

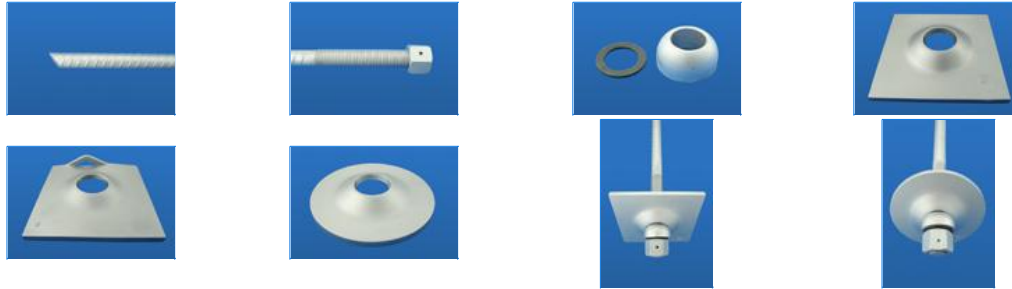
RESIN BOLTS

- APP, APG, APB resin bolts

APP, APG, APB RESIN BOLTS

Intended use

- APP; APG; APB resin bolts are designed to be used for roof and ribs support in mine working areas as an independent or additional roof support system. They are also used for the attachment of various components of mining equipment.



Technical description

- AP bolts are modern design anchors with load capacity of up to 300 kN and a nut locking system (shearpin).
- APP; APG; APB anchor rod is made from a reinforcing bar of 21.70 mm in diameter according to ZN-95/AP-1; ZN-02/AP-6 made of the following type of steel:

Bolt	Steel grade	Re min (MPa)	Rm min (MPa)	A5 min %
APP	AP 600	400	600	19
APG	AP 700	550	700	20
	AP-E500	500	700	21
APB	AP 770	640	770	18

- M24 nut is connected with the rod by means of a "SPIROL" $\varnothing 3$ or $\varnothing 6$ pin.
- Spherical washer makes it possible to fix the anchor at 18° angle.
- The anchor can be used with a square, round or square washer with an eyelet made of 8 or 10 mm plate.

Technical data

Rod diameter	dr = 21,70 mm
Thread size	M24
Thread length	150 mm
Rod length	od 400 do 4000 mm
Torque shearing the $\varnothing 3$ pin	80 ÷ 120 Nm
Torque shearing the $\varnothing 6$ "SPIROL" pin - (light)	40 ÷ 60 Nm
Torque shearing the $\varnothing 6$ "SPIROL" pin - (medium)	90 ÷ 120 Nm
Torque shearing the $\varnothing 6$ "SPIROL" pin - (heavy)	140 ÷ 160 Nm
Anchor capacity required by documentation	APP - min 190 kN
	APG - min 230 kN
	APB - min 260 kN
Effective anchor capacity	APP - 220 kN
	APG - 250 kN
	APB - 300 kN

Installation procedure

- Put resin cartridges in the drill hole. Insert the anchor and rotate while pushing causing the resin to mix. During mixing, the nut does not turn as it is joined with the rod by means of a $\varnothing 3$ or $\varnothing 6$ pin. Once the resin has set, the pin is sheared by turning the nut. Apply torque of at least 250 Nm to screw on the M24 nut in order to tension the anchor to the desired prestress (initial tension) of minimum 30 kN.

APP, APG, APB adhesive anchors have a Certificate issued by Central Mining Institute in Katowice allowing the product to bear the safety mark No. B/1160/2005.

