD320400425* | 20 | 400 | 99.9 | 1062 | 584 |

* Add either a "B" or "G" to the end of these item codes to order cradles with Dowels in **Black** or **Galvanised** finish.

Concrete Compressive Strength Effect:

| Strength (MPa): | 30 | 32 | 35 | 40 | 45 |
|-----------------|----|------|------|------|------|
| Factor: | 1 | 1.03 | 1.08 | 1.15 | 1.22 |

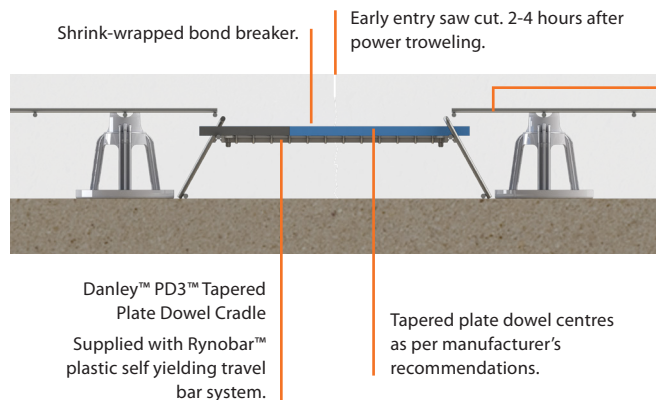
Manufacturing Tolerances :

| Overall Length: | Overall Height: | Dowel Centres: |
|-----------------|-----------------|----------------|
| ±10mm | ±5mm | ±5mm |

How to specify the PD3™

Danley™ PD3™ sleeveless tapered plate dowel cradle system fitted with the RynoBar™ plastic self-yielding travel bars is for use in sawcut contraction joints, providing bilateral movement and limiting differential deflection under load to no more than 0.25mm. Complies with ACI 360R-10.

Available in 6mm, 10mm and 20mm.



In the absence of any other information, this mesh placement is a suggestion only, and is superseded by the engineer's design.

Reinforcement should be supported correctly with bar chairs complying to AS/NZS 2425:2015. The cradle/dowel should not be used as reinforcing support.

Material Technical Data:

| Component | Dimension (mm) | Material Type | Material Standards | Steel Grade Equivalent | Yield Stress | Tensile Strength (MPa) | Standards Compliance |
|-----------------|----------------|------------------|--------------------|------------------------|--------------|------------------------|----------------------|
| 6mm PD3™ Dowel | 6 x 300 | Cold Drawn Steel | Q345 | ≥Grade 300 | 345 Mpa | 550 | AS/NZS 3679.1 |
| 10mm PD3™ Dowel | 10 x 300 | Cold Drawn Steel | Q345 | ≥Grade 300 | 345 MPa | 550 | AS/NZS 3679.1 |
| 20mm PD3™ Dowel | 20 x 300 | Cold Drawn Steel | Q445 | ≥Grade 300 | 345 MPa | 550 | AS/NZS 3679.1 |
| Wire Cage | Ø5.4 | Hard Drawn Wire | AS/NZS 4671 | Grade 500L | 500 Mpa | 650 | AS/NZS 4671 |
| RynoBar™ | Ø12.5 | Polypropylene | - | - | <1kN | - | - |
| Galvanising | 85µm | Hot Dipped Galv | AS/NZS 4680 | - | - | - | AS/NZS 4680 |

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