



| | | | | |
|----------------|-----------------|-----------------------------------|--------|-------------|
| Quotation no.: | EMAIL REFERENCE | Doc No: SRC-DS-14-202-GRE-i Rev:0 | DATE: | 9-Sep-14 |
| PO no.: | - | DWG REF SRC -STD-P-FJ-007 | CLIENT | BK KIDIYOOR |

PIPE DATA

MANUFACTURING DETAILS

| | | |
|---------------------------------|-----|--|
| Name of the Manufacturer | ::: | Smithline Reinforced Composites FZC |
| Mfg. process for Pipes | ::: | Filament Winding |
| Installation | ::: | Belowground/Buried |
| Application | ::: | For Fire Hydrant System |
| Joint Type | ::: | SP/SP with Double Bell Coupler SPD = 160.5. mm, SPL = 70 mm |
| Standards | ::: | AWWA C950, ASTM D3517 |
| Mfg. process for bends/fittings | ::: | Mitered / Swept / Hand Lay up |

DESIGN CRITERIA SUMMARY

| | | |
|---------------------------|-----|-------------------------|
| Nominal internal Diameter | ::: | 150 mm |
| Class of Pipe | ::: | PRESSURE |
| Minimum Depth of Cover | ::: | 1.50 m |
| Maximum Depth of Cover | ::: | 8.00 m |
| Maximum Design Pressure | ::: | 1,600 KN/m ² |

PIPE WALL STRUCTURE

| | | |
|------------------------------------|-----|-------------------------------|
| Nominal length of Standard Pipe | ::: | 9,000 mm |
| Minimum Total Wall Thickness | ::: | 4.0 mm |
| Inner Liner:- Thickness (Minimum.) | ::: | 0.5 mm |
| Veil: Glass Type | ::: | C 10.0 % |
| Resin Type | ::: | Epoxy 90.0 % |
| Structural Wall:-Resin Type | ::: | Epoxy 30.0 % |
| Glass Type | ::: | E 70.0 % |
| Aggregate Type | ::: | Silica sand Nil % |
| Outer Surface:- | ::: | 0.25 mm Epoxy resin rich coat |

MINIMUM PIPE PROPERTIES

| | | |
|------------------------------------|-----|------------------------------|
| Stiffness of pipe | ::: | 10.0 KN/m ² |
| Initial Axial Tensile Strength | ::: | 68 N/mm of circumference |
| Initial Hoop Strength | ::: | 525 N/mm of width |
| Absolute roughness factor | ::: | 0.04 mm |
| Coefft.of linear thermal expansion | ::: | 15*10 ⁻⁶ mm/mm/°C |

| | | | |
|--------------------|--------------------|----------------------------------|--|
| | Prepared by | Checked & Approved by | |
| Designation | Design Engineer | Technical Manager | |
| Name | HASHIM | J.S. Babji | |
| Sign | | | |



| | | | | |
|----------------|-----------------|------------------------------------|-------------------|-------------|
| Quotation no.: | EMAIL REFERENCE | Doc No: SRC-DS-14-202-GRE-ii Rev:0 | DATE: | 9-Sep-14 |
| PO no.: | - | DWG REF | SRC -STD-P-FJ-007 | CLIENT |
| | | | | BK KIDIYOOR |

PIPE DATA

MANUFACTURING DETAILS

| | | |
|---------------------------------|-----|---|
| Name of the Manufacturer | ::: | Smithline Reinforced Composites FZC |
| Mfg. process for Pipes | ::: | Filament Winding |
| Installation | ::: | Belowground/Buried |
| Application | ::: | For Fire Hydrant System |
| Joint Type | ::: | SP/SP with Double Bell Coupler SPD = 263 mm, SPL = 80 mm |
| Standards | ::: | AWWA C950, ASTM D3517 |
| Mfg. process for bends/fittings | ::: | Mitered / Swept / Hand Lay up |

DESIGN CRITERIA SUMMARY

| | | |
|---------------------------|-----|-------------------------|
| Nominal internal Diameter | ::: | 250 mm |
| Class of Pipe | ::: | PRESSURE |
| Minimum Depth of Cover | ::: | 1.50 m |
| Maximum Depth of Cover | ::: | 8.00 m |
| Maximum Design Pressure | ::: | 1,600 KN/m ² |

PIPE WALL STRUCTURE

| | | |
|------------------------------------|-----|-------------------------------|
| Nominal length of Standard Pipe | ::: | 9,000 mm |
| Minimum Total Wall Thickness | ::: | 5.0 mm |
| Inner Liner:- Thickness (Minimum.) | ::: | 0.5 mm |
| Veil: Glass Type | ::: | C 10.0 % |
| Resin Type | ::: | Epoxy 90.0 % |
| Structural Wall:-Resin Type | ::: | Epoxy 30.0 % |
| Glass Type | ::: | E 70.0 % |
| Aggregate Type | ::: | Silica sand Nil % |
| Outer Surface:- | ::: | 0.25 mm Epoxy resin rich coat |

MINIMUM PIPE PROPERTIES

| | | |
|------------------------------------|-----|------------------------------|
| Stiffness of pipe | ::: | 10.0 KN/m ² |
| Initial Axial Tensile Strength | ::: | 127 N/mm of circumference |
| Initial Hoop Strength | ::: | 875 N/mm of width |
| Absolute roughness factor | ::: | 0.04 mm |
| Coefft.of linear thermal expansion | ::: | 15*10 ⁻⁶ mm/mm/°C |

| | | | |
|--------------------|------------------------|----------------------------------|--|
| | Prepared by | Checked & Approved by | |
| Designation | Design Engineer | Technical Manager | |
| Name | HASAIM | J.S. Bsh | |
| Sign | | | |



| | | | | |
|----------------|-----------------|-------------------------------------|--------|-------------|
| Quotation no.: | EMAIL REFERENCE | Doc No: SRC-DS-14-202-GRE-iii Rev:0 | DATE: | 9-Sep-14 |
| PO no.: | - | DWG REF SRC -STD-P-FJ-007 | CLIENT | BK KIDIYOOR |

PIPE DATA

MANUFACTURING DETAILS

| | | |
|---------------------------------|-----|--|
| Name of the Manufacturer | ::: | Smithline Reinforced Composites FZC |
| Mfg. process for Pipes | ::: | Filament Winding |
| Installation | ::: | Belowground/Buried |
| Application | ::: | For Fire Hydrant System |
| Joint Type | ::: | SP/SP with Double Bell Coupler SPD = 310 mm, SPL = 145 mm |
| Standards | ::: | AWWA C950, ASTM D3517 |
| Mfg. process for bends/fittings | ::: | Mitered / Swept / Hand Lay up |

DESIGN CRITERIA SUMMARY

| | | |
|---------------------------|-----|-------------------------|
| Nominal internal Diameter | ::: | 300 mm |
| Class of Pipe | ::: | PRESSURE |
| Minimum Depth of Cover | ::: | 1.50 m |
| Maximum Depth of Cover | ::: | 8.00 m |
| Maximum Design Pressure | ::: | 1,600 KN/m ² |

PIPE WALL STRUCTURE

| | | |
|------------------------------------|-----|-------------------------------|
| Nominal length of Standard Pipe | ::: | 12,000 mm |
| Minimum Total Wall Thickness | ::: | 5.8 mm |
| Inner Liner:- Thickness (Minimum.) | ::: | 0.5 mm |
| Veil: Glass Type | ::: | C 10.0 % |
| Resin Type | ::: | Epoxy 90.0 % |
| Structural Wall:-Resin Type | ::: | Epoxy 30.0 % |
| Glass Type | ::: | E 70.0 % |
| Aggregate Type | ::: | Silica sand Nil % |
| Outer Surface:- | ::: | 0.25 mm Epoxy resin rich coat |

MINIMUM PIPE PROPERTIES

| | | |
|------------------------------------|-----|------------------------------|
| Stiffness of pipe | ::: | 10.0 KN/m ² |
| Initial Axial Tensile Strength | ::: | 153 N/mm of circumference |
| Initial Hoop Strength | ::: | 1,050 N/mm of width |
| Absolute roughness factor | ::: | 0.04 mm |
| Coefft.of linear thermal expansion | ::: | 15*10 ⁻⁶ mm/mm/°C |

| | | | |
|--------------------|--------------------|----------------------------------|--|
| | Prepared by | Checked & Approved by | |
| Designation | Design Engineer | Technical Manager | |
| Name | ASHIM | J. S. Babu | |
| Sign | <i>MAHAR</i> | <i>J.S. Babu</i> | |



| | | | | |
|----------------|-----------------|------------------------------------|--------|-------------|
| Quotation no.: | EMAIL REFERENCE | Doc No: SRC-DS-14-202-GRE-iv Rev:0 | DATE: | 9-Sep-14 |
| PO no.: | - | DWG REF SRC -STD-P-FJ-007 | CLIENT | BK KIDIYOOR |

PIPE DATA

MANUFACTURING DETAILS

| | | |
|---------------------------------|-----|--|
| Name of the Manufacturer | ::: | Smithline Reinforced Composites FZC |
| Mfg. process for Pipes | ::: | Filament Winding |
| Installation | ::: | Belowground/Buried |
| Application | ::: | For Fire Hydrant System |
| Joint Type | ::: | SP/SP with Double Bell Coupler SPD = 468 mm, SPL = 145 mm |
| Standards | ::: | AWWA C950, ASTM D3517 |
| Mfg. process for bends/fittings | ::: | Mitered / Swept / Hand Lay up |

DESIGN CRITERIA SUMMARY




| | | |
|---------------------------|-----|-------------------------|
| Nominal internal Diameter | ::: | 450 mm |
| Class of Pipe | ::: | PRESSURE |
| Minimum Depth of Cover | ::: | 1.50 m |
| Maximum Depth of Cover | ::: | 8.00 m |
| Maximum Design Pressure | ::: | 1,600 KN/m ² |

PIPE WALL STRUCTURE

| | | |
|------------------------------------|-----|-------------------------------|
| Nominal length of Standard Pipe | ::: | 12,000 mm |
| Minimum Total Wall Thickness | ::: | 8.3 mm |
| Inner Liner:- Thickness (Minimum.) | ::: | 0.5 mm |
| Veil: Glass Type | ::: | C 10.0 % |
| Resin Type | ::: | Epoxy 90.0 % |
| Structural Wall:-Resin Type | ::: | Epoxy 30.0 % |
| Glass Type | ::: | E 70.0 % |
| Aggregate Type | ::: | Silica sand Nil % |
| Outer Surface:- | ::: | 0.25 mm Epoxy resin rich coat |

MINIMUM PIPE PROPERTIES

| | | |
|------------------------------------|-----|------------------------------|
| Stiffness of pipe | ::: | 10.0 KN/m ² |
| Initial Axial Tensile Strength | ::: | 213 N/mm of circumference |
| Initial Hoop Strength | ::: | 1,575 N/mm of width |
| Absolute roughness factor | ::: | 0.04 mm |
| Coefft.of linear thermal expansion | ::: | 15*10 ⁻⁶ mm/mm/°C |

| | | | |
|--------------------|---|---|---|
| | Prepared by | Checked & Approved by |  |
| Designation | Design Engineer | Technical Manager | |
| Name | HASHIM | J. S. Babu | |
| Sign |  |  | |