



Exte-Extrudertechnik GmbH  
 Wasserfuhr 4  
 D-51688 Wipperfürth

**SALES / TECHNICAL SPECIFICATIONS**

|   |   |
|---|---|
| <b>Name of the Product:</b>               | RAS (Ring-spacer);<br>concrete-cover: 15/20/25/30/35  |
| <b>Material:</b>                          | Polyolefin  |
| <b>Drawing-no.</b>                        | 39..  |
| <b>Product description / composition:</b> | Light plastic spacer for lower layer reinforcement steel in precast factories. Consisting of 6 concentric rings.  |
| <b>Stability / Storage-conditions:</b>    | Long termed intensive influence of light (UV-Radiation) can damage products of PE Polythene. During the Storage the articles should be protected against sun exposure and bright daylight (e.g.: covering with black foil). |

**Guaranteed technical characteristics:**

| Parameters     | Test Method or Standard | Units | Specifications / Acceptability limits |
|----------------|-------------------------|-------|---------------------------------------|
| concrete-cover | A1                      | mm    | concrete-cover +/- 1 mm               |

Date of Issue: 07.06.2005

Revision state:

Approved by:

*i.k. Krause*

Signing:

*[Signature]*

Supplier's stamp

**EXTE-Extrudertechnik GmbH**  
 51688 Wipperfürth-Wasserfuhr  
 Postfach 1220 · Telefon 02267/687-0



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| ref.-no. | designation    | concrete-cover |
|----------|----------------|----------------|
| 3915     | RAS 15, 6-folt | 15 mm          |
| 3920     | RAS 20, 6-folt | 20 mm          |
| 3925     | RAS 25, 6-folt | 25 mm          |
| 3930     | RAS 30, 6-folt | 30 mm          |
| 3935     | RAS 35, 6-folt | 35 mm          |

#### **Examination of spacers not imbedded into concrete:**

##### **A1: Installation dimension/Concrete cover (cv):**

- (1) The actually existing installation dimension  $cv$  is determined with a temperature of the spacers of  $+20^{\circ}\text{C}$ , here the deviation from the rated nominal dimension is determined.
- (2) To do this, two spacers are fixed to a smooth round steel rod at a distance of about 10 cm. On the side showing towards the other spacer there is measured minimum distance between the contact surface and the bottom edge of the round steel rod directly next to the spacer. Altogether, the two spacers are measured five times each.

##### **A2: Functional testing of clamping:**

- (1) For the applicable steel diameters, the function of the clamping is tested.
- (2) For this purposes the function of the clamping is tested with a smooth round steel bar with the minimum and maximum applicable steel diameters each.





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**SALES / TECHNICAL SPECIFICATIONS**

|   |   |
|---|---|
| <b>Name of the Product:</b>               | UNI (wheel-spacer);<br>concrete-cover: 15/20/25/30/35/40/50/60/75   |
| <b>Material:</b>                          | Polyolefin  |
| <b>Drawing-no.:</b>                       | 41..  |
| <b>Product description / composition:</b> | Universal wheel-spacer for the perpendicularly reinforcement steel for various diameters  |
| <b>Stability / Storage-conditions:</b>    | Long termed intensive influence of light (UV-Radiation) can damage products of PE Polythene. During the Storage the articles should be protected against sun exposure and bright daylight (e.g.: covering with black foil). |

**Guaranteed technical characteristics:**

| Parameters                     | Test Method or Standard | Units | Specifications / Acceptability limits |
|--------------------------------|-------------------------|-------|---------------------------------------|
| concrete-cover                 | A1                      | mm    | concrete-cover +/- 1 mm               |
| Functional testing of clamping | A2                      |       |                                       |

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| ref.-no. | designation  | for steel diameter | concrete-cover |
|----------|--------------|--------------------|----------------|
| 4015     | UNI 15       | 4 – 10 mm          | 15 mm          |
| 4020     | UNI 20       | 4 – 12 mm          | 20 mm          |
| 4025     | UNI 25       | 4 – 12 mm          | 25 mm          |
| 4030     | UNI 30       | 4 – 12 mm          | 30 mm          |
| 4035     | UNI 35       | 4 – 12 mm          | 35 mm          |
| 4040     | UNI 40       | 5 – 14 mm          | 40 mm          |
| 4050     | UNI 50       | 8 – 14 mm          | 50 mm          |
| 4130     | UNI 6-20/30  | 6 – 20 mm          | 30 mm          |
| 4140     | UNI 6-20/40  | 6 – 20 mm          | 40 mm          |
| 4150     | UNI 6-20/50  | 6 – 20 mm          | 50 mm          |
| 4160     | UNI 12-20/60 | 12 – 20 mm         | 60 mm          |
| 4175     | UNI 12-20/75 | 12 – 20 mm         | 75 mm          |

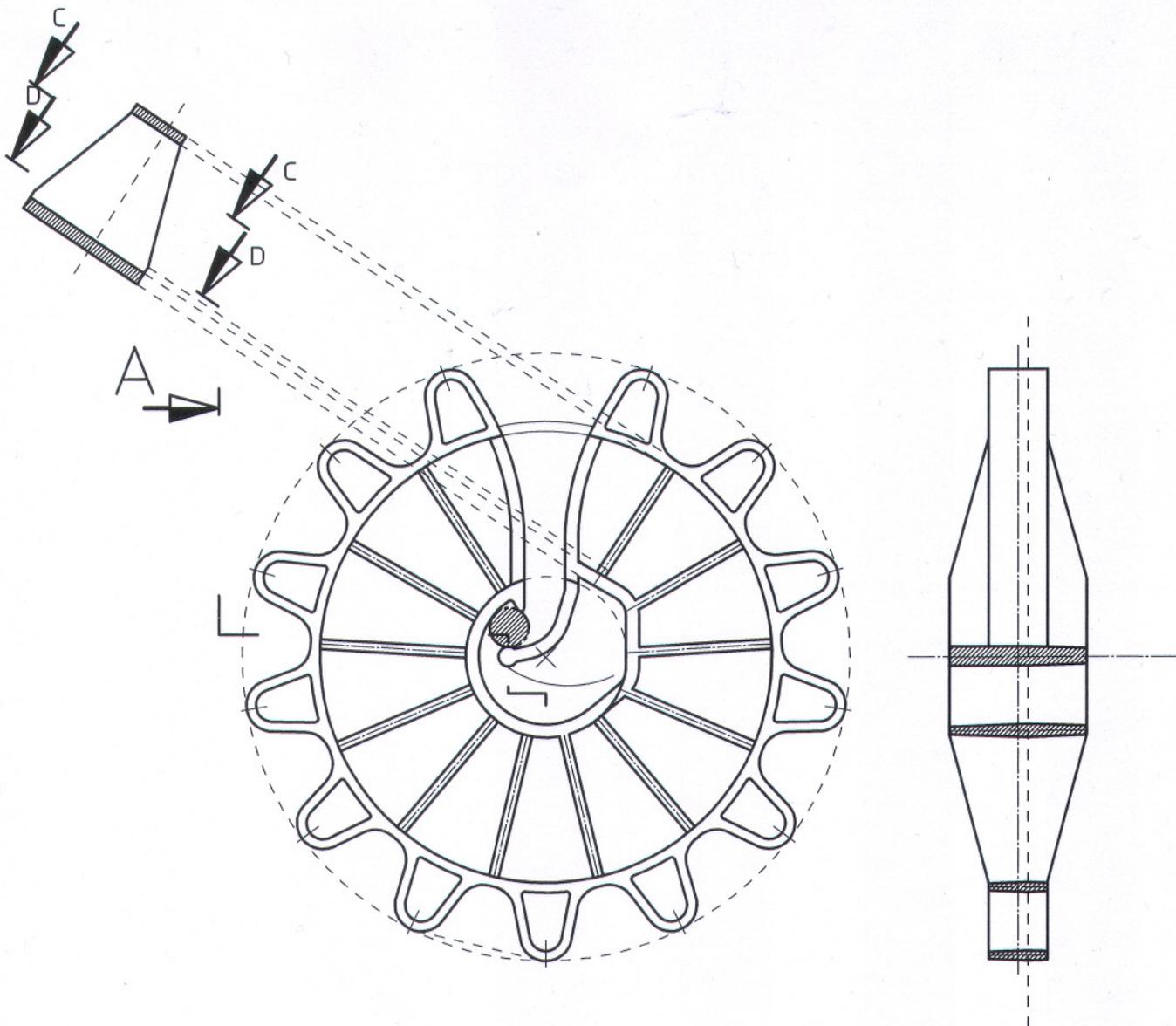
### Examination of spacers not imbedded into concrete:

#### A1: Installation dimension/Concrete cover (cv):

- (1) The actually existing installation dimension cv is determined with a temperature of the spacers of +20° C, here the deviation from the rated nominal dimension is determined.
- (2) To do this, two spacers are fixed to a smooth round steel rod at a distance of about 10 cm. On the side showing towards the other spacer there is measured minimum distance between the contact surface and the bottom edge of the round steel rod directly next to the spacer. Altogether, the two spacers are measured five times each.

#### A2: Functional testing of clamping:

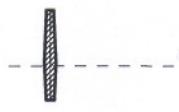
- (1) For the applicable steel diameters, the function of the clamping is tested.
- (2) For this purposes the function of the clamping is tested with a smooth round steel bar with the minimum and maximum applicable steel diameters each.



Schnitt: C-C

A →

Schnitt: A-A



Schnitt: D-D

|                    |  |  |                 |  |         |  |   |  |          |  |  |
|--------------------|--|--|-----------------|--|---------|--|---|--|----------|--|--|
| Verwendungsbereich |  |  | Rohmaße         |  | Stück   |  | Maß-Stab 1:1  |  | Gewicht  |  |  |
|                    |  |  |                 |  |         |  | Werkstoff, Halbzeug<br>Rohteil-Nr.<br>Modell- oder Gesenk-Nr.                       |  | PEh      |  |  |
|                    |  |  | Datum           |  | Name    |  | Benennung   |  |          |  |  |
|                    |  |  | Bearb. 08.06.98 |  | Stöcker |  | UNI   |  |          |  |  |
|                    |  |  | QW              |  |         |  |   |  |          |  |  |
|                    |  |  | GL              |  |         |  |   |  |          |  |  |
|                    |  |  |                 |  |         |  |   |  |          |  |  |
|                    |  |  |                 |  |         |  | Zeichnungsnummer  |  | az Blatt |  |  |
|                    |  |  |                 |  |         |  | 41  |  |          |  |  |
| Zust. Änderung     |  |  | Datum           |  | Name    |  |  |  |          |  |  |